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DEVELOPMENT OF A NOVEL TASK TO ASSESS FAST AND SLOW THINKING IN SCHIZOPHRENIA

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BACKGROUND AND AIM: Delusions in schizophrenia have been linked to probabilistic reasoning bias ('jumping to conclusions', JTC), but experimental support has been mixed. Recently, Ward and Garety have proposed a broader abnormality in use of Kahneman's 'fast' thinking (ie using simplifying heuristics) and 'slow' (ie based on full consideration of evidence) underlies delusions. Specifically, they argue that an overreliance on fast thinking and/or reduced engagement of slow thinking underlies the initial development of delusional interpretations of everyday events, and also makes them harder to be corrected. To develop a task to investigate the fast vs slow thinking theory of delusions for use in behavioural and functional imaging studies of schizophrenia.

METHODS: A battery of 137 experimental questions (where fast thinking leads to incorrect answers) was generated from multiple sources, including examples of the base rate and conjunction fallacies, the cognitive reflection test (CRT, three types), trick questions, and syllogisms. The questions were administered online to 176 healthy volunteers using PsychoPy software, with 15 experimental and 15 control questions randomly assigned to each participant. Next, similar sets of 15 experimental and control questions were administered to DSM-5 schizophrenia patients (N=15) on laptop computer. All participants gave written informed consent prior to participation. The study was approved by the ethics committee for the relevant hospitals (PR-2023-25, 31/01/2023).

RESULTS: Both the healthy controls and the patients showed markedly more errors to experimental questions than to control questions ($p<0.001$ in both cases). In the healthy controls, response latency for the experimental questions was also higher than for the control questions by approximately 1-3 secs ($p=.004$), apart from in one category (CRT3). The same pattern was observed in the patients with schizophrenia ($p=.003$).

CONCLUSIONS: Results from a large sample of healthy participants indicate that a battery of questions can be feasibly developed to reliably detect fast thinking.

Keywords: Delusion, fast and slow thinking, JTC, schizophrenia