

Correspondence

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Letter to the Editor

Neuropsychological subgroups are evident in both mood and psychosis spectrum disorders

We wish to expand on the recent demonstration of distinct and functionally relevant cognitive profiles in bipolar disorder by Burdick *et al.* (2014). Our group has previously shown similar cognitive heterogeneity in a sample of younger depressed subjects diagnosed with anxiety disorder, depressive disorder, bipolar disorder or first-episode psychosis (Hermens *et al.* 2011). As shown in the study by Burdick *et al.* (2014), our cluster analysis also revealed three distinct neuropsychological subgroups. Further, several cognitive measures used in discriminating group membership in Hermens *et al.* (2011) were also useful in longitudinally predicting functional disability early in the course of major depression, bipolar disorder and schizophrenia (Lee *et al.* 2013). Importantly, in both our cluster analysis (Hermens *et al.* 2011) and longitudinal follow-up study (Lee *et al.* 2013) the cognitive changes were apparent irrespective of the specific diagnosis. Therefore, we propose that the available evidence indicates that neuropsychological subgroups are not only evident in, and have functional relevance for, the major psychoses, but across the spectrum of major mood and psychotic illnesses, even at the early stages of illness progression.

Of particular note, visual learning and memory deficits appear to be specific to subjects with global cognitive impairment across both studies (Hermens *et al.* 2011; Burdick *et al.* 2014). Moreover, the globally impaired group with visual memory dysfunction was more occupationally disabled in Burdick *et al.* (2014), similar to how visual learning and memory were more impaired in those who were more functionally impaired in Lee *et al.* (2013). Thus, visual learning and memory may be particularly sensitive to overall cognitive and functional decline across the major psychiatric illnesses.

On balance, neuropsychological clusters across the major psychiatric illnesses are likely to provide more homogeneous cognitive phenotypes that are more useful than previous syndromally classified cohorts (Hickie *et al.* 2013) in investigations of: (i) aetiological (e.g. genetic) and biological mechanisms (e.g. neurobiology); (ii) prognosis (e.g. functional outcome); and (iii) targeted interventions (e.g. cognitive remediation), which hitherto have largely been obscured by clinical heterogeneity.

Declaration of Interest

None.

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R. S. C. LEE, I. B. HICKIE AND D. F. HERMENS
Clinical Research Unit, Brain and Mind Research Institute,
University of Sydney, Sydney, Australia

Address for correspondence: R. S. C. Lee, Clinical Research Unit, Brain and Mind Research Institute, University of Sydney, Sydney, Australia.
(Email: sze.lee@sydney.edu.au)