

Reward Motivation in Patients of Schizophrenia with High versus Low Negative Symptoms

Abstract

Reward and motivation have been shown to positively influence cognitive control in different ways. We examined the ability to make use of motivationally salient information to enhance cognitive control in individuals of schizophrenia, siblings of patients, and healthy controls. 73 patients, 19 siblings and 43 controls participated. Participants performed a response conflict task in which they saw a letter and a number presented together on every trial. Participants were cued on whether they'll have to attend to the letter (consonant-vowel judgment) or the number (odd-even judgment). They were first presented with blocks of trials with no rewards (baseline) followed by blocks of trials that included reward cued trials, intermixed with non-reward trials (that were still within a reward context). Reaction times were examined for both *incentive cue effects* (difference in RT between non-reward and reward trials, both within reward context) and *incentive context effects* (difference in RT between baseline and non-reward trials within reward context). Compared with baseline, all participants showed a benefit of accuracy and speeding of RTs in incentive condition. Patients with high negative symptoms did not show a benefit of incentive context, indicative of deficits in proactive control and reliance on reactive control strategies. However patients with low negative symptoms surprisingly showed an incentive context effect, which could have implications for sparingly preserved motivational effects on proactive control in clinical populations with less severe negative symptoms.