

Selective neural deficits in comprehending emotional information within social vignettes in schizophrenia

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Background: Emotional disturbances characterize both positive and negative symptoms of schizophrenia. Patients with negative symptoms often show a blunting of emotional responsivity, whereas patients with paranoid delusions have demonstrated elevated or inappropriate emotional responses.

Method: Event-related potentials (ERPs) were measured as 18 schizophrenia patients and 18 demographically-matched controls made emotional valence judgments about two sentence descriptions of social situations. Emotional valence was conferred by a pleasant, unpleasant or neutral critical word (CW) in the second sentence that was presented word-by-word, e.g. "Sandra's old boyfriend stopped by her apartment. This time he brought a rose/gun/letter with him."

Results: CWs in scenarios classified as negative (versus neutral) evoked a smaller Late Positive Component (LPC) effect in patients than in controls. CWs in scenarios classified as positive (versus neutral), evoked a small LPC effect at posterior sites in controls, and no such effect in patients. Both group differences arose because the LPC to negative and positive CWs was smaller in patients than controls, but there was no such difference in the LPC to neutral CWs. Within the patient group, the magnitude of the LPC to both negative and positive (versus neutral) words inversely correlated with the severity of negative symptoms, while the magnitude of the LPC effect to negative (versus neutral) words correlated with the severity of delusions.

Conclusion: Schizophrenia patients show selective neural abnormalities to emotional information during the comprehension of social vignettes. Distinct deficits characterized negative symptoms and delusions.