Mobilizing Schools to Support Student Substance Use and Other Mental Health Concerns

Recovery Science Webinar Series

Randi M. Schuster, PhD
Associate Professor, Harvard Medical School
Founding Director, MGH Center for School Behavioral Health
Director of School-Based Research and Program Development, MGH Center for Addiction Medicine

Opioid Response Network

Working with communities.

- The SAMHSA-funded *Opioid Response Network (ORN)* assists states, organizations and individuals by providing the resources and technical assistance they need locally to address the opioid crisis and stimulant use.
- Technical assistance is available to support the evidence-based prevention, treatment, recovery and harm reduction of opioid use disorders and stimulant use disorders.

Funding for this initiative was made possible (in part) by grant no. 1H79TI088037 from SAMHSA. The views expressed in written conference materials or publications and by speakers and moderators do not necessarily reflect the official policies of the Department of Health and Human Services; nor does mention of trade names, commercial practices, or organizations imply endorsement by the U.S. Government.

Working with communities.

- The *Opioid Response Network (ORN)* provides local, experienced consultants in prevention, harm reduction, treatment and recovery to communities and organizations to help address this opioid crisis and stimulant use.
- *ORN* accepts requests for education and training.
- Each state/territory has a designated team, led by a regional Technology Transfer Specialist (TTS), who is an expert in implementing evidence-based practices.

Approach: To build on existing efforts, enhance, refine and fill in gaps when needed while avoiding duplication and not "recreating the wheel."

Overall Mission

To provide training and technical assistance via local experts to enhance **prevention**, **harm reduction**, **treatment** (especially medications like buprenorphine, naltrexone and methadone) and **recovery** efforts across the country addressing state and local - specific needs.

Contact the Opioid Response Network

- To ask questions or submit a request for technical assistance:
  - Visit www.OpioidResponseNetwork.org
  - Email orn@aaap.org


WE HELP YOU HELP OTHERS

Recovery Science Series Webinars – Past Events

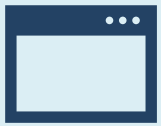
1. Recovery Support Services: Science and Practice, John Kelly, Ph.D.
2. Understanding and Addressing Substance Use Disorder Stigma in Clinical Care Settings, John Kelly, Ph.D.
3. Digital Recovery Support Services, Brandon Bergman, Ph.D.
4. Using Recovery Science to Dismantle Racial Inequities in Opioid Use Disorder, Corrie Vilsaint, Ph.D.
5. Examining Opioid Use Disorder Through the Lens of Recovery, Lauren A. Hoffman, Ph.D.
6. Recovery Community Organizations (RCOs): The Hub of Recovery Support in the Community, Patty McCarthy and Philip Rutherford, Faces & Voices of Recovery
7. Recovery High Schools as a Protective Factor against the Progression of Substance Use & Co-Occurring Disorders, Andrew Finch, Ph.D.
8. Collegiate Recovery: From Science to Policy, Noel Vest, Ph.D.
9. Mutual Help Groups as an Addiction Recovery Resource, Keith Humphreys, Ph.D.
10. Recovery Homes: Potential and Future Challenges, Leonard Jason, Ph.D.
11. Building Adolescent and Family Recovery Capital Through Community Supports, Emily Hennessy, Ph.D.
12. Incorporating Recovery Coaches into General Medical Settings, Dr. Sarah Wakeman and Windia Rodriguez
13. Considerations for Addressing Substance Use Disorder in Emerging Adults, Ashli Sheidow, Ph.D.
14. Integrating Behavioral Therapy with Pharmacotherapy in Treating Patients with Substance Use Disorders, Roger Weiss, M.D.
15. Medications for Stimulant Use Disorder: Evidence, Infrastructure and Cultural Factors that Support Whole Person Care, Steve Shoptaw, Ph.D.
16. Recovery Coaches: What Do They Do, Where Are They Being Utilized, Are They Effective?, David Eddie, Ph.D.
17. The “Age of Feeling In-Between”: Contemporary Strategies to Aid Treatment and Recovery for Emerging Adults with Substance Use Disorder, Brandon Bergman, Ph.D.

Coming Soon!

Dr. Emily Hennessy of the Recovery Research Institute at Massachusetts General Hospital will present on youth recovery on September 24th, 2025, at 12:00 PM EST / 9:00 AM PST.

Registration coming soon – will be emailed out to today's attendees

Polling Questions



A pop-up Zoom window will appear with the poll questions

You must complete all questions before clicking to submit

⇢ Remember to scroll down to see all the questions!

We will share the poll results after a few minutes

Your responses will remain anonymous

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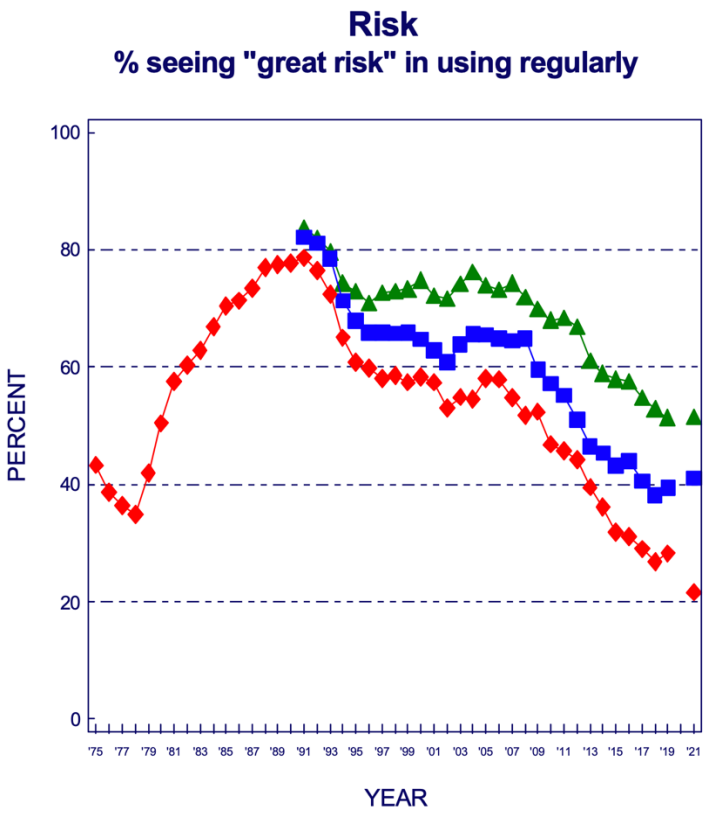
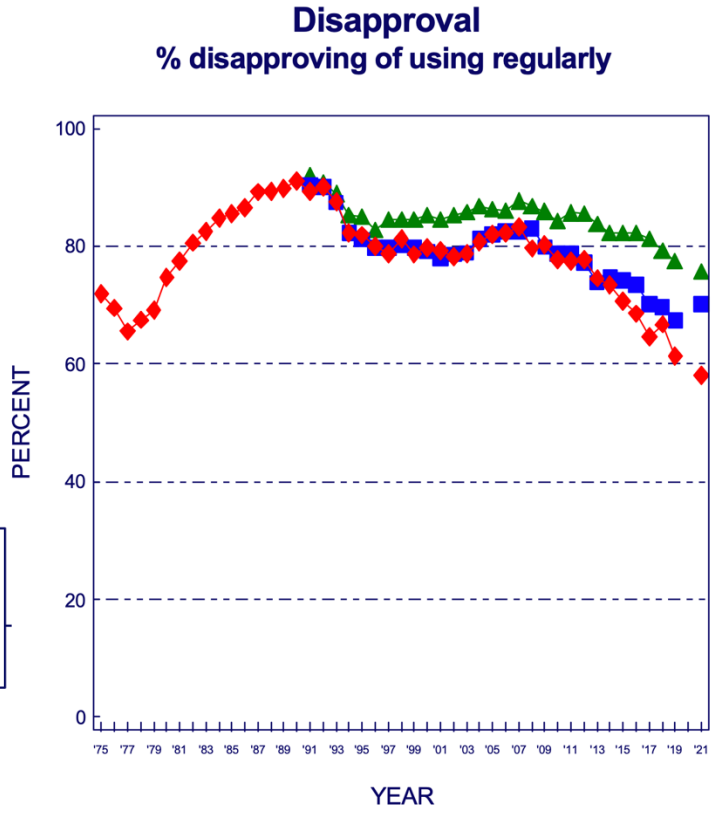
Opioid Response Network

Let’s not bury the lead…

- Most teens do not use substances. But many do.
- While overall rates of (cannabis) use have remained stable, the overall landscape of use has done a 180.
- There is a lot we don’t understand. And we need to be honest about that.
- There are some things we know for sure…
  - Adolescents are at heightened risk for negative effects.
  - Adolescents who use (any) substances are more likely to experience other mental health concerns.
  - Little wins add up.
- Schools represent the prevention arm of our mental health system.

