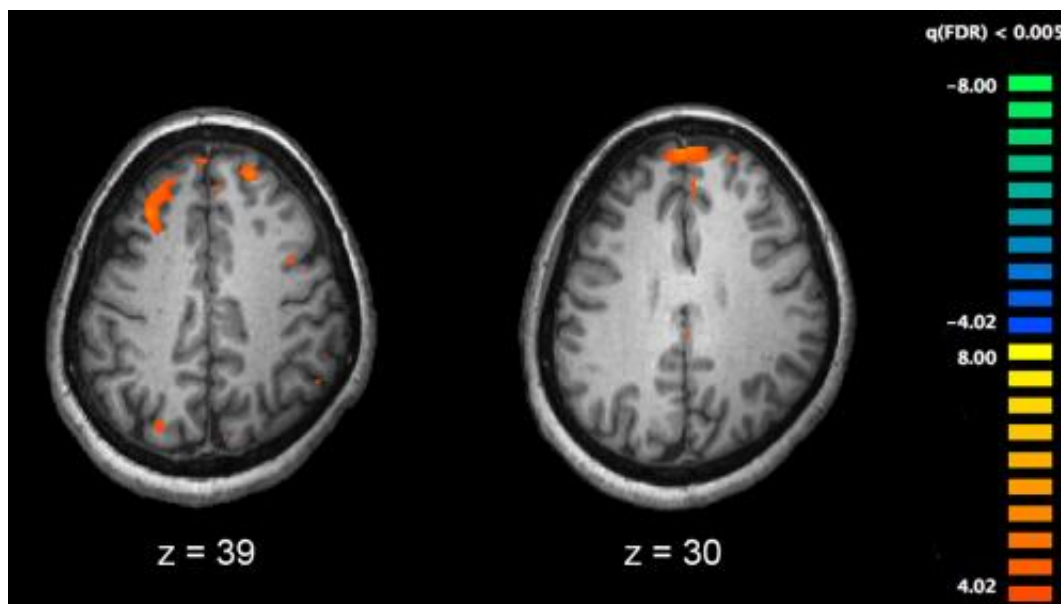


Investigating cooperation during social interaction in schizophrenia

September 27 2018, by George Wigmore



Functional magnetic resonance imaging (fMRI) and other brain imaging technologies allow for the study of differences in brain activity in people diagnosed with schizophrenia. The image shows two levels of the brain, with areas that were more active in healthy controls than in schizophrenia patients shown in orange, during an fMRI study of working memory. Credit: Kim J, Matthews NL, Park S./PLoS One.

People spend much of their time within social groups but those with schizophrenia commonly describe difficulty with trusting others. Using a public goods game to study social interactions in individuals with the disorder, it was seen that when a lack of cooperation was punished, both

patients and control subjects demonstrated increased levels of cooperation.

This suggests that the lack of [cooperation](#) in people with [schizophrenia](#) within a [group](#) setting is not fixed but is amenable to change and treatment could usefully be targeted at this.

Cooperative behaviour

To investigate how [cooperative behaviour](#) differed between the two groups, the researchers recruited 27 patients with schizophrenia and 27 healthy controls and got them to play a public goods game that included a social dilemma: participants received an initial endowment and had to make the decision whether to invest the money in a group account (cooperating/public good) for mutual benefit or whether to keep the money for themselves (non-cooperation/private good), yet still benefit from the others contributions.

There were two conditions, one where no fine was possible and one where participants could punish (fine) the other players for non-cooperation of the other players. When players are allowed to punish non-cooperators, investments in the public good tend to increase as cooperation is socially enforced.

Social group interactions

The study, which is published in the journal *Schizophrenia Research*, is the first to investigate cooperation, social enforcement and sensitivity to social feedback in group [interactions](#) in schizophrenia.

Co-author Dr. Anne-Kathrin Fett, from the Department of Psychology at City, University of London, said:

"We used a paradigm from behavioural economics to study social interaction in schizophrenia in this interdisciplinary project. The use of behavioural economics to study social mechanisms in psychiatric disorders is novel and allows us to investigate mechanisms of social interaction while they take place, as opposed to using questionnaires asking hypothetically about what you would do if you were in a social interaction.

"Our findings suggest that schizophrenia is associated with a tendency to initiate social group interactions less cooperatively, which may contribute to difficulties in daily-life social situations. However, the results clearly suggest a sensitivity to social feedback. This could be particularly important for interventions that target social skills and suggests that group-based interventions may be especially helpful."

More information: Esther Hanssen et al. Cooperation and sensitivity to social feedback during group interactions in schizophrenia, *Schizophrenia Research* (2018). [DOI: 10.1016/j.schres.2018.06.065](https://doi.org/10.1016/j.schres.2018.06.065)

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