

Test (TSST), a validated method to induce psychosocial stress. In our version of the reversal learning task (Reiter, 2016), participants choose between two anti-correlated stimuli in order to obtain rewards in three blocks. Reward contingencies remain stable for the first 55 trials and the last 35 trials. During the second block, in between the stable blocks, four changes of reward contingencies require participants to flexibly adapt their behavior. Performance was measured in correct responses, switches after losses and wins.

**Results:** Cortisol and subjective stress responses showed that the stress induction was successful. Preliminary analyses showed no significant effect of stress induction on any of the performance measures.

**Conclusions:** These results demonstrate that reversal learning, at least regarding overall performance measures in our task, is robust to stress-related changes. Modeling and fMRI analyses could yield further insights into more subtle changes after stress induction.

**Disclosure:** No significant relationships.

**Keywords:** stress; reward; learning

## EPV0402

### Face sensitivity: Effects of gender and orientation

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**Introduction:** Research on face tuning is of particular relevance during the Covid-19 pandemic leading to social isolation and anxiety, but also requiring social integrity. Face sensitivity represents an essential component of social competence. This ability is aberrant in most neuropsychiatric conditions. Studies in typically developing individuals enable to develop new tools for examination and better understanding non-verbal social cognition in neuropsychiatry.

**Objectives:** Here we used a novel set of Face-n-Thing images to address the following issues: (i) whether the ability to seeing faces in non-face images (face pareidolia) is affected by gender; and (ii) whether it is altered with changing display orientation. The main advantage of Face-n-Thing images is that face tuning occurs without being explicitly fostered by familiar elements.

**Methods:** A newly developed Face-n-Thing task, on which images were shown either with canonical upright orientation or inverted 180° in the image plane, was administered to healthy females and males. On each trial, they have to indicate whether they have a face impression.

**Results:** Face impression was substantially impeded by display inversion in both males and females. With upright display orientation, no gender differences were found, whereas with inversion, Face-n-Thing images elicited face impression in females significantly more often.

**Conclusions:** The findings open a way for examination of face sensitivity and underwriting brain networks in neuropsychiatric conditions, most of which are gender-specific. Display inversion represents a proper control for face tuning in neuroimaging studies. Gender differences should be taken into account when conceiving studies in neuropsychiatric populations.

**Disclosure:** No significant relationships.

**Keywords:** Non-verbal social cognition; Gender differences; Face sensitivity

## EPV0403

### Bonds between body, face, and eyes reading

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**Introduction:** Covering our faces with masks, due to COVID-19 pandemic safety regulations, we can no longer fully rely on the social signals we are used to. We have to read what's between the lines. This is already difficult for healthy individuals, but may be particularly challenging for individuals with neuropsychiatric conditions.

**Objectives:** Our main goal was to examine (i) whether capabilities in body and face language reading are connected to each other in healthy females and males; and (ii) whether capabilities to body/face language reading are related to other social abilities.

**Methods:** Healthy females and males accomplished a task with point-light body motion portraying angry and neutral locomotion along with a task with point-light faces expressing happiness and anger. They had to infer emotional content of displays. As a control condition, perceivers were administered with the RMET-M (Reading the Mind in the Eyes Test, Modified) with static images.

**Results:** Females excelled on inferring emotions from body locomotion. Moreover, only in females, inferring emotions from body and face were firmly linked, whereas in males, face reading was connected to performance on the RMET-M.

**Conclusions:** The outcome points to gender-specific modes in social cognition: females rely upon merely dynamic cues in facial and bodily displays, whereas males most likely trust configural information. The findings are of value for investigation of face/body language reading in neuropsychiatric conditions, most of which are gender specific.

**Disclosure:** No significant relationships.

**Keywords:** Non verbal social cognition; Body language; Face language; Gender

## EPV0404

### Impairments in theory of mind following traumatic brain injury: A systematic review

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**Introduction:** Theory of Mind (ToM) enables one to reflect upon the thoughts and emotions of others and oneself. Brain damage can

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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**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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**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