

## AACAP Jeanne Spurlock, MD, Research Fellowship in Substance Use Disorders, supported by AACAP's Campaign for America's Kids

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*The AACAP Jeanne Spurlock, MD, Research Fellowship in Substance Use Disorders, supported by AACAP's Campaign for America's Kids, is named in honor of Jeanne Spurlock, MD, in recognition of her lifetime of opening doors for colleagues from diverse backgrounds and fostering career advances. This summer fellowship encourages outstanding minority students to pursue research careers in substance use disorders and child and adolescent psychiatry, or supports students whose research in the aforementioned practice areas focuses on vulnerable populations. The fellowships are administered through AACAP's Department of Research, Grants, and Workforce, AACAP's Substance Use Committee, under the direction of Patrice Malone, MD, and Amy Yule, MD, along with AACAP's Diversity and Culture Committee, under the direction of Brandon Newsome, MD, and Deepika Shaligram, MD.*



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Western University of Health Sciences

Project: *Impacts of Psychopharmacological Treatment on the Development of Substance Use Disorder During COVID-19*

Mentor: Iliyan Ivanov, MD, Icahn School of Medicine at Mount Sinai



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Project: *Brave New Worry: Climate Anxiety and Substance Use in Massachusetts Adolescents*

Mentors: Elizabeth Pinsky, MD, and James McKowen, PhD, Massachusetts General Hospital



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Project: *Acceptability and Feasibility of Meditation and Breathwork in Treating Mental Health Symptoms in Teens With Substance Use Disorder: Literature Review and Study Design*

Mentor: Deepika Shaligram, MD, Boston Children's Hospital/Harvard University



# IMPACTS OF PSYCHOPHARMACOLOGICAL TREATMENT ON THE DEVELOPMENT OF SUBSTANCE USE DISORDER DURING COVID-19



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## INTRODUCTION

ADHD is a significant risk factor for developing substance use disorders (SUDs). Stimulant treatments may reduce incidence. The Multimodal Treatment Study of ADHD supports this, particularly when treatment is early and consistent. A 2024 WHO/Europe study found girls use substances less than boys, but this gap is closing.

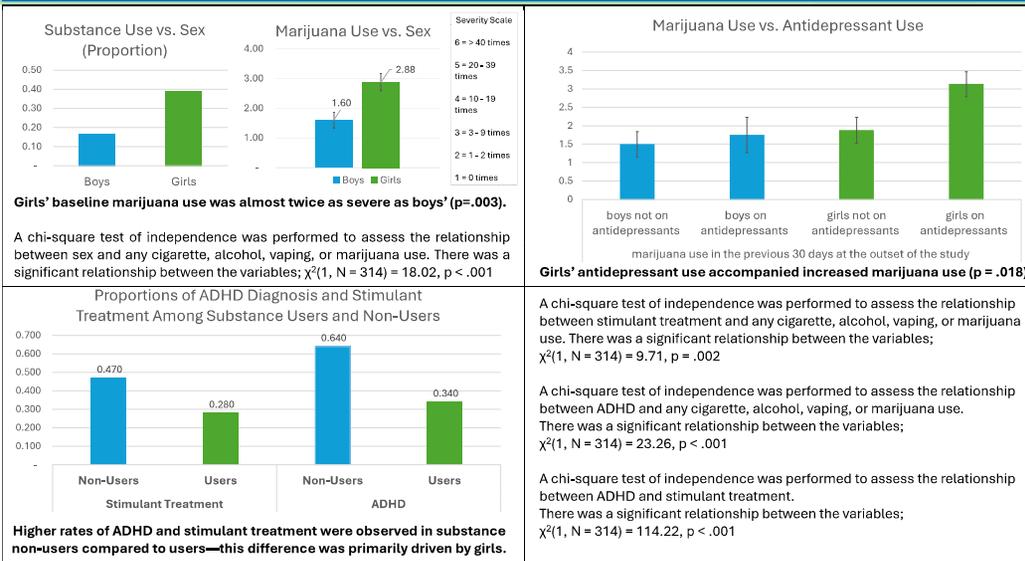
We examined sex, pharmacological treatment, and other factors on substance use in a sample of children with multiple comorbidities from Dec. 2020 to Oct. 2021: the height of the COVID-19 pandemic.

## METHODS

Data came from the Metformin for Overweight and Obese Children with Bipolar Spectrum Disorders Treated with Second-Generation Antipsychotics and Telemedicine Enhanced Access during COVID-19 to Healthcare (MOBILITY TEACH) project.