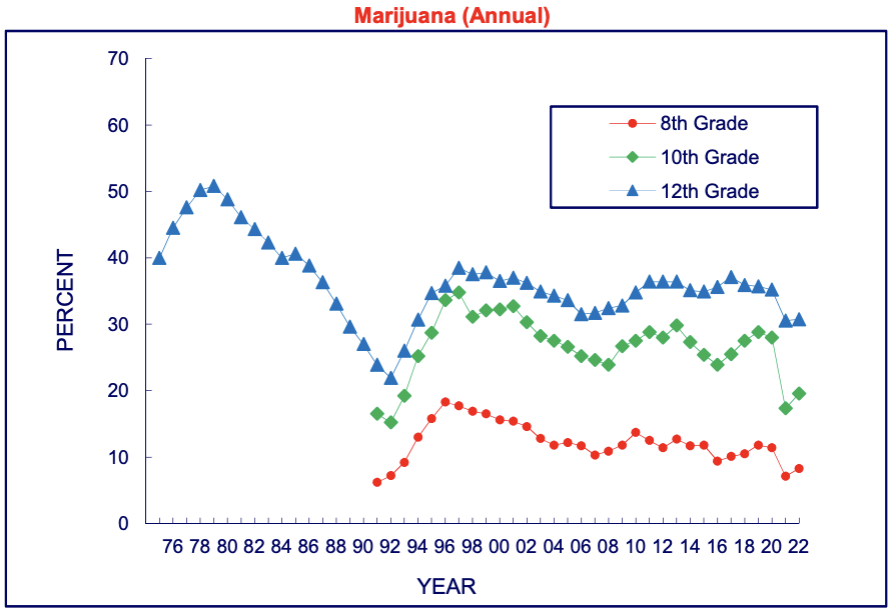
Changes in Perceptions of Harm

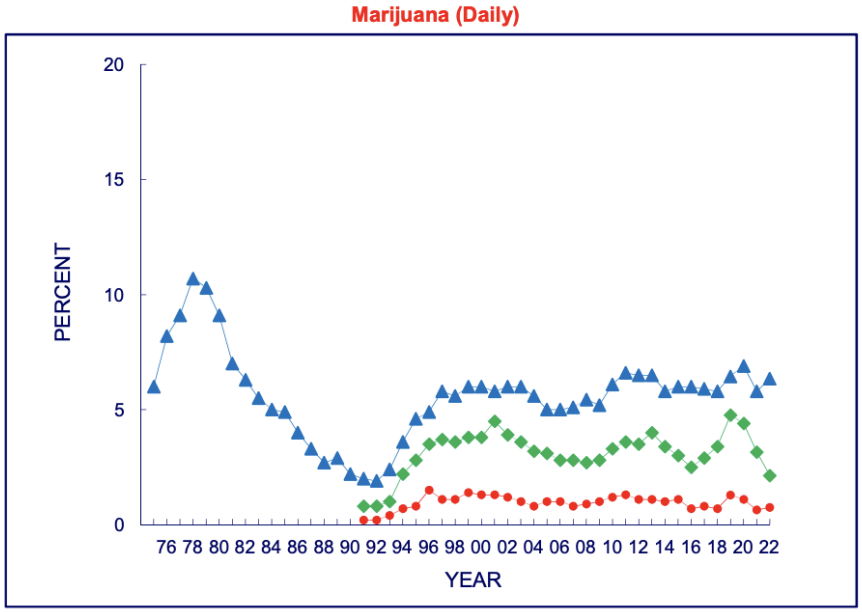




Source. The Monitoring the Future study, the University of Michigan.

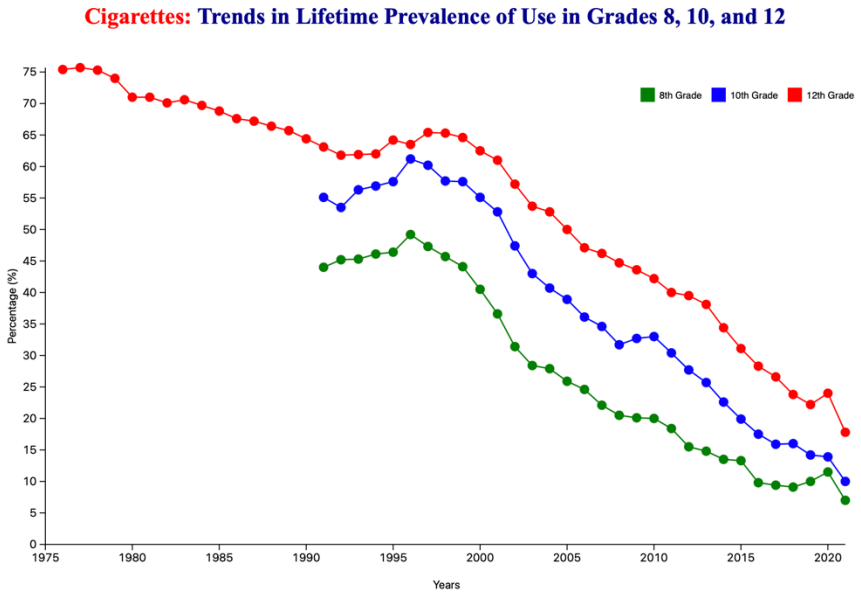
Trends in Annual and Past 30D Prevalence

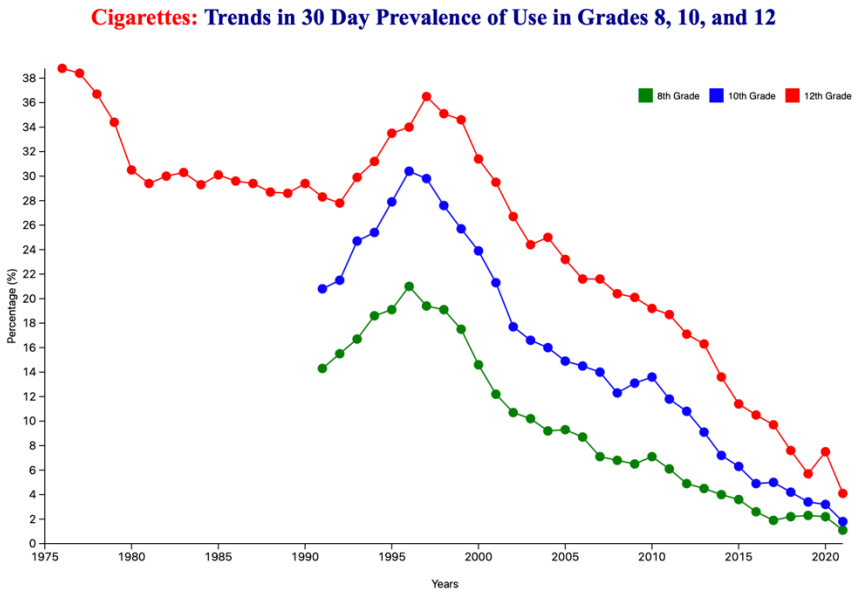




Source. The Monitoring the Future study, the University of Michigan.

Shifting Landscape of Adolescent Nicotine Use





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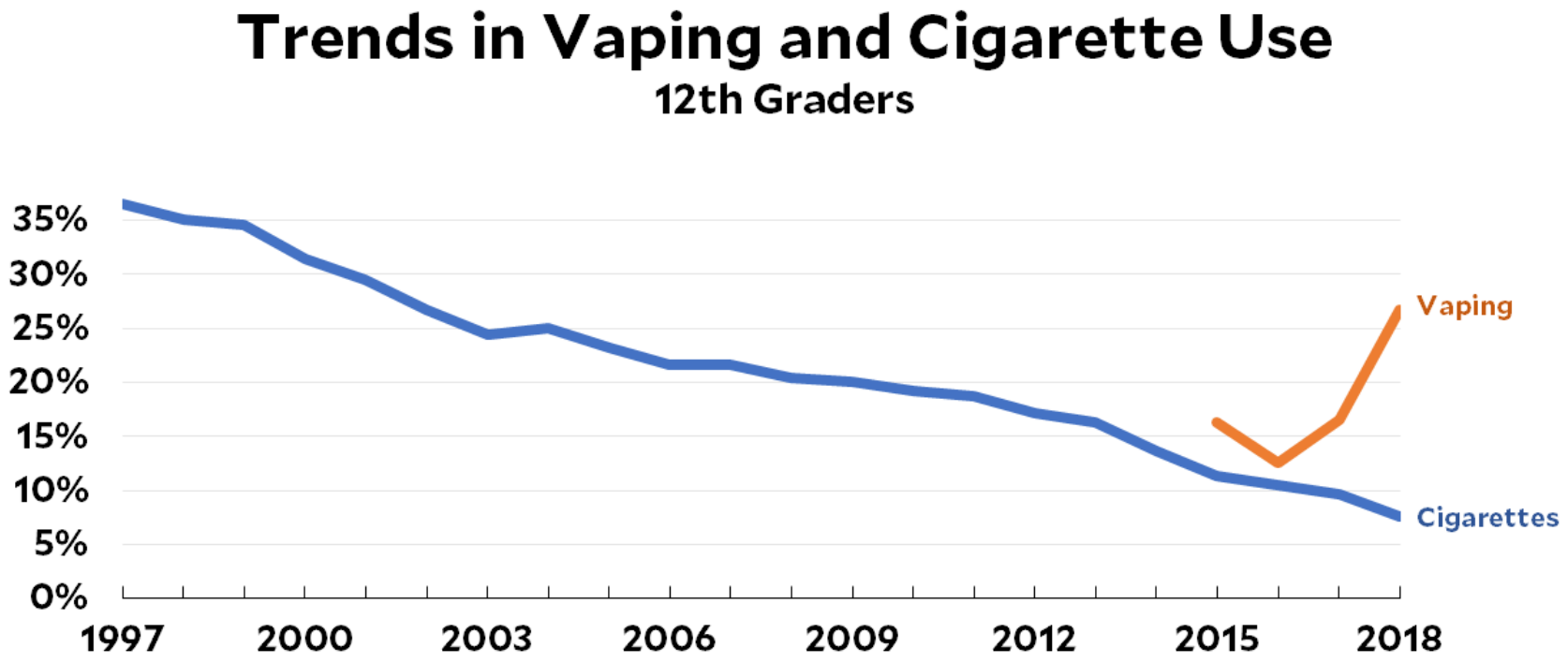
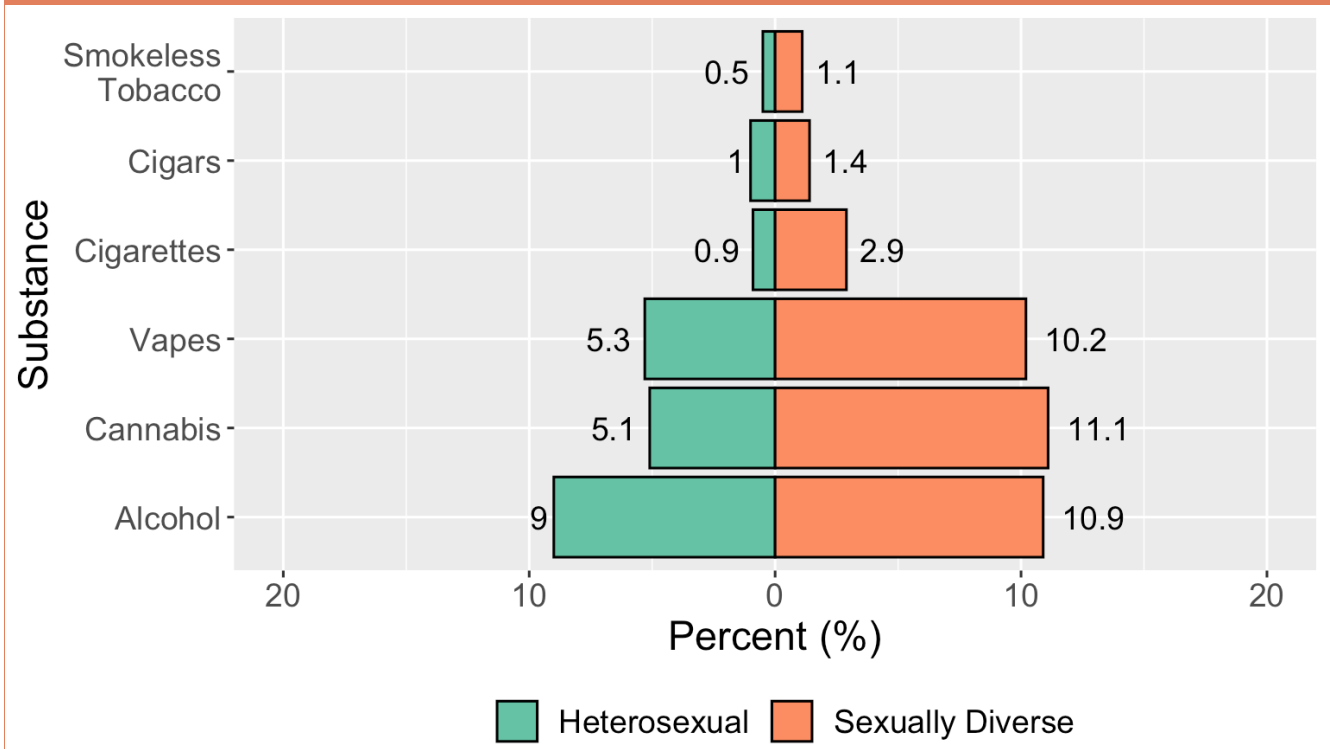


