Event-level Analysis of Medical Cannabis in Older Adults: Trajectories of Symptom Clusters across the Day and Associations with Use-related Pathology

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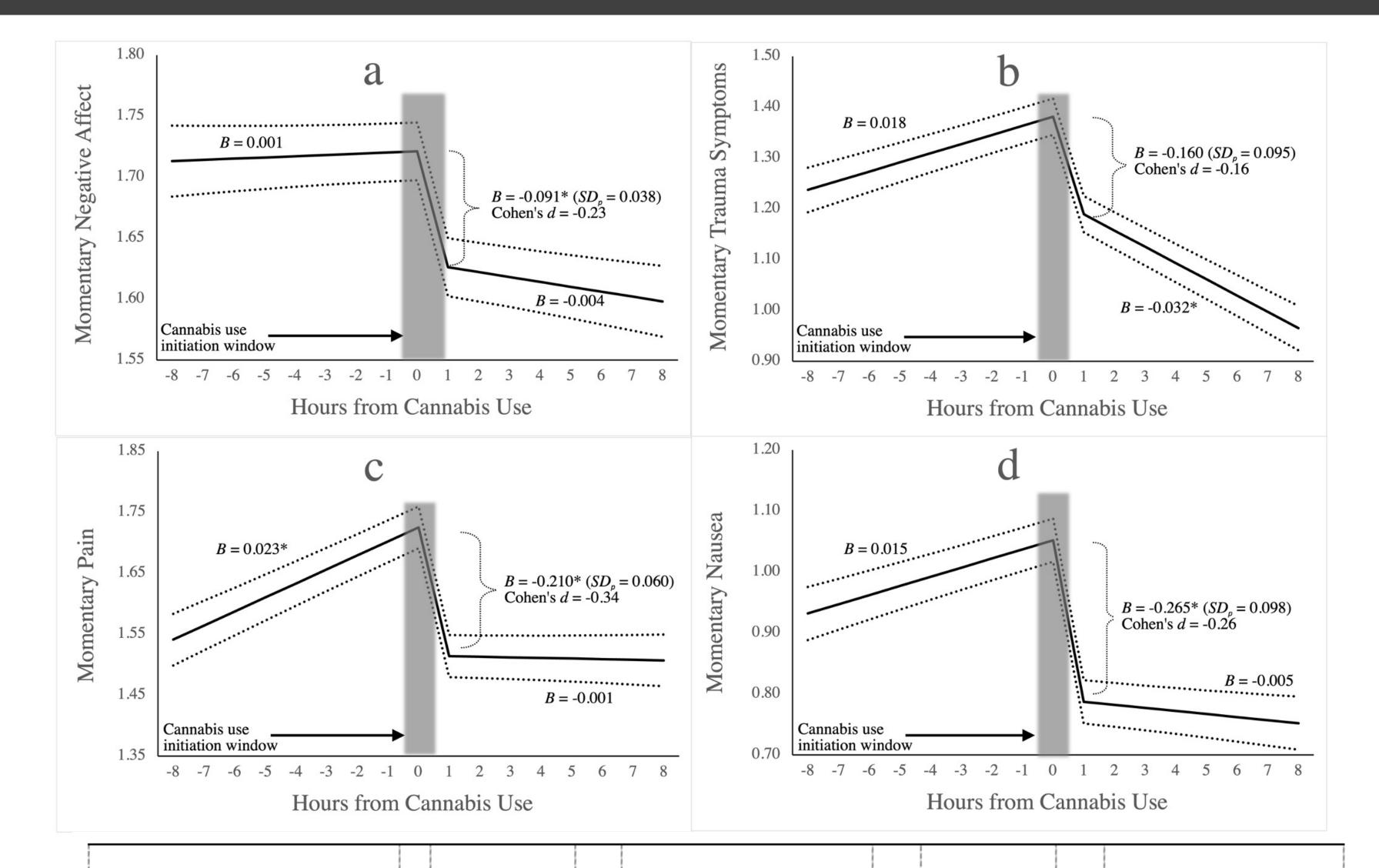**Department of Psychology, University of Central Florida**