The sample included 167 boys and 147 girls, ages 7 to 17 (13.8±2.8), all diagnosed with a bipolar spectrum disorder, overweight, and receiving treatment with second-generation antipsychotics (SGAs) at baseline. Participants exhibited a range of mood symptoms and comorbidities. The sample was 12% Hispanic, 18% black, 67% white, and 2% Asian. 86 children reported substance use and 228 did not. 48% were privately insured (or self-pay), and 52% publicly insured. Data were analyzed using SPSS.

## RESULTS



## REFERENCES:

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## CONCLUSIONS

- The negative effects of the COVID-19 pandemic, including increased substance use, seemed to affect more significantly female versus male participants
- Participants with comorbid ADHD who also received stimulant treatment showed lower rates of substance use
- Girls who received antidepressant treatment had a higher prevalence of substance use.
- Longitudinal results will be presented at Symposium 53 Sat. 9-11 am, Hyatt Grand F, by Dr. Ivanov and Dr. Fornari

# Brave New Worry: Climate Anxiety and Substance Use among Massachusetts Adolescents

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Keywords: School Age Children, Climate Change, Epidemiology, Substance Use Disorders

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## Introduction & Objectives

- United States adolescents face a growing burden of climate-related mental health issues, including climate anxiety and resultant impaired functioning<sup>1</sup>
- Given adolescents' increased susceptibility to substance use<sup>2</sup> this study with Massachusetts high schoolers aimed to:

- 1) assess the prevalence of climate worry, associated functional impairment constituting climate anxiety, and availability of helpful coping mechanisms
- 2) examine associations with substance use prevalence and frequency
- 3) identify which sociodemographic communities are most affected

## Methodology

- Data was collected in Fall 2024 from the Substance Use and Risk Factor Survey (45 MA high schools, n= 18, 982 students)
- Surveyed climate change worry, degree of associated impairment (ability to have fun, focus, sleep), available coping methods, and past-month use of alcohol, vapes and cannabis
- Multivariable logistics and ordinal regressions were used to analyze associations
- Models accounted for race, age, sex, and school clustering effects
- Hotspot Analysis conducted on Climate worry with ArcGIS Pro v2.5

## Results

### Key Findings:

- **Over 1 in 3 (34.9%) Massachusetts high schoolers** reported feeling worried about climate change
- Climate worry was associated with **higher odds of current cannabis use prevalence and frequency** (aOR: 1.36, p<.001), an association varying by race

Among high schoolers with climate worry:

- **43.9%** felt this impaired their daily life, a defining feature of climate anxiety
- **46.6%** lacked helpful coping methods
- Climate worry showed **significant variation by race** ( $\chi^2= 131.48$ , df = 6, p<.001)

- Level of daily impairment from climate worry (a measure of climate anxiety), but not level of available helpful climate coping methods predicted current cannabis use frequency (OR 1.21, p= 0.003) in a **dose-dependent manner**

Table 1: Climate Worry–Substance Use Associations

Substance	Use Prevalence	Adjusted Odds Ratio (CI)	p-value
Cannabis Use	6.0%	1.36 (1.14, 1.63)	0.001*
Alcohol Use	8.6%	1.08 (0.92, 1.28)	0.336
Vape Use	5.5%	0.89 (0.76, 1.05)	0.175

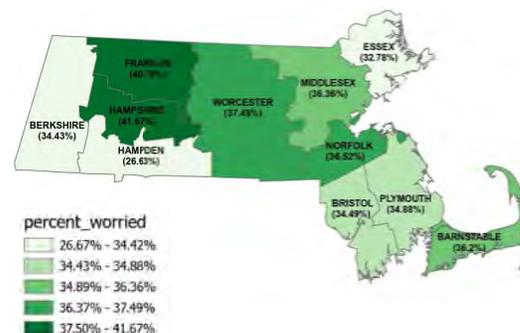
(\*p-value <0.05)

Table 2: Climate Worry –Current Cannabis Use Associations by Race

Race (n)	Adjusted Odds Ratio (CI)	Holm Adjusted p-value
American Indian/Alaska Native (165)	5.68 (1.62, 19.9)	0.039*
Haitian, Black or African American (1361)	1.69 (1.13, 2.54)	0.045*
White (9602)	1.45 (1.20, 1.74)	< 0.001*
Middle Eastern/North African (314)	1.32 (0.50, 3.46)	1.0
Multiracial (1450)	1.19 (0.81, 1.75)	1.0
Asian (1534)	0.91 (0.46, 1.79)	1.0
Hawaiian or Other Pacific Islander (104)	0.67 (0.12, 3.75)	1.0

(\*Holm Adjusted p-value <0.05)

