



NeuRA

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SCHIZOPHRENIA Factsheet

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How are language deficits relevant to people with schizophrenia?

Language may be altered in people with schizophrenia and may present in the form of disorganised or incoherent speech. Tasks designed to assess language ability include; letter fluency tasks that assess the ability to generate words starting with a particular letter; and category fluency tasks that assess the ability to name words within a specified category. Working memory is needed for both letter and category fluency as participants must organise and retrieve relevant information. Therefore, tasks designed to assess language may also assess other cognitive domains.

Other tests designed to assess language include: Boston Naming task; Wechsler Adult Intelligence Scale (WAIS) comprehension (including the subtest information, similarities and vocabulary), WAIS verbal memory, verbal fluency, National Adult Reading Test / Wide Range Achievement Test, Controlled Oral Word Association Test, Category Instance Generation Test, Multiple Choice Vocabulary Test, Hopkins Verbal Learning test, California Verbal Learning Test, Rey Auditory Verbal Learning Test, semantic priming tasks and Lexical Decision Task and the Peabody Individual Achievement reading comprehension. Latent Semantic Analysis is a fairly new technique that estimates the degree of incoherence in language use.

What is the evidence for language ability in people with schizophrenia?

Compared to people without schizophrenia, moderate to high quality evidence shows large effects of more incoherent speech, impaired letter and category fluency, verbal learning, verbal working memory, phonological processing and decoding, comprehension, single word reading, and semantic priming in people with schizophrenia. People with schizophrenia with severe negative or disorganised symptoms were most impaired on verbal fluency. Moderate quality evidence also found impaired vocabulary and word fluency in people with first-episode, youth-onset, or late-onset schizophrenia. Moderate to low quality evidence finds large effects of poorer reading rate and fluency, with no differences in accuracy and reading speed.

Overall, moderate to high quality evidence found greater improvements in verbal fluency in people with schizophrenia taking second generation antipsychotics than in people with schizophrenia taking first generation antipsychotics. For specific second generation antipsychotics, quetiapine, olanzapine and clozapine improved overall language ability, but there were no improvements with risperidone. For first-generation haloperidol, there were improvements in verbal learning and delayed verbal recall, but not in verbal fluency. Moderate to high quality evidence found improved performance on verbal learning tasks was associated with better community functioning, social behaviour, social skills, and problem solving.

Compared to people with bipolar disorder, moderate to high quality evidence shows a small effect of poorer performance on word association and verbal learning tests in people with schizophrenia. High quality evidence finds a small to medium-sized effect of poorer performance on verbal fluency tasks in people with schizophrenia compared to people with schizoaffective disorder, who showed poorer performance on verbal fluency tasks than people with bipolar disorder.

For more information see the technical table



NeuRA

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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 schizophrenia 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/donate.

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