A Biosocial Cognitive Model of Cannabis Use and Dependence: A Test Among Cannabis Users Referred to Drug Diversion

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Introduction and Aims: The Biosocial Cognitive Theory (bSCT) hypothesizes two cognitively-mediated pathways that link dimensions of trait impulsivity to cannabis use (see Figure 1). The first pathway predicts that the relationship between reward sensitivity and cannabis use is mediated by heightened positive cannabis expectancies. The second pathway predicts that the relationship between rash impulsiveness and cannabis use is mediated by reduced cannabis refusal self-efficacy. This study provided the first test of the bSCT model among a cannabis treatment population and evaluated the capacity of the model to predict two outcomes: cannabis use and severity of cannabis dependence.

Design and Methods: Data were obtained from 273 patients who presented at an Australian public hospital for a cannabis treatment session. This treatment session was part of a drug diversion initiative and consisted of a comprehensive assessment and motivational interviewing. Within the session, patients completed an assessment battery which included measures of bSCT model variables. Structural equation modeling was used to test the hypothesized model.

Results: The bSCT model provided a good fit to the data for the cannabis use and severity of cannabis dependence outcomes. The relationship between reward sensitivity and both outcomes was fully mediated by positive cannabis expectancies, and its subsequent association with cannabis refusal self-efficacy. The relationship between rash impulsiveness and each cannabis outcome was fully mediated by cannabis refusal self-efficacy.

Discussions and Conclusions: Findings support the bSCT model. The results highlight the value of cognitive mechanisms in understanding how an impulsive personality conveys risk for cannabis use. The theoretical and practical implications will be discussed.

Implications for Practice: The differential, direct associations between the impulsivity traits and cannabis cognition suggests avenues for targeted treatments. Altering positive cannabis expectancies and cannabis refusal self-efficacy may also be a more viable treatment approach than targeting impulsivity directly.

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Figure 1. The Biosocial Cognitive Model.