

PW01-40 - REWARD LEARNING AND PROCESSING IN EUTHYMIC BIPOLAR PATIENTS: INSIGHTS FROM BEHAVIOURAL AND NEUROIMAGING STUDIES

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Introduction: Dysregulation of motivation and altered processing of reward represent important diagnostic criteria of bipolar disorder and have been proposed as a trait marker of the disorder. Until now, only few studies investigated the processing of reward and learning through reward and punishment in euthymic bipolar patients (BP).

Objectives/aims: Two studies were conducted to investigate mechanisms of reward learning and processing in euthymic BP and healthy individuals (HC).

Methods: In the first study, 23 euthymic BP, 15 remitted patients with Major depression (MD) and 16 HC participated in an associative learning task, assessing the efficiency of contingency learning as well as the preference to learn through positive or negative feedback. In the second study, a probabilistic reversal learning task was conducted during functional magnetic resonance imaging. Here, the neural correlates of reward and punishment were assessed in 22 euthymic BP and 21 HC.

Results: We observed no group differences for the efficiency of contingency learning. However, euthymic BP with a manic episode prior to remission learned better from positive feedback whereas euthymic BP with a depressed episode prior to remission and remitted MD patients learned better from negative feedback. HC did not show such preferences in learning. In addition, bipolar patients exhibited increased orbitofrontal and parahippocampal activity in response to reward but no differences in response to punishment.

Conclusions: Interestingly, the last episode seems to differentially affect emotional and learning processes during euthymia. On a neural level, euthymic BP seem to be more sensitive to reward than healthy individuals.