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SCHIZOPHRENIA Factsheet

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What is time perception?

Time perception involves the capacity to accurately process temporal information that is embedded in relevant events. The ability to perceive, remember, and organise behaviour in periods ranging from seconds to minutes mediates functions, from basic motor coordination to decision making. As time intervals make different demands on other cognitive processes, it is difficult to disentangle deficits in temporal perception from deficits in attention and memory.

There are several types of time perception. Explicit timing involves a deliberate estimate of a discrete duration of time, while implicit timing is an automatic process that is engaged whenever sensorimotor information is temporally structured. Automatic timing involves no attentional or cognitive modulation and is primarily involved in timing intervals in the subsecond range. Cognitively controlled timing is primarily based on higher level cognitive processes such as attention and memory that are recruited for longer periods. Accuracy indexes the ability to determine a particular value and precision refers to variability in judgements of that value. Perceptual timing involves estimates of duration in the form of perceptual discrimination, while motor timing involves estimates of duration in the form of motor response.

What is the evidence for time perception?

Moderate to high quality evidence finds a medium-sized effect of poorer explicit timing in people with schizophrenia than in controls, with no significant differences in the effect size according to type of timing task (automatic vs. controlled) or method of timing task (motor vs. perceptual). Moderate quality evidence finds a medium-sized association between poorer time perception and more severe positive symptoms.

Moderate to high quality evidence finds similar, large effects of impaired temporal binding in people with schizophrenia and people with autism spectrum disorders when compared to controls.

Moderate to low quality evidence finds large effects of poorer precision of time perception and poorer precision of temporal processing in people with schizophrenia compared to controls, with no differences in accuracy, apart from in the medium temporal range (10 seconds to 10 minutes).

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/schizophrenia.