Figure 1: Prevalence of Climate Worry by County



## Discussion & Next Steps

- No statistically significant geospatial hotspots of climate worry across Massachusetts, diffuse susceptibility
- Climate worry was associated with current cannabis use as well as increased cannabis use frequency in high schoolers
- The degree of functional impairment from climate worry, was a stronger predictor of substance use than the availability of coping skills, suggesting a need for alternative methods to build resilience in youth
- Racial variations in both climate worry and its association with substance use may highlight communities to prioritize for health equity measures

### Next Steps:

- Aim to assess impact of green space access as well as heat exposure on both climate worry and substance use
- Conducting follow-up qualitative interviews could reveal the motivations underlying substance use choices and help identify alternative effective climate coping mechanisms and community interventions

## References

1. Hickman C, Marks E, Pihkala P, et al. Climate anxiety in children and young people and their beliefs about government responses to climate change: a global survey. *Lancet Planet Health*. 2021;5(12):e863-e873. doi:10.1016/S2542-5196(21)00278-3
2. Gray KM, Squeglia LM. Research Review: What have we learned about adolescent substance use? *J Child Psychol Psychiatry*. 2018;59(6):618-627. doi:10.1111/jcpp.12783

# Acceptability and Feasibility of Meditation and Breathwork in Treating Mental Health Symptoms in Teens With Substance Use Disorder: Literature Review and Study Design

Tanusha Tholla MS2, Deepika Shaligram MD, Sharon Levy MD MPH

## Background

- Adolescents with substance use disorders (SUDs) experience high rates of stress, anxiety, and depression, which contribute to relapse and poor treatment outcomes.
- Mind–body interventions such as meditation and breathwork may help reduce cravings and improve emotion regulation
- Acceptability and feasibility in youth SUD treatment remain underexplored.
- This project reviews existing evidence and outlines the design of a pilot study evaluating meditation and breathwork for adolescents with SUD.

## Methods

- **Search Strategy:** PubMed search from inception to August 2025 using combinations of “adolescents,” “youth,” “substance use disorder,” “addiction,” “mindfulness,” “meditation,” and “breathwork.”
- **Study Selection:** Included studies enrolling participants under age 25 that examined meditation, breathwork, or mindfulness-based interventions related to substance use or associated outcomes (e.g., stress, depression, cravings).
- **Data Extraction:** Bibliographies of identified studies were screened for additional sources.

## Results

**Mindfulness practices, including meditation and breathwork, have demonstrated improvements in stress, mood, and substance use outcomes in adults, yet no research has examined their feasibility or acceptability among teens with substance use disorders.**



Barrier	Evidence from Literature
Stigma and misconceptions	Mindfulness and yoga often perceived as “hippie,” “feminine,” or only for certain social groups, reducing appeal among teens with SUD.
Low interest or engagement	Adolescents may lack intrinsic motivation or find meditation “boring” or unrelated to their recovery goals.
Home and social distractions	Difficulty finding quiet, private space to practice; interruptions reduce consistency, especially in virtual settings.
Self-consciousness in group settings	Teens may feel uncomfortable or judged when practicing in front of peers, hindering participation.

## Implications/Future Directions

- Findings informed a 4-week meditation and breathwork pilot program for adolescents (ages 14–25) receiving care through Boston Children’s Hospital’s Adolescent Substance Use and Addiction Program (ASAP).
- Pre- and post intervention assessments using **Patient-Reported Outcomes Measurement Information System (PROMIS)** tools to evaluate:
    - Stress
    - Mood and depression
    - Sleep quality
    - Peer relationships
    - Substance use appeal and cravings
  - Structured interviews following the intervention will explore:
    - Perceived benefits and challenges of participation
    - Barriers and facilitators to engagement
    - Perceived impact on wellbeing and recovery journey
  - A thematic analysis of transcripts will identify recurring themes regarding the acceptability and feasibility of the intervention

## Acknowledgements

This research project is funded by the AACAP Jeanne Spurlock, MD, Research Fellowship in Substance Abuse and Addiction for Minority Medical Students, AACAP’s Campaign for America’s Kids (CFAK), and BCH Innovated Faculty Award.



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Thurs. Oct. 23 **10:00 AM - 12:00 PM** | Member Services Forum 9  
[Child and Adolescent Psychiatrists Unite:  
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Thurs. Oct. 23 **2:30 - 4:30 PM** | Clinical Perspectives 67  
[Life Members Clinical Perspectives: The Development of  
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2. Weds. Oct. 22 **8:30 - 10:15 AM** | [Opening Plenary](#)

3. Thurs. Oct. 23 **1:00 - 2:30 PM** | [Junior Research Scholars Lunch](#)  
**4:15 - 6:00 PM** | [Mentorship Program for MSR - Part 1\\*](#)  
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4. Fri. Oct. 24 **4:15 - 6:00 PM** | [Mentorship Program for MSR - Part 2\\*](#)  
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