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Letter to the Editor

Multifaceted impairments of impulsivity in cannabis users? – a reply

We are grateful to Wrege & Borgwardt (2013) for their interest in our article. We agree with their call for further studies that examine interaction between psychosis, cannabis use and impulsivity. As Wrege & Borgwardt (2013) note impulsivity is a multifaceted concept and consequently a diffuse array of measures has been developed to index it. This is reflected in the wide variability measures used in existing studies that focus on psychosis leading to few replications using the same measures. A large study, with a representative range of measures, would help identify the factor structure of the dimensions impulsivity in people with psychosis who are substance users *versus* non-users as a guide to future research. Meda *et al.* (2009) recently reported such a study in a non-psychotic sample, describing a five-factor solution that was similar in the substance-using and non-using populations. They reported differences between the groups only on reward sensitivity and self-reported impulsivity factors, with no differences on behavioural activation, temporal discounting or risk taking factors. It would be useful to determine if similar factors emerge in a sample of people with psychosis.

A model-building approach at the level of impulsivity could be complemented by further evaluating models of substance use in psychotic samples that incorporate impulsivity. One model (Blanchard *et al.* 2000) suggests that impulsivity interacts with daily stress to exacerbate substance use in psychosis. At the time this model was put forward there was no obvious methodology available to test it. More recent work on the Experience Sampling Method (Myin-Germys *et al.* 2009) has provided a technique

that is able to index momentary changes in symptoms, emotions and behaviour in response to daily stressors. Combining this method with assessments of impulsivity could determine if impulsivity moderates the relationship between stress and substance use in psychosis as proposed in the model. Finally, within the Blanchard *et al.* (2000) model impulsivity is viewed as a stable trait that predates psychosis onset. A study is therefore required in a sample at high risk for psychosis to determine if impulsivity in this sample predates psychosis onset or heavier cannabis use.

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