

findings inform prevention and intervention practices that focus on decision-making by tailoring approaches based on an individual's primary motives for cannabis use.

Categories: Drug/Toxin-Related Disorders (including Alcohol)

Keyword 1: cannabis

Keyword 2: decision-making

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28 Emotion Regulation and Functioning in Young Substance Use Initiators and Controls

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Objective: Emotion regulation and functioning have well established links to substance use in adolescents. Yet limited research has investigated emotion regulation in very early substance initiators either on self-report or on behavioral measures (i.e., Emotional Stroop). Similarly, there are few prospective investigations of emotional functioning as a predictor of initiation. Given concerns of emotion difficulties preceding and predicting substance use onset, we aim to investigate emotional functioning difficulties in very early (ages 9-13) substance use initiators relative to sociodemographically matched controls, both after initiation and as a predictor of initiation. We hypothesize that initiators would demonstrate greater emotion dysregulation and decreased emotional functioning relative to controls.

Participants and Methods: ABCD Study Annual Release 4.0 was used. Participants included those who had data available at Y3 follow-up visit and youth-reported use of any full dose of a substance (n=148). Sociodemographic controls were then matched (n=148). General linear mixed effects models were run to assess emotional functioning at Y3 (Emotional Stroop response time and accuracy performance, youth-reported Emotion Regulation Questionnaire, and parent-reported Difficulties in Emotion Regulation Scale and Child Behavior Checklist externalizing and internalizing

symptoms) by substance use group status controlling for random effects of family. Further, hierarchical linear models assessed CBCL emotional functioning from Y0 to Y3 predicting SU initiation at Y3, controlling for within-subject change.

Results: At Y3, early substance use initiation predicted higher parent-reported externalizing symptoms significantly (estimate=5.88, $p < .001$). Substance use initiation also marginally predicted high parent-reported internalizing symptoms (estimate=2.29, $p = .08$) and DERS (estimate=0.02, $p = .07$). ERQ and Stroop performance were not significantly associated with group status (p 's $> .10$). For externalizing symptoms predicting SU initiation, regardless of year (baseline through Y3) was significantly predictive of initiation (p 's $< .001$). HLM demonstrated that externalizing symptoms at all time points resulted in the best predictive model (AIC=392.85, BIC=422.80, relative to models including all data through Y2, AIC=433.63, BIC=458.59).

Conclusions: Here we found externalizing symptoms and, to a lesser extent, internalizing symptoms and emotion dysregulation are associated with early substance use initiation. However, results are limited to parent report, despite the consideration of youth-report and a behavioral measure of emotion regulation, the Emotional Stroop task. Further, while marginal effects were found, downstream externalizing symptoms were a better predictor of later substance use initiation. While other metrics of emotion regulation have been linked to substance use in adolescence, emotion regulation abilities may change as a result of substance use, rather than a predictor of use, and thus needs monitoring over time.

Categories: Emotion Regulation

Keyword 1: emotional processes

Keyword 2: substance abuse

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29 Regulate to Remember: Cognitive Reappraisal Ability Impacts Prospective Memory Performance

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Objective: Emotion regulation is generally thought of as the process of overriding one's initial emotional response to personally relevant events. One frequently investigated type of emotion regulation is cognitive reappraisal, which describes one's ability to cognitively alter the meaning of an event. Cognitive reappraisal is associated with better cognitive, social, and health outcomes compared to other emotion regulation strategies. The cognitive building blocks of cognitive reappraisal are related to executive cognitive control processes, which broadly describe one's ability to engage in non-automatic and goal-oriented behaviors.

Crucially, executive control processes are also relevant in demanding cognitive tasks such as prospective memory since, similarly to cognitive reappraisal, they involve effortful and purpose driven efforts. However, cognitive reappraisal has thus far not been investigated regarding prospective memory performance despite findings that suggest that emotionally evocative stimuli improve prospective memory performance. The present study investigated whether cognitive reappraisal state and trait measures as well as other types of emotion regulation strategies are associated with prospective memory accuracy of negatively valenced prospective memory targets.

Participants and Methods: A total of 45 participants (69% women; $M = 22.62$ years, $SD = 5.69$ years) took part in this cross-sectional study. Cognitive reappraisal and prospective memory tasks were administered on the computer. A total of 106 pictures were shown in the prospective memory task, including 12 prospective memory hits. A 2-back paradigm was used as the effortful ongoing task. Dependent measures included accuracy of and reaction times to negative prospective memory hits. A total of 45 pictures were shown in the cognitive reappraisal task. Participants were asked to decrease their negative emotions when looking at previously normed negatively valenced pictures versus merely looking at them (Lang et al., 2001). Dependent measures in the cognitive reappraisal task included success of downregulating negative emotion after the DECREASE versus LOOK instruction. A mood manipulation check and a questionnaire asking about participants' reappraisal strategies was conducted. Trait based measures of emotion regulation included the Emotion Regulation

Questionnaire and the Dysfunction of Emotion Regulation Scale.

Results: Participants endorsed significantly higher negative mood after looking at negative versus neutral pictures, $t(48) = 22.77$, $p < .05$. Ratings further indicated that participants were able to significantly decrease how negative they felt when reappraising versus looking at negative pictures, $t(44) = 12.82$, $p < .05$. Regarding the relationship between prospective memory accuracy of negatively valenced prospective memory targets and cognitive reappraisal ability, no significant bivariate correlation was found ($p > .05$). However, a significant bivariate correlation was found between reaction times to negatively valenced prospective memory targets and cognitive reappraisal ability ($r_s = -.32$, $p = .03$). No significant relationship was observed between prospective memory accuracy of or reaction times to negatively valenced prospective memory targets and trait based measures of emotion regulation (all $ps > .05$).

Conclusions: Hypotheses were partly supported. Higher state-based cognitive reappraisal abilities may be associated with lower cognitive costs when asked to remember negatively evocative pictures and/or higher overall cognitive capacity. The importance of assessing emotion regulation when utilizing emotionally evocative stimuli and their clinical significance is discussed.

Categories: Emotion Regulation

Keyword 1: memory: prospective

Keyword 2: computerized neuropsychological testing

Keyword 3: emotional processes

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30 Changing the Meaning of Emotional Encounters: Cognitive Reappraisal Success is Unrelated to Cognitive Reappraisal Tactic

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Objective: Cognitive reappraisal is a frequently researched emotion regulation strategy. It broadly describes one's ability to alter or