Source. The Monitoring the Future study, the University of Michigan.

Disparities in Use

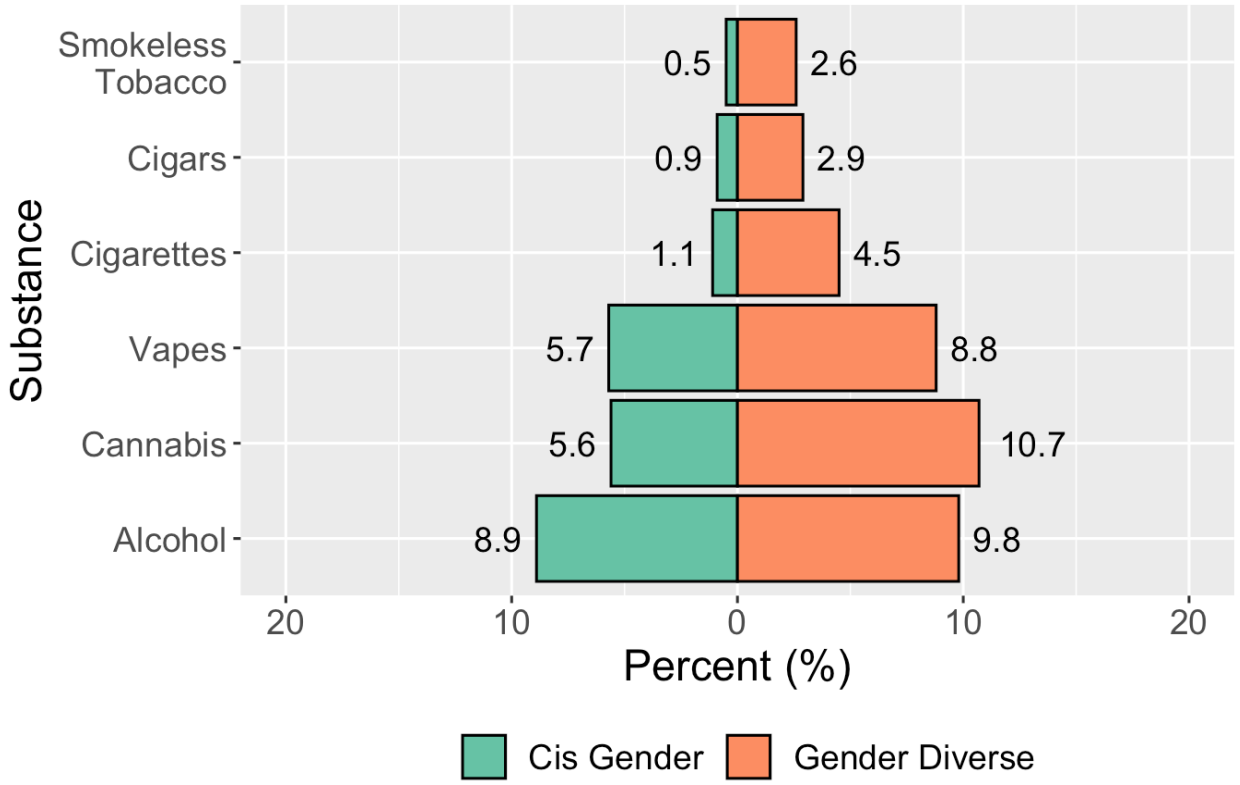
Past 30-Day Substance Use by Sexual Orientation



