**The Relationship between Sleep Quality and Neurocognition in Bipolar Disorder**

*Journal of Affective Disorders*

This paper focuses on the link between neurocognitive impairment and sleep disruptions in bipolar disorder. The authors administered cognitive and sleep quality scales to 117 bipolar patients. The authors examined both correlations between sleep and neurocognition and conducted path analyses to examine the hypothesized direct influence of sleep disruption on neurocognition. Higher levels of sleep disruptions were associated with a more severe clinical presentation and poorer performance in social cognition, visual learning and working memory. Social cognition and working memory were directly (negatively) predicted by sleep disruptions. These results suggest that sleep disruptions are associated with a more severe clinical presentation in BD. Sleep disturbance and daytime dysfunction had a direct negative effect on social cognition. In addition, poor sleep quality negatively affected working memory. Mood symptoms only influenced cognitive functioning indirectly through their effects on sleep.

I would like to commend the authors for their original work and decision to focus on sleep and cognitive functioning as it is a relatively new concept in this field. I am suggesting a few revisions that should be easily addressed by the authors.

1. Could the authors define how many patients were euthymic, manic or depressed.
2. How did the authors control for the effects of psychotropic medication?
3. If they did not, how do they think these may have affected the cognitive functioning of BD patients? The authors should address this point in their discussion.
4. The abstract should contain basic demographic information such as mean age and gender.
5. Could the authors summarize relevant demographic information such as age, gender, ethnicity, education/IQ, who was on medication, comorbidites mean of mood episodes or similar illness severity estimates, mean scores on clinical scales in a table.
6. Did the authors calculate the prospective/retrospective power of their analyses? Could they please address/discuss this in either the methods or results sections.
7. Did the authors consider including a comparison group including healthy controls to provide a more objective picture of the cognitive functioning of the BD patients included in this study.
   * Alternatively compare sleep quality in both healthy controls and patients with bipolar disorder and their effects on cognitive functioning
   * Compare BD with overall no sleep dysfunction to BD with sleep dysfunction. The results of the path analysis would have a stronger and more reliable interpretation.
   * The points here above should be addressed the discussion/limitation sections.

*Minor comments*

1. Could the author revise Figure 1 and add units of measure (e.g. mention r on the x-axis) and define whether the cognitive /sleep measures were z-scored or not. They should also provide the full explanation of what PSIQ etc. mean in the figure.
2. Figure 1 in the supplementary material needs some editing (mainly fitting the width of the columns).
3. Captions of the tables could be a bit more user-friends and provide more background on overall units of measure, back explanation of what type of analysis the output refers to explanations of acronyms (e.g. BIS, MCCB) so that the reader can understand without referring back to the text.