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DECISION MAKING, WORKING MEMORY AND EXECUTIVE FUNCTIONS IN EUTHYMIC BIPOLAR PATIENTS

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Aims: Decision making, as well as working memory and executive functions are among the most significant cognitive processes, associated with prefrontal cortex function. Decision making is associated with the orbitofrontal cortex function. Working memory and executive functions are dependent on the dorsolateral prefrontal cortex. Orbitofrontal, as well as dorsolateral prefrontal cortex dysfunction in bipolar disorder has been reported. The aim of the study was to assess decision making and executive functions in euthymic bipolar patients.

Methods: The study included 13 euthymic bipolar patients (6 female, 7 male), aged 43 ± 11 years and 11 age, sex and education years matched healthy controls. Decision making was assessed with Iowa Gambling Task (IGT). Working memory and executive functions were assessed with Wisconsin Card Sorting Test (WCST) and Trail Making Test (TMT). Depressive and/ or manic symptoms were measured with Hamilton Depression Scale (HAM-D) and Young Mania Rating Scale (YMRS).

Results: Euthymic bipolar patients made more nonperseverative errors ($t=2,53$, $p=0,01$), gave less conceptual level responses ($t=-2,33$, $p=0,03$), completed less categories ($t=-1,66$, $p=0,005$) and used more cards to complete first category ($t=1,49$, $p=0,003$) in WCST. They also gained less money in IGT ($t=-1,34$, $p=0,03$).

Conclusions: Bipolar patients performed significantly worse on several measures of WCST. Euthymic bipolar patients gained less money in IGT compared to healthy controls, although no significant differences in responding style in IGT were found.