MGH SURF Survey, unpublished

Disparities in Use

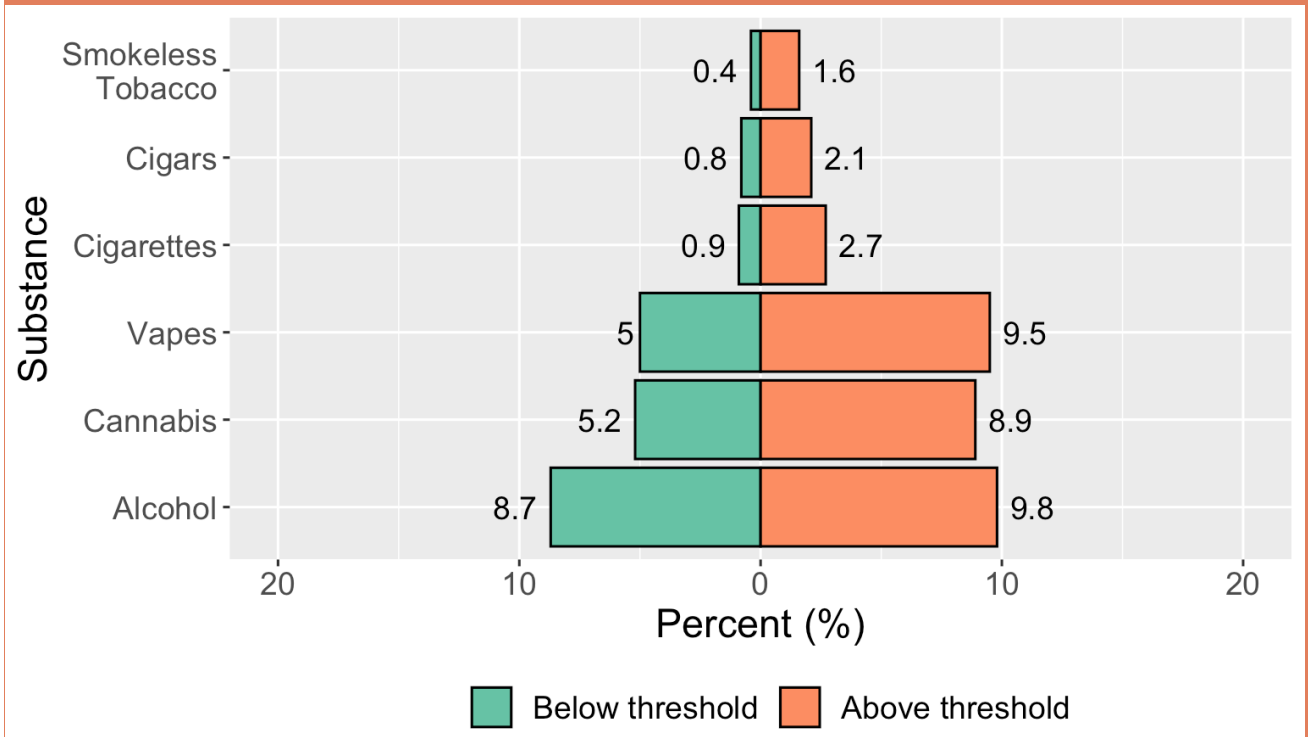
Past 30-Day Substance Use Gender



MGH SURF Survey, unpublished

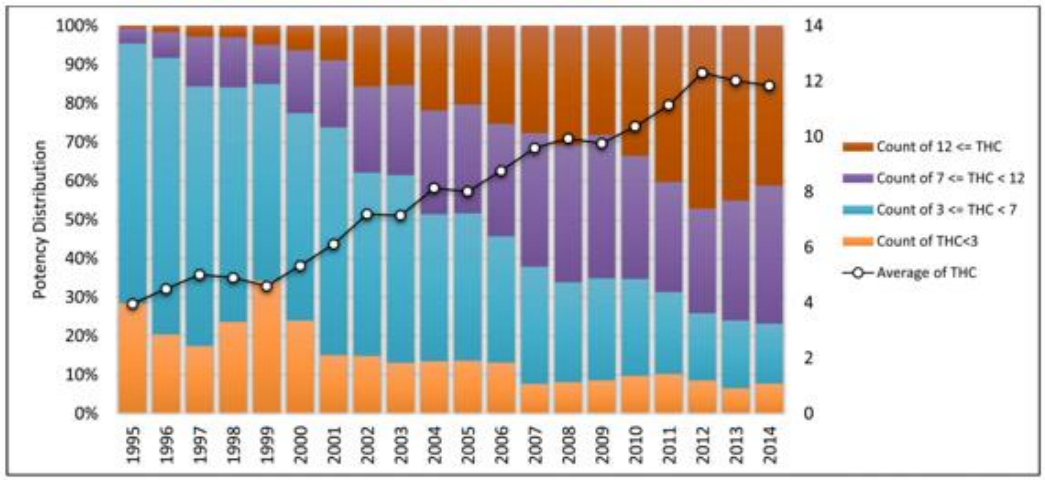
Disparities in Use

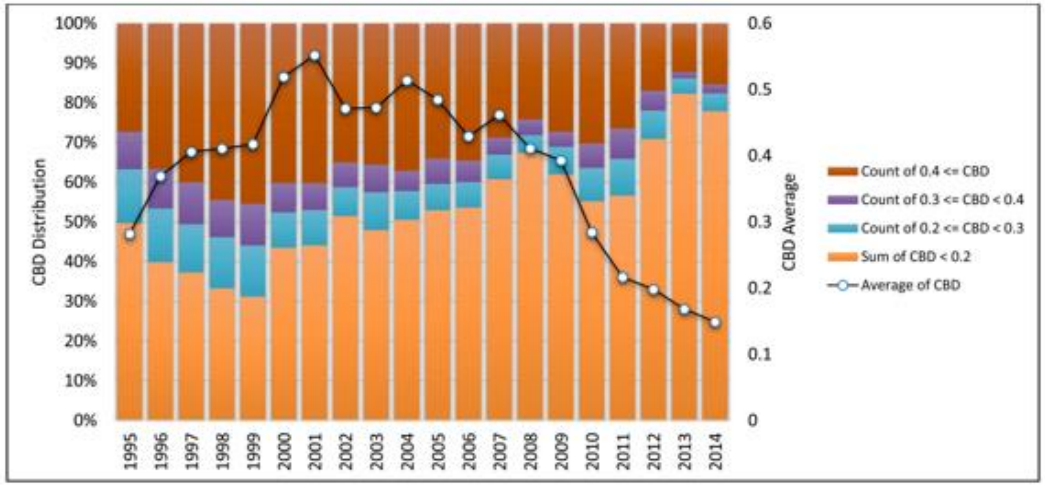
Past 30-Day Substance Use by APSS Criteria



MGH SURF Survey, unpublished

Cannabis is far more potent than in prior decades.





ElSohly et al., 2016, *Biological Psychiatry*

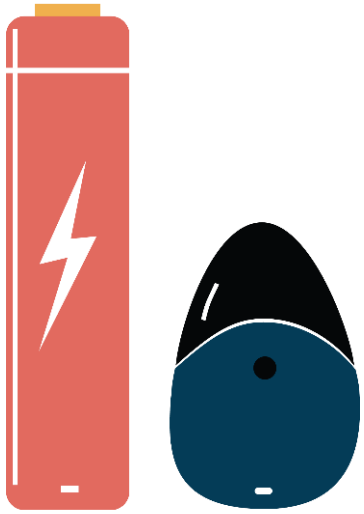

JUUL

NO MATTER WHAT YOU CALL IT, IT'S AN E-CIGARETTE

1st Gen

2nd Gen

3rd Gen



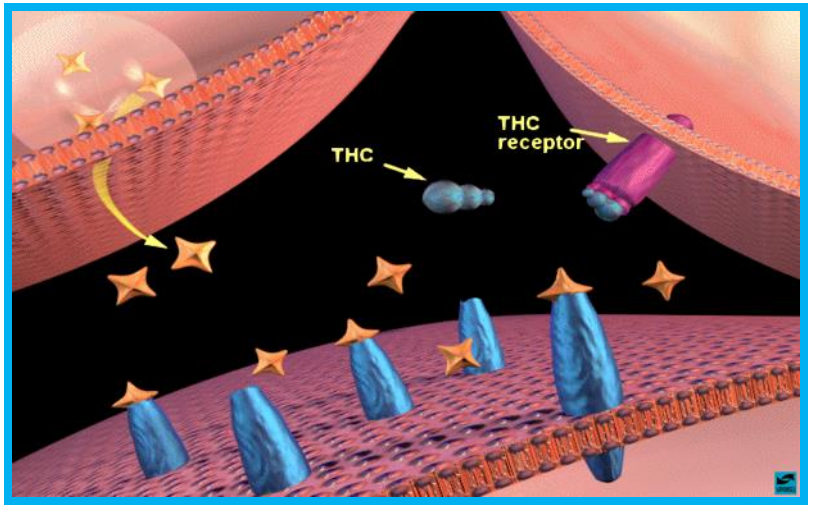
4th Gen

Other vape devices

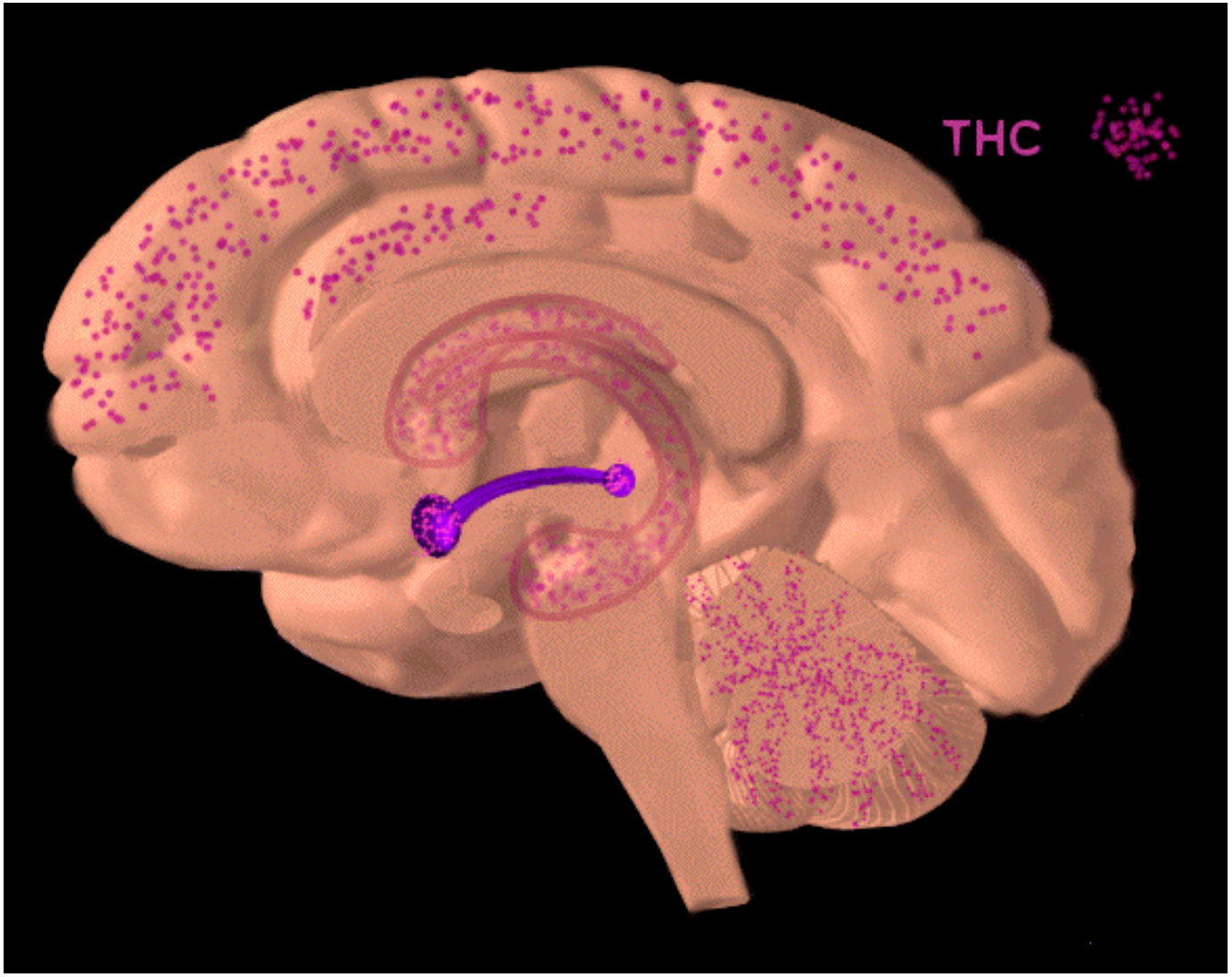

weedmaps
SMILE BOSTON. WEED IS LEGA
weedmaps.com | download the app
LOGAN

>200 Phytocannabinoids in the Cannabis Plant

- Δ9-tetrahydrocannabinol (THC)
  - Agonist on endogenous cannabinoid receptors in the central (CB1) and peripheral (CB2) nervous system
  - > affinity than endogenous ligand, anandamide
  - Euphoric effect comes from THC
  - Lipophilic and crosses the BBB and placenta
    - Prenatal exposure → hyperactivity, impulsivity and inattention symptoms in childhood
    - Elimination half-life of days-weeks
- Other cannabinoids (e.g., CBD) that do not cause intoxication
  - More commonly discussed when speculating about treatment of neurologic disease (e.g., epilepsy)



