

**Conclusions:** In addition to formal treatments for depression, self-help and alternative strategies are frequently used, and perceived as effective treatments. Consumers' perceptions of the helpfulness of such strategies could be helpful to both professionals and patients considering complementary treatments for depression.

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## The neuropsychological consequences of cannabis use in schizophrenia: a preliminary analysis

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**Background:** There has been considerable controversy regarding the possible causal role of cannabis use in the development of schizophrenia; there have also been contradictory findings concerning the impact of cannabis use on neuropsychological function in schizophrenia and in non-psychiatric samples. This paper presents preliminary data comparing neuropsychological task performances of people with a diagnosis of schizophrenia with and without cannabis use.

**Methods:** Participants included 17 individuals with a diagnosis of schizophrenia (10 without cannabis use, plus 3 with current cannabis use, combined with 4 for whom cannabis use was significant at onset but is no longer in use, to make the 7 members of the cannabis-using group). All participants were tested on neuropsychological measures covering a range of cognitive domains (executive functioning, memory, learning, attention and information processing speed). Psychopathological assessments (eg depression, symptom ratings) and detailed drug use measures were also conducted.

**Results:** The cannabis-using group was more symptomatic, had lower levels of current intelligence and showed greater impulsivity as indexed by the CPT, compared with the non-cannabis-using group. There were trends toward greater recognition memory deficits and arousal deficits as indexed by the CPT in the cannabis-using group.

**Conclusions:** Cannabis use in schizophrenia may be associated with greater symptom severity and increased deficits in impulse control and current intelligence. Although preliminary, these results are inconsistent with the self-medication hypothesis, as symptoms are exacerbated by cannabis.

## Impaired connectivity in amygdala pathways may explain disorganization symptoms of patients with first-episode schizophrenia

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**Background:** Our integrative neuroscience model of first-episode schizophrenia (FES) highlights the lack of coordinated neural activity required for effective processing of salient signals of emotion. Aim of this study was to determine whether altered connectivity of frontolimbic networks underlies impairments in coordinated processing of emotion and associated clinical profile.

**Methods:** Functional magnetic resonance imaging (fMRI) scans were acquired in 14 patients with FES and 14 matched healthy control subjects during the pseudorandom presentation of fearful and neutral facial expression stimuli. Faces were presented under both overt (conscious) and covert (nonconscious) conditions shown to engage indirect cortical and direct brainstem pathways to the amygdala, respectively. A random-effects model with the following regions of interest (ROIs) was used: amygdala, brainstem, thalamus, visual cortex and the medial prefrontal cortex (MPFC). Following group comparisons, we used psychophysiological interaction analysis to examine coupling of amygdala with other ROIs. We used the effect size of differences in coupling in regression analyses to predict patients' clinical profile assessed with the PANSS.

**Results:** Patients with FES showed a differential pattern of amygdala interaction with the nodes of direct and indirect pathways and also with the MPFC compared with controls. A greater impairment in these couplings, particularly during conscious processing of fear faces, predicted a greater severity in the conceptual and behavioural disorganization measured by PANSS.

**Conclusion:** These findings indicate that break down in amygdala pathways may affect coordinated neural activity required for effective processing of salient signals of emotion and may lead to a disruption of the usual emotional and cognitive associations such as incongruent affect.