Psychosocial correlates of executive function in individuals with opioid use disorder who are actively using opioids

Aaron M. Kipp¹, Olga B. Scrivner²,³, Mikael Lehoux⁴, Kimberly Goodyear⁴
¹ East Carolina University School of Medicine, ² Indiana University, ³ Harrisburg University, ⁴ Brown University

Introduction

• Psychosocial stress: Aversive conditions exceeding the behavioral resources of an individual¹
• Psychosocial stress linked to SUD and relapse risk²
• Emotional executive function (EF) governs the reward/punishment experience, impacting social behavior and emotional and personal interpretation³
• Users of opiates, stimulants, and alcohol show impaired EF which may further impair treatment seeking behavior⁴
• The role of psychosocial stress on EF in the context of OUD is poorly understood

Research Objective: To explore psychosocial factors associated with EF among individuals with OUD not receiving MAT

Methodology

• Community-based recruitment (Providence, RI) through Craigslist ad, fliers at SEP, and participant referral
• Eligibility: 18 years or older, opioid use in the past 90 days, screening positive for DSM-5 OUD, no MAT in past 30 days
• Administered a questionnaire on, social stability, food insecurity, substance use and severity, drug use stigma, social support, perceived stress, depression, anxiety, adverse childhood experiences, and trauma using validated measures
• Administered computer version of the Iowa Gambling Task:
  - Begin with $2000, select button A, B, C, or D; repeat 200x
  - A & B: $100 gain but 50% probability of $250 penalty
  - C & D: $150 gain but 50% probability of $50 penalty
• Outcome: % delayed reward selection (C&D buttons)
• Robust linear regression for each psychosocial factor, adjusting for age, education, and opioid severity
• Report results where p<0.20 given small sample size

Results

• 46 participants: 64% male, 70% White non-Hispanic, 11% Black non-Hispanic, 19% Hispanic, median age 43 yrs
  - 72% some Highschool education; 75% low social stability
  - 89% weekly/daily opioids, 74% within 48 hours of study
  - 45% weekly/daily cocaine; 40% weekly/daily cannabis
• Mean (SD) % delayed reward selection: 44.3% (15.3)
• Regression results:

<table>
<thead>
<tr>
<th></th>
<th>Cannabis</th>
<th>Cocaine</th>
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<tbody>
<tr>
<td>Never/not in 3mos</td>
<td>Adj. beta (95% CI)</td>
<td>Adj. beta (95% CI)</td>
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<tr>
<td>Monthly/weekly</td>
<td>5.12 (-1.08, 11.31)*</td>
<td>2.53 (-3.22, 8.28)</td>
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<td>Daily or almost daily</td>
<td>0.03 (-6.69, 6.74)</td>
<td>5.10 (-1.94, 12.15)**</td>
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*p=0.10; **p=0.15

• Social stability index (beta=-1.79; 95% CI: -4.09, 0.51; p=0.12)
• Anticipated stigma (beta=-1.57; 95% CI: -3.90, 0.75; p=0.18)

Conclusions

• Observed EF slightly lower than general population samples, which weakly favor delayed reward selection (50-60%)⁵
• Interventions focusing on emotional social support and minimizing anticipated stigma may improve emotional EF and subsequent OUD treatment retention.
• Unclear why adverse factors such as opioid severity, other substance use, food insecurity, and social instability are associated with higher emotional EF
  - Current study small sample size
• Factors contributing to lower EF in people with OUD compared to general population may differ from factors associated with EF among people with OUD

References


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Corresponding author: Aaron Kipp (email: kippa19@ecu.edu)