Broad Distribution of THC Binding Sites



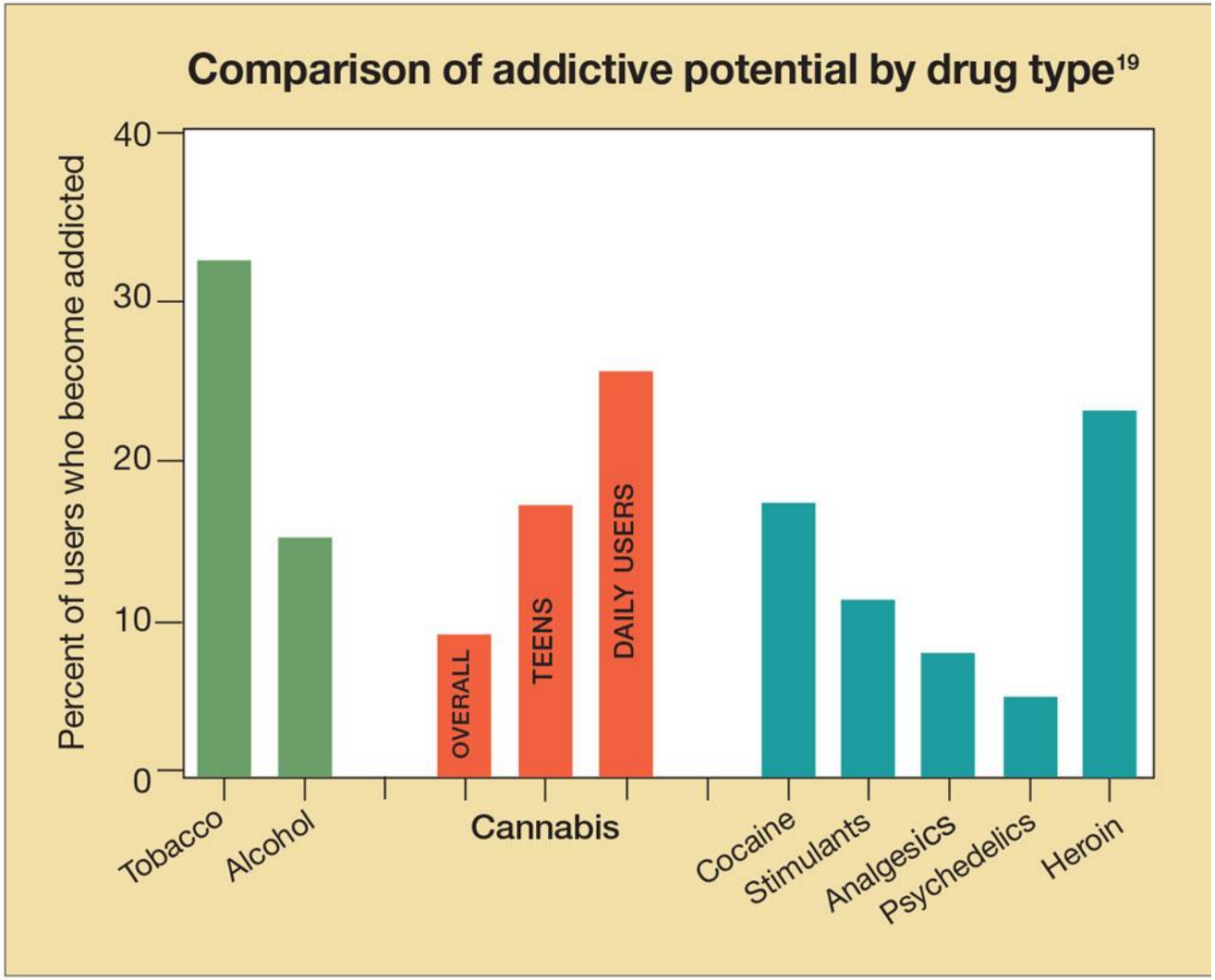
Ongoing brain development makes teenage use particularly risky.

Acute Effects of Cannabis Are Well Profiled

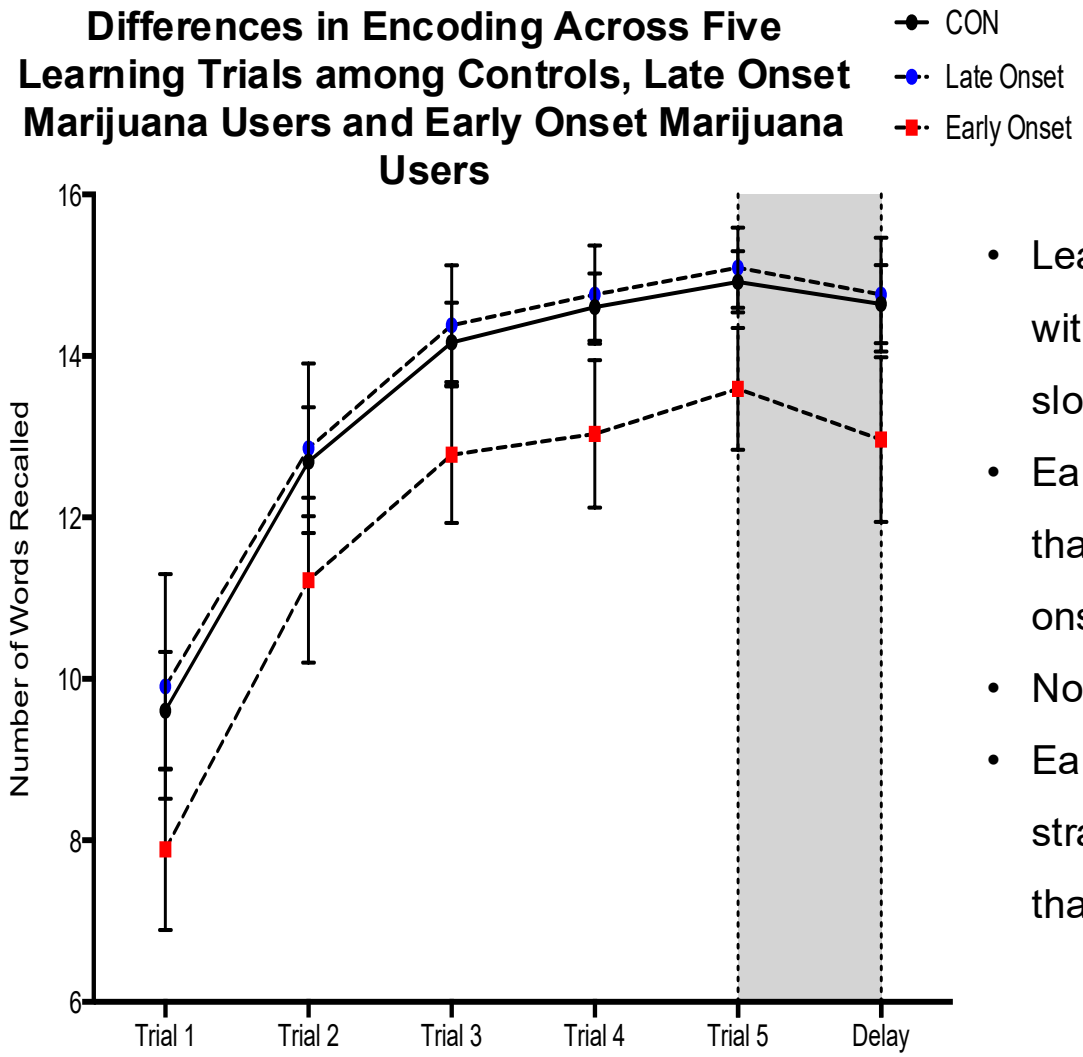
- Typically peaks 30 minutes after inhalation and 2-4 hours after ingestion
- +: Relaxation, euphoria, heightened perception, sociability, sensation of time slowing, increased appetite, decreased pain
- -: Paranoia, anxiety, irritability, impaired short-term memory, poor attention and judgment, and poor coordination and balance, tachycardia, hypertension, dry mouth and throat
  - Also 2-fold increased odds of respiratory symptoms among those who vape cannabis (Boyd et al., 2021)
- ↑ with THC content
- Tolerance may occur but, effects typically still detectable

Broyd et al., 2106

Addiction Liability



Compton et al., 2004; NIDA, 2012a, 2012b; SAMHSA, 2012, 2017



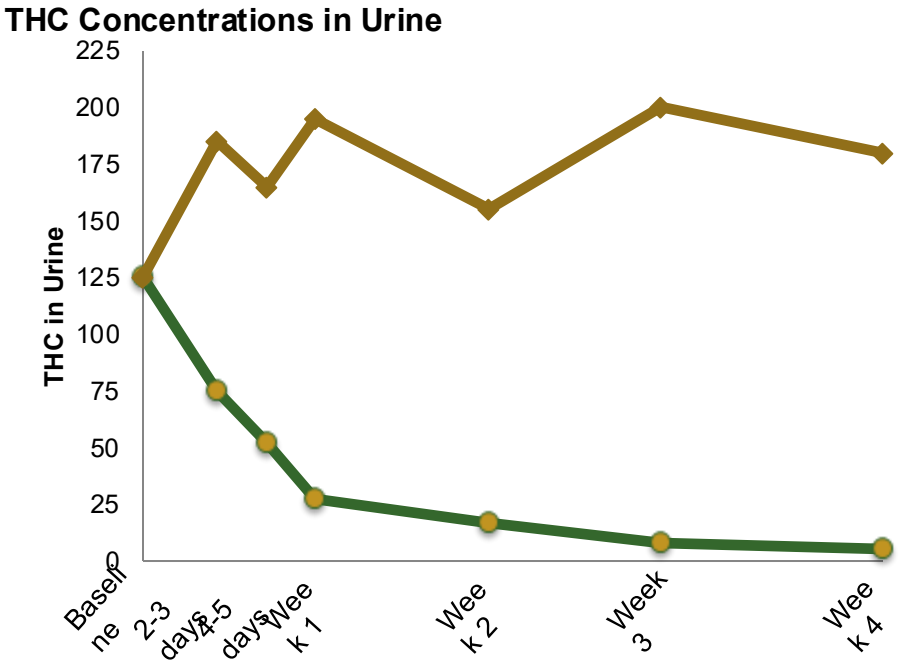
- Learning improved with repetition, with no group effect on the learning slope
- Early users learned < words overall than late onset users or CON; Late onset = controls
- No differences in percent retention
- Early users used < overall learning strategies and < semantic clustering than controls

