



# NeuRA

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## BIPOLAR DISORDER Factsheet

October 2021

### What is learning and how is it measured?

Learning is the ability to acquire, or change, existing knowledge, behaviours or skills. There are two distinct forms of learning: explicit (or declarative) learning occurs during a high level of consciousness regarding specific learnt content, for example, memorising information for an exam. Implicit (or procedural) learning is less conscious and refers to learning that is gained from task performance, for example, juggling. Explicit verbal learning can be measured with the Hopkins Verbal Learning test, the California Verbal Learning test and verbal list-learning, for example. The Brief Visuospatial memory test, the Rey design learning test, the Rey complex figure test, and visual reproduction all measure explicit visual learning. Implicit learning can be measured using the Serial Reaction Time task where learning is inferred from reduced reaction time to stimuli.

### What is the evidence regarding learning in people with bipolar disorder?

High quality evidence suggests medium-sized effects of poorer verbal and visual learning in people with bipolar disorder (including first-episode) compared to controls. Moderate quality evidence suggests a large effect of poorer verbal and visual learning and memory in euthymic youth (aged 13 years) with bipolar disorder compared to age and IQ-matched controls, and moderate to low quality evidence suggests a medium-sized effect of poorer serial learning in elderly people with bipolar disorder compared to age and education-matched controls. There was also a small trend effect in first-degree relatives of people with bipolar disorder aged 10-25 years. There were no changes in list learning over time (~5 years).

High quality evidence suggests a medium-sized effect of poorer list learning in people with bipolar disorder and a history of psychotic symptoms compared to people with bipolar disorder without a history of psychotic symptoms. There was a small effect of poorer list learning in people with bipolar I disorder compared to people with bipolar II disorder.

Moderate to high quality evidence suggests a medium-sized effect of better list learning in people with first-episode bipolar disorder compared to people with first-episode schizophrenia, but poorer list learning during euthymia when people with bipolar disorder were compared to people with depression.

High quality evidence suggests a small association between poorer visual and verbal learning and memory and poorer general functioning.

**For more information see the technical table**



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*NeuRA (Neuroscience Research Australia) is one of the largest independent medical and clinical research institutes in Australia and an international leader in neurological research.*

*Diseases of the brain and nervous system pose the greatest health, economic and social burden of any disease group because they are chronic, debilitating and have no known cures.*

*Medical research is the cornerstone of efforts to advance the health and wellbeing of families and the community. Our dedicated scientists are focussed on transforming their research into significant and practical benefits for all patients.*

*While we hope you find this information useful, it is always important to discuss any questions about bipolar disorder or its treatment with your doctor or other health care provider.*

## HOW YOUR SUPPORT HELPS

We are able to make significant advances due to the generosity of countless people. Your donation allows us to continue to work towards transforming lives. For information on how you can support our research, phone **1300 888 019** or make a secure donation at [neura.edu.au](http://neura.edu.au).

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