

Dissertation: The Social Cost of Pain: Rejection Sensitivity, Social Rejection, and Cannabis Use in Young Adults

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### **Abstract**

Cannabis use rates are rising substantially in the United States and epidemiological studies show an increased risk for cannabis use disorder and psychological impairments in young adulthood. Cannabis has been implicated in relieving distress and social pain, an important area of research in young adults, given the saliency of peer and social networks to addiction. Research shows that being highly rejection sensitive and experiencing social exclusion are perceived to be just as painful as physical pain. Evolutionary frameworks posit that a social monitoring system or affective alarm exists to warn us of social pain; cannabis, via opioid pathways, has been shown to reduce, or potentially buffer, the effects of social pain and rejection. Thus, cannabis may be protective against the painful feelings of social stress, particularly for heavier or more frequent users. However, findings are not wholly positive, as other research indicates cannabis may blunt affective responses and impair social processing. The effects of cannabis use in young adults is understudied, as well as its relationship to rejection sensitivity (RS). In this translational pilot study, we aimed to investigate the relationship between RS, social rejection, and cannabis use in moderate (using 1-3 times per week;  $n = 21$ ) and heavy (using 4+ times per week;  $n = 25$ ) young adult cannabis users, compared to healthy controls (no cannabis use in past year;  $n = 24$ ), using a multi-method approach.

Seventy college-aged ( $M = 20.56$ ,  $SD = 3.13$ ) completed self-report measures assessing trait-RS and cannabis use factors. Cyberball+, a lab-based manipulation of social exclusion that varies the rates of inclusion, was employed to investigate whether RS and cannabis use frequency had an effect on rejection distress to social exclusion. Ecological momentary assessment (EMA) in the form of an online daily diary delivered via text message and completed four times per day over the course of seven days was used to assess factors related to cannabis use and craving in real-world settings.

Results showed that while there were no significant group differences between moderate, heavy users or controls on trait-RS, controls reported significant higher scores of the expectancy component of trait-RS, reflecting that the expectation of rejection may be more salient than the anxious rumination component and may maintain the fear that rejection will occur. A non-significant correlation between trait-RS and rejection distress to social exclusion indicated these may be two distinct constructs where the former is related to emotional responses to rejection while the latter is associated with a greater desire for social attachment and a need to belong. In contrast to our hypothesis, trait-RS and cannabis use frequency had no significant interaction effect on rejection distress. Notably, cannabis users reported a significantly greater increase in craving cannabis to achieve relief from negative mood and in anticipation of a positive outcome after social exclusion. Lastly, while experiences of real-world rejection were low during the one-

week EMA period, heavy cannabis users reported more instances of rejection (11%) than moderate users (7%). Results from mixed effects logistic regression models show greater rejection distress to experimental social exclusion is significantly associated with reduced odds (45%) of real-world cannabis craving but not use, while real-world experience of rejection was not associated with craving or use.

To our knowledge, this study is the first to assess RS's relation to cannabis use and to establish convergence between experimental and ecological methodologies assessing social rejection. Findings from this study have important research and clinical implications and can provide guidance for identifying and treating cannabis use and its related problems on college campuses. Clinicians would benefit from evaluating the impact of RS on traditional psychotherapy treatments. Results can inform the development of EMA and text-messaging based interventions as a tool for targeted, real time substance use treatment, particularly for young adult cannabis users.