BIPOLAR DISORDER Factsheet

October 2021

What is reasoning and how is it measured?

Reasoning refers to the ability to logically gather information to solve problems and form conclusions. Reasoning bias may affect problem solving skills and is measured in three ways: 'jumping to conclusions' (JTC); 'belief inflexibility'; and an 'externalising attribution style'. JTC can be measured with the Bead task that presents participants with two jars containing different ratios of coloured beads (eg. 80 red: 20 blue). Beads are drawn from one of the jars, and based on the string of coloured beads drawn, participants must guess which jar they were drawn from. Within the JTC task, "draws to decision" refers to the number of beads required to decide which jar they were drawn from. Extreme JTC responding refers to when a decision is made after little information is gathered. The "draws to certainty" condition is when participants are asked about their certainty regarding which jar beads are being drawn from. "Response to disconfirmatory evidence" refers to the change in certainty after a single bead contradicts their response. "Response to reversal" is when a participant makes a decision based on the initial evidence, then reverses their decision based on later evidence. Belief inflexibility is an inability to change a belief when presented with contradictory evidence, and can be measured by the Bias Against Disconfirmatory Evidence (BADE) task. Attribution bias refers to when available evidence is incorrectly used to attribute an event to internal or external causes and is measured by the Pragmatic Inference Task or Attribution questionnaire where participants are asked to explain events. Reasoning and problem solving may also be measured using Mazes or the Matrix Reasoning where participants select the missing design in a patterned sequence.

What is the evidence regarding reasoning ability in people with bipolar disorder?

High quality evidence shows a small effect of poor reasoning and problem solving ability in people with bipolar disorder, including those with first-episode bipolar disorder, compared to people without bipolar disorder (controls). There were no significant differences in reasoning ability when comparing people with first-episode bipolar disorder to people with first-episode schizophrenia, nor when comparing euthymic youth (aged 13 years) with bipolar disorder to age and IQ-matched controls. This evidence was graded as moderate to high quality. Moderate to high quality evidence also suggests a small association between poor reasoning/problem solving and poor general functioning in people with bipolar disorder.

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**.

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