

## O-31 - ANS AROUSAL AND COGNITIVE FUNCTIONING IN BIPOLAR DISORDER

B.Levy

Counseling and School Psychology, University of Massachusetts, Boston, MA, USA

**Introduction:** Previous theories about the etiology of cognitive dysfunction in bipolar disorder (BD) emphasize trait factors such as chronic neurological impairment. State factors that may contribute to cognitive deficits in BD have not yet been considered.

**Objective:** The purpose of this study was to examine changes in autonomic nervous system (ANS) arousal in response to cognitive challenge. The study aimed to determine whether ANS arousal during cognitive testing was associated with test performance in patients with BD and healthy controls (HC).

**Method:** Twenty-eight euthymic patients with BD and twelve HC completed the study. Participants completed mood (BDI-II, YMRS), anxiety (STAI), and substance abuse (DAST, AUDIT) measures. They were then connected to an ECG device, a sensitive thermometer (i.e. measuring figure temperature) and electrodes that measure Galvanic skin Response (GSR). After a 5-minute baseline measurement at rest, participants completed a computerized neuropsychological battery (CNS-VS).

**Results:** The group with BD reported significantly more mood symptoms and scored higher on a measure of state anxiety than HC. At baseline and during testing, analysis revealed higher ANS arousal on all physiological measures in the BD group relative to HC. In addition, the relative increase in arousal from baseline to testing was higher in the BD group. HC scored higher than patients with BD on most memory, attention and executive measures, with effect sizes ranging from 0.8 to 1.3.

**Conclusions:** Acute ANS arousal in response to cognitive challenge, as measured by neuropsychological testing, may increase cognitive deficits in people with BD.