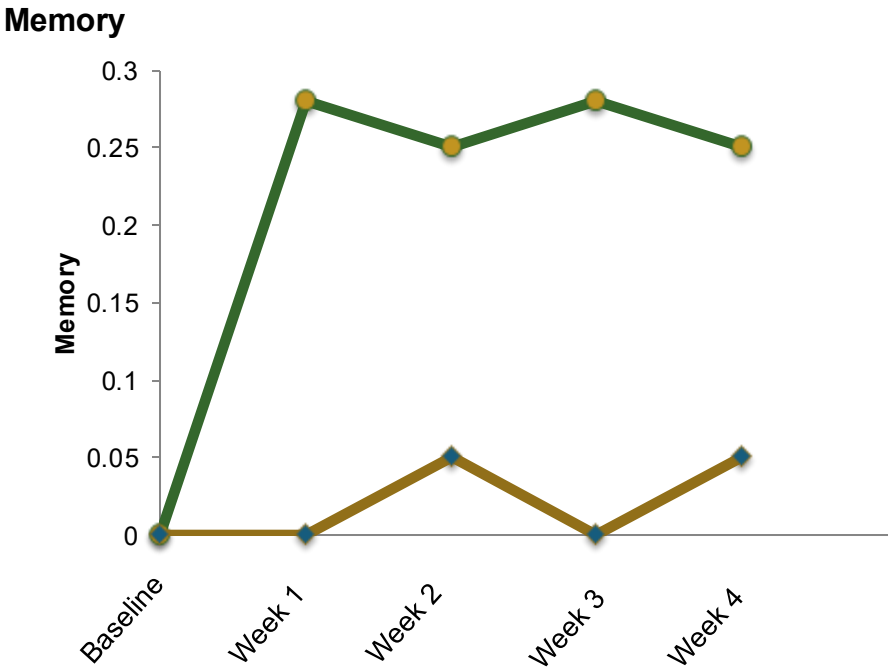
Schuster, Hoeppner, Evins & Gilman, *Neuropsychology* 2016

Neurocognitive Recovery with Cannabis Abstinence in High School Students

Abstain for 30 Days

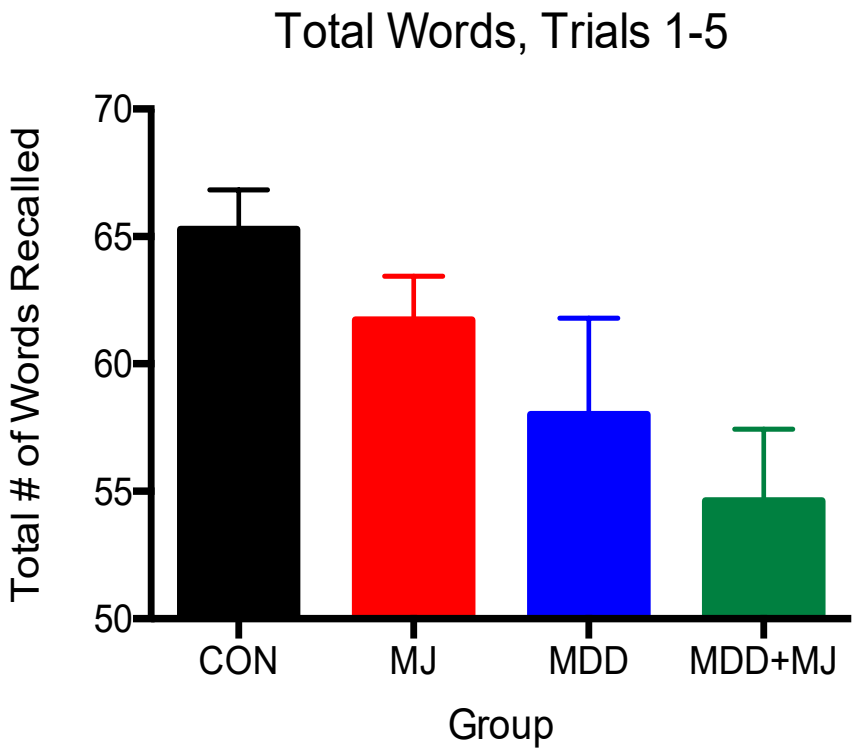
Continue to use cannabis

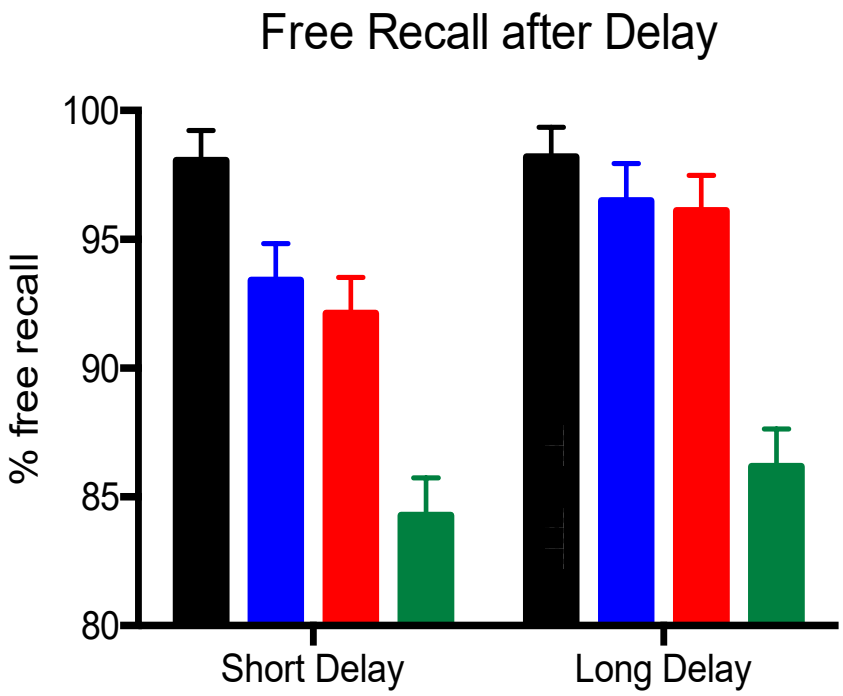




Schuster, et al.,, *Journal of Clinical Psychiatry* 2018

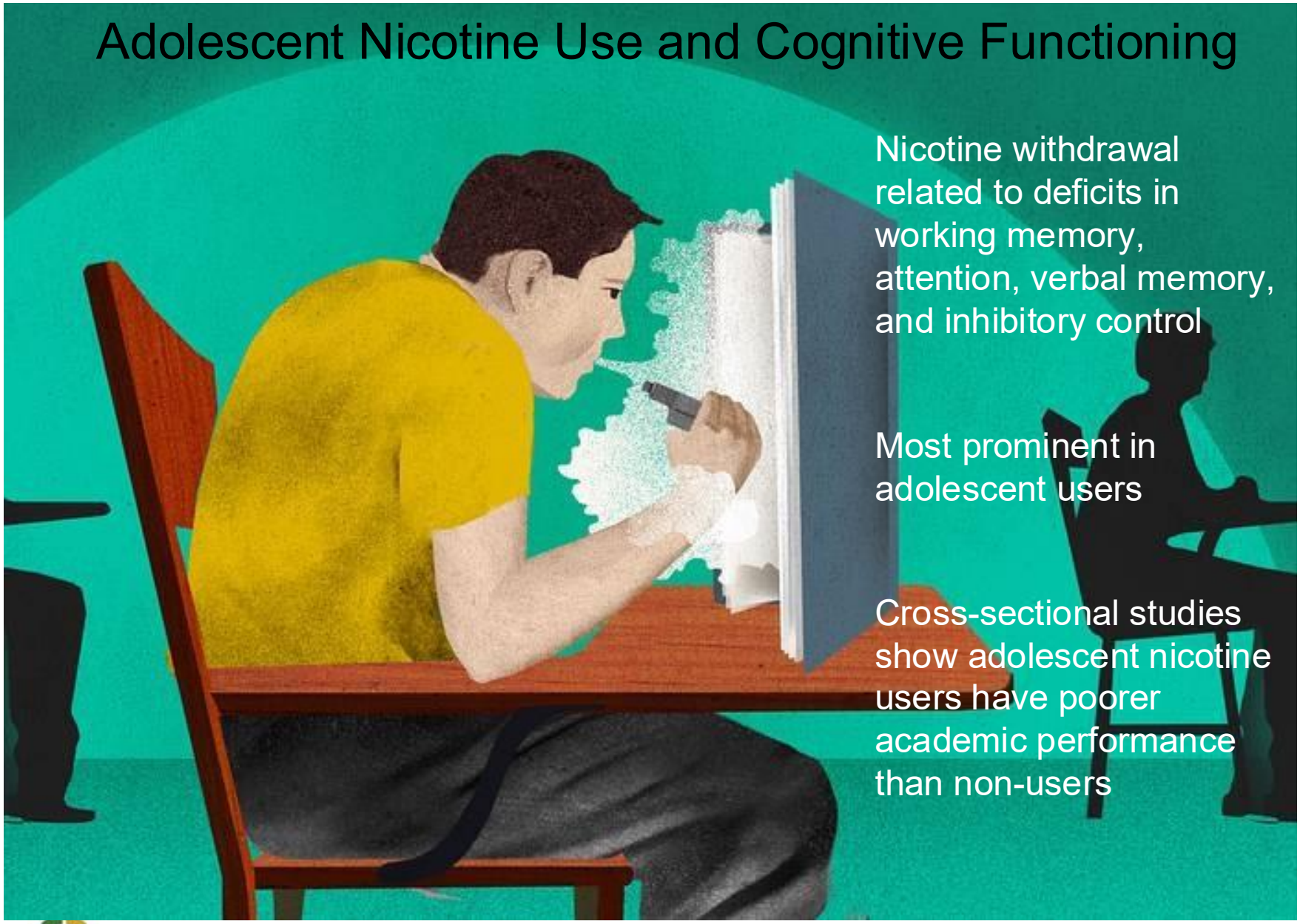
Greater Vulnerability with Psychiatric Diagnoses?





