

Abstract

Background: Robust research has found that schizophrenia patients demonstrate cognitive deficits in cognitive control – working memory, inhibition, and set-shifting, compared with healthy controls. However, the impact of delusions has been rarely evaluated in a within-subject setting. While studies suggest the similarity between delusions and emotions in cognition, it is uncertain whether an impact of delusion exposure (DEL) is comparable to that of emotion exposure (EMO). It was hypothesized that DEL and EMO would lead to worse performance than neutral condition (NEU), and DEL undermines the performance further than EMO, and belief flexibility is a moderator of the performance with DEL. This paper seeks to test the hypothesis by comparing set-shifting performance under NEU, DEL, EMO among schizophrenia patients.

Method: A schizophrenia adult patient group with active delusions $n = 44$ was recruited to participate in a computer version alternating runs to perform cognitive set-shifting. They responded to stimuli accordingly with two alternating rules under NEU, DEL, and EMO. Response time (RT) and accuracy (ACC) were recorded. Performance differences were analysed by ANOVA.

Results: Participants performed better in both interferences. RTs in DEL and EMO were significantly reduced than that in NEU, both with $p < .01$; however, there was no significant difference between DEL and EMO. Besides, there was no significant difference in ACC across three conditions. Control of BF was also non-significant.

Discussion: The experimental findings did not support the proposed hypothesis, where ACC was unaffected but RT was significantly reduced in DEL and EMO. The phenomenon is hypothesized as attribution to the match of easiness of the task and the impact of high arousals. Experimental settings might fail to distinguish DEL from EMO. The control of BF remained uncertain. More studies are needed to evaluate the interactions between ACC and RT along with interferences.