

Difficulty assessing effort drives motivation deficits in schizophrenia, study finds

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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.

Individuals with schizophrenia often have trouble engaging in daily tasks or setting goals for themselves, and a new study from San Francisco State University suggests the reason might be their difficulty in assessing the amount of effort required to complete tasks.

The research, detailed in an article published this week in the *Journal of Abnormal Psychology*, can assist health professionals in countering motivation deficits among patients with [schizophrenia](#) and help those patients function normally by breaking up larger, complex tasks into smaller, easier-to-grasp ones.

"This is one of the first studies to carefully and systematically look at the daily activities of people with schizophrenia—what those people are doing, what [goals](#) are they setting for themselves," said David Gard, an associate professor of psychology at SF State who has spent years researching motivation and emotion. "We knew that people with schizophrenia were not engaging in a lot of goal-directed behavior. We just didn't know why."

In 2011, Gard received a grant from the National Institute of Mental Health to study the reasons behind this difficulty in goal setting. An earlier article detailing other research from this study, published in May in the journal *Schizophrenia Research*, showed that when people with schizophrenia do set goals for themselves, they set them for the same reasons as persons without: to connect with others. But motivation deficits are still common among these individuals, and his latest study set out to pinpoint the reason.

Through a series of cognitive assessments and random phone calls, Gard and his colleagues at SF State and the University of California, San Francisco collected data from 47 people with and 41 people without schizophrenia. Participants were called four times a day, randomly throughout the day, for a week and asked about their current mood, as well as what they were doing; how much enjoyment they were getting out of it; and what their goals for the rest of the day were. The results were coded by variables such as how much pleasure they were getting out of their [daily activities](#) and how much effort was involved, then compared that with the results from the cognitive assessments.

Gard and his fellow researchers found that, while people with schizophrenia engage in low-impact, pleasurable goals—such as watching TV or eating food for enjoyment—as much as others, they have greater difficulty with more complex undertakings or goals requiring more effort.

"There's something breaking down in the process around assessing high-effort, high-reward goals," Gard said. "When the reward is high and the effort is high, that's when people with schizophrenia struggle to hold in mind and go after the thing that they want for themselves."

The findings indicate that health-care providers who want to help individuals with schizophrenia set goals for themselves should break larger tasks into smaller, simpler ones with small rewards. For example, instead of guiding a patient specifically toward the larger goal of getting in physical shape, a provider could instead encourage them to gradually walk a little bit more every day.

"That's something we would do for everyone else, but it might have been avoided in patients with schizophrenia because we thought they weren't experiencing as much pleasure from their activities as they actually are," Gard added. "We can help them to identify things that are pleasurable and reward them toward larger goals."

More information: "Do People with Schizophrenia Have Difficulty Anticipating Pleasure, Engaging in Effortful Behavior, or Both?" by David E. Gard, Amy H. Sanchez, Kathryn Cooper, Melissa Fisher, Coleman Garrett and Sophia Vinogradov was published online Aug. 18 in the *Journal of Abnormal Psychology*.

Provided by San Francisco State University

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