

lead to impaired social cognition resulting from ToM deficits. Studies examining ToM in patients with Traumatic Brain Injury (TBI) have yielded conflicting findings.

**Objectives:** To assess the nature and extent of Theory of Mind (ToM) impairments post-TBI.

**Methods:** Electronic databases searches included PubMed/MEDLINE, PubMed Central, Scopus, PsychArticles, PsychINFO, Web of Science, ProQuest Central, and Wiley Online Library databases. Only studies conducted on adult patients with TBI compared with healthy controls published in English in peer-reviewed journals were considered. Reference lists were manually checked for additional studies. 19 studies were identified.

**Results:** Marked moderate-to-severe ToM deficits in adults post-TBI were observed across all severities of injury and chronicity. ToM deficits were documented across tasks and reflected a hierarchy where performance worsened significantly as tasks progressed in complexity. Despite supportive factors, certain aspects of ToM impairment, such as ability to detect and interpret non-literal speech and judge appropriateness of context remained affected in the subjects.

**Conclusions:** ToM deficits represent a robust finding in adults with TBI. The chronicity of TBI requires a long-term view and is complicated by the fact that ToM deficits are invisible and difficult to understand. Perceptive-taking deficits faced by TBI sufferers has bio-socio-economic implications. This review also discusses implications for basic and clinical neuropsychology and rehabilitation efforts. Further research is needed, particularly in the form of large, longitudinal studies that mimic day-to-day interactions, to inform/support rehabilitation programs.

**Disclosure:** No significant relationships.

**Keywords:** theory of mind+ traumatic brain injury; theory of mind + brain damage; theory of mind+ head injury

## EPV0407

### Research on neurophysiological and behavioral measures of attentional and inhibitory processes in adult young with ADHD

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doi: 10.1192/j.eurpsy.2021.1960

**Introduction:** Attention Deficit Hyperactivity Disorder (ADHD) is characterized by harmful levels of inattention, hyperactivity, and impulsivity and occurs in 2.5% of adults.

**Objectives:** This project will evaluate young adults with ADHD in computerized tasks that assess different forms of attention and inhibition, correlating them with self-report scales and physiological measurements (EMG and fNIRS) to identify impairments in specific cognitive domains.

**Methods:** The study will be conducted with two groups: one with ADHD - GClin and one control - CG, with 50 participants between 18 and 28 years each. Initially, participants will perform CPT-3 and respond to ASRS to be allocated to the CG or GClin, with validation

by a specialist physician. After that, they will do the computerized inhibition (Stroop / Stop) temporal and spatial attention (voluntary and automatic) tests. In this phase the data will be collected using electromyographic measurements and recording of brain activity in areas of the prefrontal and temporal cortices through fNIRS. After the tests they will complete the impulsivity scales (BIS-11 and UPPS). The analyzes will comprise: (1) ANOVA of the means of TRs and the accuracy of the computerized tests; (2) Correlation analysis of RT, accuracy and ASRS scores; and (3) The fNIRS analysis will use the oxyhemoglobin signal, which will be analyzed individually.

**Results:** As expected results there will be differences between CG or GClin in relation to impulsiveness, number of errors and brain activation.

**Conclusions:** The integration of physiological measurements, scales and tests will ensure integrated understanding of attentional and inhibitory processes impaired in ADHD.

**Disclosure:** No significant relationships.

**Keywords:** ADHD; temporal and spatial attention; fNIRS; inhibition

## EPV0408

### The use of light, temperature and pressure in the treatment of depression

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doi: 10.1192/j.eurpsy.2021.1961

**Introduction:** Climate and weather have a great influence on the prevalence of depressive disorders. Selected physical parameters for instance light, temperature and pressure can be used to treat mood disorders.

**Objectives:** The present mini-review aims at approximating the mechanisms by which selected, strictly controlled physical parameters in particular light, temperature, and oxygen pressure can help in the treatment of depression and determine their potential effectiveness.

**Methods:** Relevant literature was identified by searching the PubMed/Medline database, by combining the search strategy of free text terms and exploding a range of MESH headings relating to the topics.

**Results:** Mechanisms that can modify the course of depression were briefly presented. Review of the literature showed the well-established position of bright light therapy (BLT) effective in treating seasonal (SAD) and non-seasonal affective disorders (non-SAD); safety and rapid-action of whole-body hyperthermia (WBH) and whole-body cryotherapy (WBC) were also demonstrated; the least data was available on hyperbaric oxygen therapy (HBOT), which had antidepressant properties only in people with concomitant neurological damages.

**Conclusions:** In addition to the well-established position of BLT in the treatment of depression, further research is needed on other methods, such as WBH, WBC, HBOT.

**Disclosure:** No significant relationships.

**Keywords:** light; Depression; temperature; pressure