Ms. Ref. No.: JAD-D-14-01473

Title: Verbal Learning Impairment in Euthymic Bipolar Disorder: BDI v BDII Journal of Affective Disorders

Background: The authors want to investigate the cognitive differences between BD type I and type II given previous inconsistencies due to low sample sizes, and confounding variables such as current medication and illness comorbidities. After adjusting for drug treatment and illness variables, the authors concluded that BDII patients were impaired on all five outcome measures of the Verbal Learning and Memory Task after controlling for the other variables. Notably, age of onset and number of episodes of mood elevation affected performance on individual cognitive measures. These findings confirm the reliability of previous findings of increased verbal learning impairment in BDI patients relative to BDII.

Overall I commend the authors for their work and original idea to double check findings from previous studies focusing on the memory impairments observed in populations with BD type I and type II. The manuscript is well-written, concise, presents concepts in a logic manner and the discussion relates directly to the findings. I would suggest the following minor changes to enhance the understanding and novelty of this paper.

Methodology: could the authors specify whether they checked for correlations between clinical variables and cognitive measures. Do they think that the number of covariates may have reduced the power of their analyses.

Table 1: could the authors mention p-values and/or F or T values

Page 7: authors refer to other neuropsychological tests that were administered, could they provide a reference as to where these findings can be retrieved.

Page 10: the authors mention that age of onset predicted cognitive on five VLM tests but I cannot find this finding in the results. The first sentence of “effects of illness variables” rather appears to suggest the opposite result. Also could the authors define what p=.35 -.78 refer to. Is it a range of correlations?

The discussion could be broadened to other factors affecting cognition. For instance ould the authors interpret their findings in relation to the neuroprogression model in BD or relate to neuroimaging/neural findings in the literature. Further, what do they think of potential differences between early and late disease onset (for instance did the authors look at the correlations between age of onset and cognitive variables to check if there were trends?). Why would manic episodes have such a negative impact on patients’ performance in terms of false positives?