Introduction

- Approximately 14% of adults aged 60 and over live with a psychiatric disorder.
- They are also at risk for multiple physical conditions related to aging, complex disease profiles, and attempts to manage these issues pharmacologically
- Medical Cannabis (MC) has shown therapeutic effects on a variety of symptoms
- However, cannabis use has also been linked to problematic psychological and physical outcomes.
- The current study examines the effects of MC at the momentary level in older adults

Methods

- **Participants:** Participants were (n = 106; 62.11% female) older adults with a mean age of 61 years.
- **Procedures:** Participants were recruited using Social Media. Had to have a condition for which MC is approved to treat and had to use MC weekly. They completed up to 5 daily assessments via text message (EMA) for 15 days.
- **Measures:** Psychiatric Symptoms included Negative affect (anxiety/depression) and trauma symptoms. Physical Symptoms included pain and nausea. Participants reported if they had begin using MC and if so, how high they currently felt.
- **Data Analysis:** Dynamic Structural Equation Modeling tested trajectories of symptoms across the day and used those trajectories to predict CUD symptoms and cannabis-related problems.

	Cannabis Related Problems		Cannabis Use Disorder Symptoms	
Predictors	β	95% BCI	β	95% BCI
Negative Affect				
Pre-use Slope	-0.128	-0.381 to 0.155	-0.126	-0.367 to 0.154
Post-use Slope	0.068	-0.182 to 0.318	-0.093	-0.336 to 0.157
Use Effect	0.021	-0.187 to 0.239	-0.073	-0.277 to 0.145
Reinforcement Effect	-0.206	-0.401 to 0.006	-0.290*	-0.473 to -0.084
Trauma Symptoms				
Pre-use Slope	0.088	-0.421 to 0.635	0.129	-0.394 to 0.650
Post-use Slope	-0.086	-0.342 to 0.168	-0.286*	-0.535 to -0.007
Use Effect	0.143	-0.112 to 0.383	0.026	-0.213 to 0.274
Reinforcement Effect	0.054	-0.171 to 0.269	0.043	-0.180 to 0.260
Pain Symptoms				
Pre-use Slope	0.035	-0.344 to 0.406	0.006	-0.390 to 0.404
Post-use Slope	-0.056	-0.229 to 0.345	-0.111	-0.386 to 0.185
Use Effect	0.082	-0.154 to 0.329	-0.022	-0.261 to 0.229
Reinforcement Effect	-0.267*	-0.460 to -0.049	-0.118	-0.329 to 0.105
Nausea Symptoms				
Pre-use Slope	-0.149	-0.530 to 0.290	-0.229	-0.616 to 0.231
Post-use Slope	-0.202	-0.522 to 0.143	-0.259	-0.588 to 0.091
Use Effect	0.132	-0.092 to 0.353	0.120	-0.108 to 0.347
Reinforcement Effect	-0.266*	-0.465 to -0.045	-0.130	-0.347 to 0.086

Results

- Drop in all symptoms immediately after use initiation (strongest for Pain)
- Trauma continued to decline across time following use initiation
- Strong **Momentary Negative Reinforcing** effects (momentary correlation between intoxication rating and symptoms) for Pain (B = 0.020*), NA (B = 0.012*), Nausea (B = 0.026*), & Trauma (B = 0.029*).
- Momentary Negative Reinforcement of NA and post-use slope of Trauma predicted CUD symptoms.
- Momentary Negative Reinforcement of Pain and Nausea predicted Cannabis problems, but not CUD symptoms.

Discussion

- The current study suggests that MC among Older Adults may be efficacious for a range of symptoms and may provide fairly rapid relief.
- However, this relief comes with a cost.
  - Physical Symptom Relief → Cannabis Problems
  - Psychiatric Symptom Relief → CUD Symptoms
- Finding ways to alleviate this cost seems especially important given the potential benefits.
  - One potential avenue may be to provide education on small behavioral changes that allow for safe/efficacious use of MC
- Need to weigh these costs against the burden of current pain management approaches