Radoman et al., 2019

Adolescent Nicotine Use and Cognitive Functioning

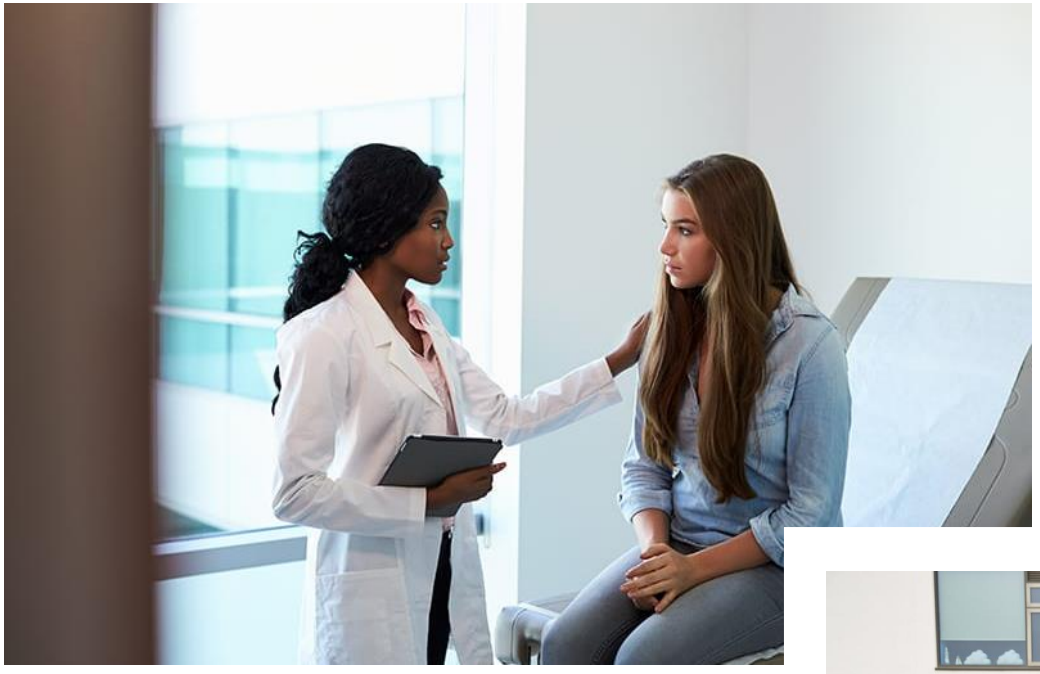


Nicotine withdrawal related to deficits in working memory, attention, verbal memory, and inhibitory control

Most prominent in adolescent users

Cross-sectional studies show adolescent nicotine users have poorer academic performance than non-users

