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The role of fluid intelligence in ascertaining neuropsychological and functional differences between bipolar disorder and primary psychotic disorders

To the Editors,

I read with great interest the article by Bowie et al¹ published in a recent issue of *Bipolar Disorders*. In this large study, the authors sought to compare functional and neuropsychological outcomes between bipolar disorder and schizophrenia as a function of psychiatric diagnosis and current or past history of psychotic symptoms.

As expected, bipolar patients with current psychosis exhibited more impaired cognitive and functional outcomes than their nonpsychotic bipolar counterparts and displayed executive deficits similar to those observed in schizophrenic individuals with active psychosis. Among bipolar patients who were not psychotic during assessment, no differences were found with regard to cognitive and functional outcomes between individuals with a lifetime history of psychosis and those who had never experienced psychotic symptoms. The authors finally concluded that profiles of cognitive and psychosocial functioning were similar in pattern among subjects with schizophrenia and bipolar disorder, with active psychosis and the diagnosis of schizophrenia accounting for a greater magnitude of impairment.

Some considerations should be taken into account before drawing any firm conclusions about the role of psychosis and diagnosis in ascertaining any differences between schizophrenia and bipolar disorder regarding cognitive and functional characteristics.

First, psychosis in bipolar disorder appears in the context of severe mood episodes. As well documented in the empirical literature published in the last 20 years, cognitive and functional outcomes in this disorder vary as a function of mood state, with cognitive deficits being more conspicuous among patients currently suffering acute mood episodes or evidencing shorter inter-recurrence periods. Therefore, the finding of more severe impairment among those bipolar subjects with active psychosis is quite foreseeable. A more logical explanation for the reported findings may not be that impairment in bipolar disorder is closely linked to the presence of psychosis, but rather, to the presence, severity and recurrence of mood swings, which, in turn, are related to psychosis.

Second, this study, as well as many other research reports on cognitive features of mood disorders, states the presence of "similar but less severe" deficits in bipolar disorder as compared with schizophrenia. A major shortcoming of such approaches concerns the fact that they focus exclusively on those domains typically found to be impaired in bipolar disorder, thus overlooking other aspects of intellectual functioning that may explain some of the differences observed between primary affective and primary psychotic disorders with regard to lifetime

achievements and possibilities for rehabilitation. For instance, a fundamental dimension of individual differences, namely fluid intelligence, has not been considered in research on cognitive aspects of bipolar disorder. Indeed, in a preliminary study of 30 euthymic bipolar patients, none of these individuals exhibited impaired performance on a well-known test tapping specifically into this neuropsychological construct.² Contrarily, deficits in domains typically found to be flawed in schizophrenia (executive functions and verbal memory) were present in half of the sample. Interestingly, some bipolar patients displayed high fluid intelligence performance co-occurring with such neuropsychological deficits.² This pattern may be qualitatively different to that observed in schizophrenia, in which generalized cognitive impairment is evident during the course of illness and long before the onset of psychosis and is hypothesized to be explained by dysfunction of a frontoparietal neural network thought to support fluid intelligence.³ This issue should be taken into account in future studies comparing cognitive and functional outcomes between schizophrenia and bipolar disorder.

In the meantime, there is no evidence supporting that bipolar disorder with psychotic features represents a distinct neurocognitive phenotype. It is also of paramount importance that the widely held belief of similar, though milder, cognitive impairments in bipolar disorder as compared with schizophrenia be revised.

Cecilia Samamé^{1,2} 

¹Department of Psychiatry, FLENI Foundation, Buenos Aires, Argentina

²School of Psychology, University of Buenos Aires, Buenos Aires,

Argentina

Email: ceciliasamame@psi.uba.ar

ORCID

Cecilia Samamé  <https://orcid.org/0000-0001-9011-7525>

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