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**Objective:** There are many common beliefs within the general public about Chronic Traumatic Encephalopathy (CTE) that contradict research findings and scientific evidence. Therefore, the goal of this study was to examine the accuracy of CTE knowledge across three diverse samples.

**Participants and Methods:** The three groups included in the sample were 333 college students (54%), 196 individuals from the public (32%), and 90 psychology trainees/clinicians (54%) for a total of 619 participants. Online surveys were used to collect the CTE knowledge accuracy (i.e., the number correct divided by the total number of questions) of the sample. The questions about CTE were adapted from Merz et al. (2017) and from the Sports Neuropsychology Society's "CTE: A Q and A Fact Sheet."

**Results:** Overall, CTE knowledge accuracy was 52% ( $M = 51\%$ ,  $SD = .24$ ). Regarding inaccurate beliefs, two-thirds of the sample believed that CTE was related to sports participation alone even if a head injury did not occur, and most participants believed that CTE could be caused by a single injury. Additionally, confidence in CTE knowledge was positively correlated with willingness to allow their child to play a high contact sport despite overall low CTE knowledge accuracy. Last, many participants reported education (67%) and health care providers (61%) as their main sources of CTE information while only 18% of participants cited television/movies. However, when asked to provide additional details about their CTE information source, many participants cited ESPN specials and the movie "Concussion" as the main reason they learned of the condition and sought out additional information.

**Conclusions:** The results of this study are consistent with previous research on CTE knowledge accuracy. This further supports the need for clinicians and researchers to address misconceptions by providing information and scientific facts.

**Categories:** Acquired Brain Injury (TBI/Cerebrovascular Injury & Disease - Adult)

**Keyword 1:** brain injury

**Keyword 2:** traumatic brain injury

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## 11 The Moderating Effect of Depression on Workload Perception in Traumatic Brain Injury

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**Objective:** Individuals who have experienced traumatic brain injury (TBI) are at an elevated risk for worsened physical and psychological outcomes. Increased rates of anxiety and depression, along with cognitive issues, are common post-TBI. While there is some evidence that anxiety and depression may affect objective cognitive performance, less is known about their effect on other factors that are associated with the individual's capacity to complete the task, such as perceived workload of the cognitive task. Workload represents an individual's perception of task difficulty and serves as a proxy for the magnitude of mental demands a given task places on an individual. Preliminary findings in the literature suggest that individuals with TBI commonly report greater workload when completing cognitive tasks compared to neurotypical peers, but the influence of anxiety and depression on survivors' workload remains unclear. Considering the elevated rates of psychological and cognitive problems in individuals with TBI, the present study examined the moderating role of anxiety and depression on TBI survivor workload perception of a stress-inducing working memory task.

**Participants and Methods:** Ten participants with moderate to severe TBI and eight neurologically healthy controls performed the Paced Auditory Serial Addition Task (PASAT). After completing the PASAT, participants reported their subjective workload using the NASA task load index (NASA-TLX). Participants also completed measures of psychological functioning, including the Chicago Multiscale Depression Inventory (CMDI) and the State-Trait Anxiety Inventory (STAI). Relationships between workload and depression and trait anxiety were examined using linear regression.

**Results:** Linear regression was employed for both the TBI and the healthy control groups to assess the influence of trait anxiety and depression on perceived workload. There was no significant difference between the TBI and

HC NASA perceived workload scores. Within the TBI group, there was a significant anxiety by depression interaction ( $b = -.015$ ,  $p < .001$ ). Simple slopes analyses revealed that for TBI participants reporting low depression, perceived workload increased with increased anxiety ( $b = .093$ ,  $p < .001$ ). For TBI participants reporting high depression, perceived workload decreased as anxiety increased ( $b = -.38$ ,  $p = .03$ ). While there was also significant anxiety by depression interaction in the healthy control group ( $b = .033$ ,  $p = .04$ ), simple slopes analyses revealed that there were no significant associations for healthy controls.

**Conclusions:** These results demonstrate that in TBI, level of depression moderates the relationship between anxiety and workload perception. The pattern observed in the TBI group was unique from controls. The present findings suggest that post-TBI, higher depression may temper the influence of anxiety on stressful cognitive task performance and workload rating. The tempering effect of high depression in TBI may represent a biased reporting style or impaired assessment of task difficulty, which may ultimately affect the individual's capacity to accomplish a task well.

**Categories:** Acquired Brain Injury  
(TBI/Cerebrovascular Injury & Disease - Adult)

**Keyword 1:** cognitive functioning

**Keyword 2:** depression

**Keyword 3:** traumatic brain injury

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## 12 AppReminders – A pilot feasibility randomised controlled trial of a memory aid app for people with acquired brain injury

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**Objective:** Mobile phone reminding apps can be used by people with acquired brain injury (ABI)

to compensate for their memory impairments. However off-the-shelf apps may be difficult to use. AppITree has been developed to be accessible to this group, compared to off-the-shelf reminding apps such as Google Calendar. This pilot feasibility trial aimed to establish the feasibility of running (and issues that should be addressed to complete) a randomised controlled trial comparing AppITree to Google Calendar in an ABI community treatment setting.

**Participants and Methods:** Adults with self or other reported memory difficulty after an ABI were enrolled ( $n=39$ ). Those who completed the baseline phase were randomised ( $n=29$ ) and randomly allocated to the Google Calendar or AppITree intervention. They were shown a 30 minute video tutorial of the app and an assessment on their ability to use it. Timely completion of everyday memory tasks were measured for a 3 week pre-intervention baseline and 3 week post-intervention follow-up phase. Participants also completed neuropsychological tests assessing memory, attention and executive function and gave qualitative feedback on the app and their experience in the trial.

**Results:** Recruitment rate was 58% of the target (29 were randomised,  $n=50$  was the target in 2 years). Retention rate was 65.5% and adherence rate was 57.9%. While the feasibility trial was not powered to calculate efficacy, there was a 13% increase in everyday memory tasks completed on time for those in the AppITree group ( $n=10$ ) compared to baseline and no change for the Google Calendar group ( $n=9$ ). Feasibility results indicate 72 participants would need to fully complete a trial to detect the minimum clinically important difference (12.5% increase in successful performance of everyday memory tasks) in the efficacy of AppITree compared to Google Calendar, should such a difference exist.

**Conclusions:** The challenges with recruitment of people receiving community care for ABI are highlighted in this trial and discussed along with the impact of the Covid-19 pandemic. Methodological considerations for researchers or clinicians looking to measure everyday memory ability are discussed. The majority (19 of 21) of participants who were given an app were capable of learning to use it during an hour-long session. This indicates it is a feasible intervention that community ABI services could offer. Participant feedback highlighted the merits of design features implemented in AppITree that can improve the uptake and utility of reminding apps.