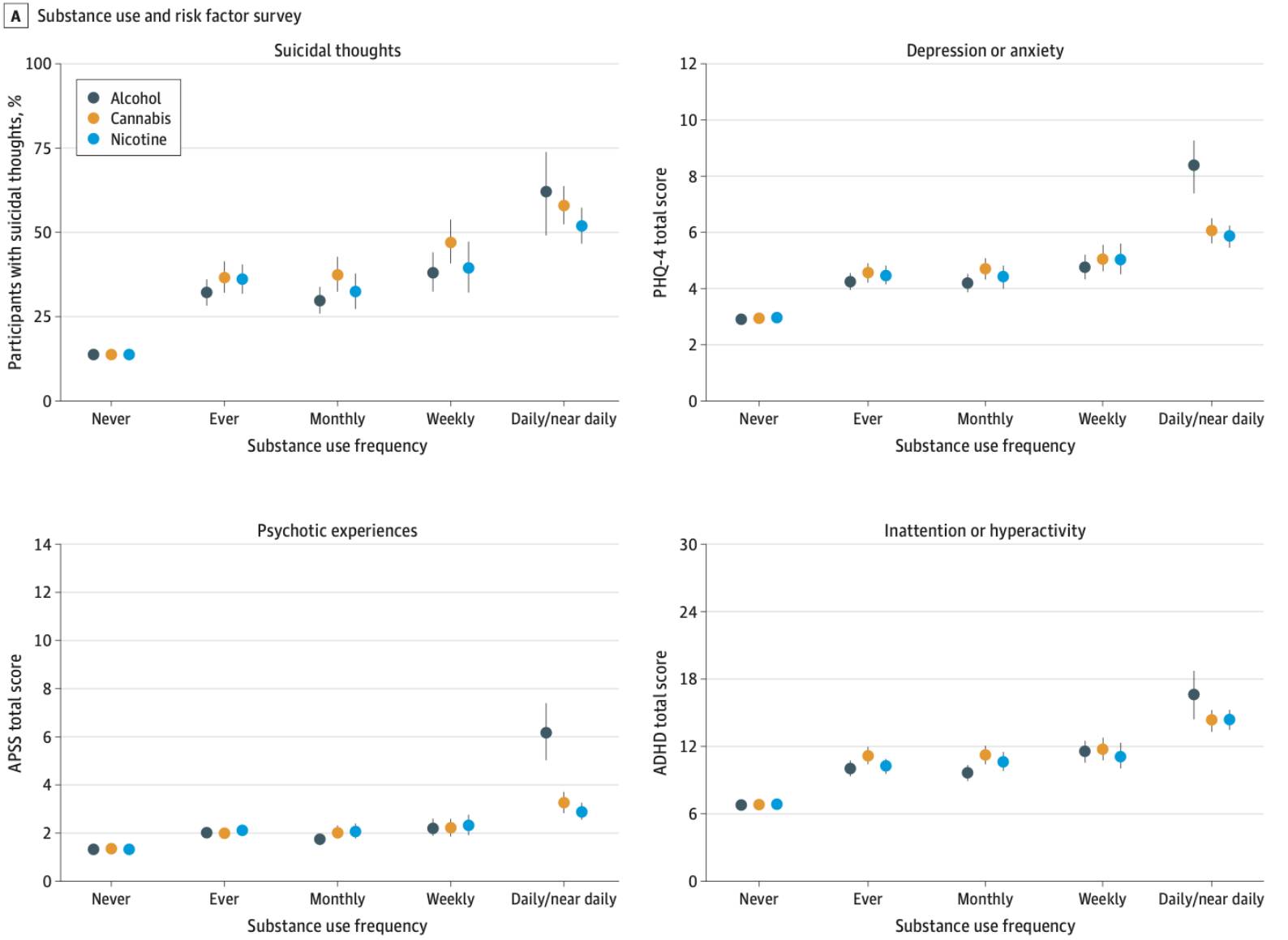
Psychiatric Co-Morbidities



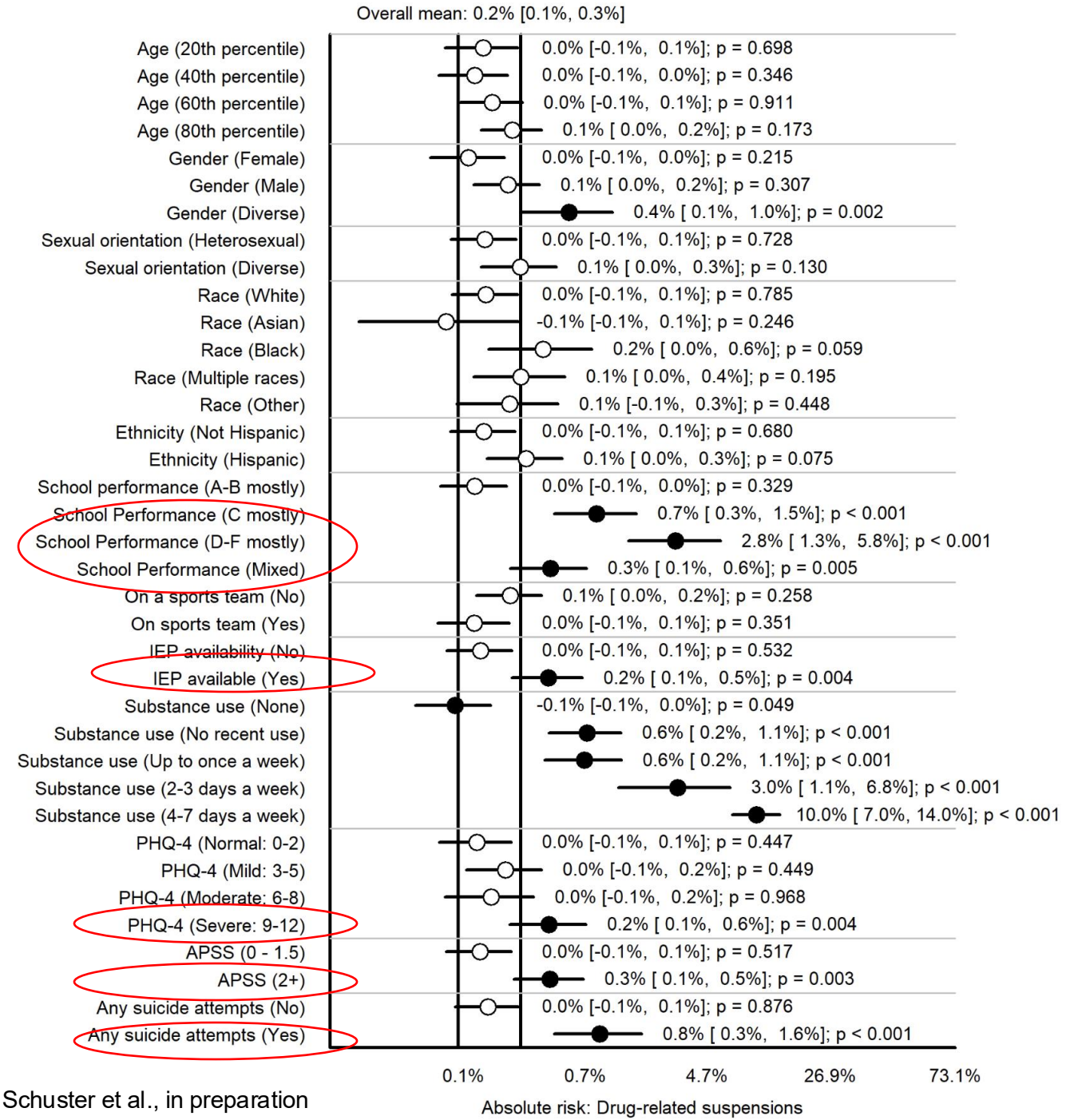
40-50% of kids seeking routine clinical care who used cannabis at least monthly experienced hallucinations or paranoia in the last year

Levy et al., 2019, JAMA Pediatrics

Figure. Associations Between Substance Use Frequency and Self-Reported Mental Health Symptoms in 2 Independent Samples of Adolescents

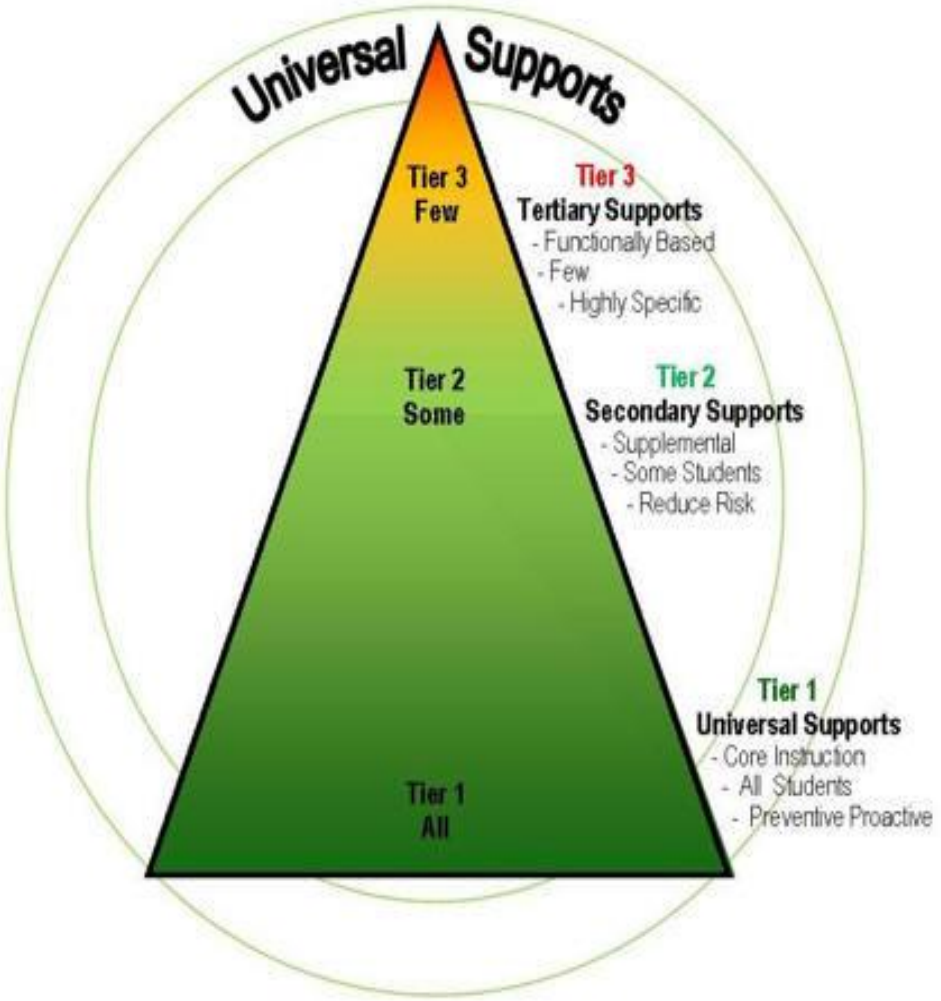


Tervo-Clemmens et al., 2024; JAMA Pediatrics



Schuster et al., in preparation

Schools as the Hub for Prevention



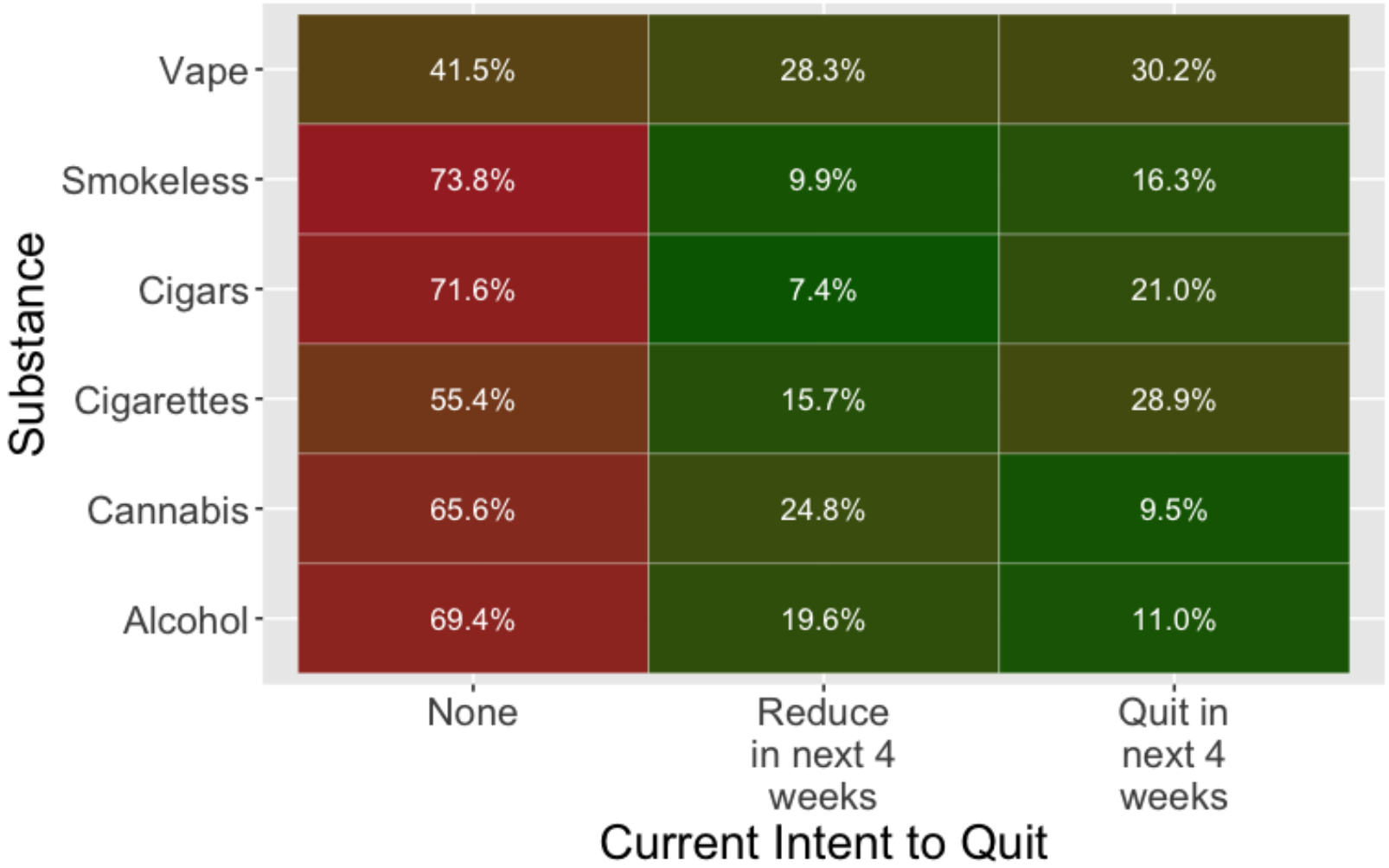
01 **Universal prevention**

02 **Early detection and intervention**

Universal screening (SBIRT)
Alternatives to punishment

03 **Treatment and Ongoing support**

Student Intent to Quit



1 in 5 teens surveyed requested additional support at school.

Most were not currently connected to supports at school.

Costello et al., in press, School Psychology

Mental Health Symptoms Endorsed by Students Who Do and Do Not Self-Refer Following Completion of Anonymous School-Wide Screener

	Students Self-Referring	Students Not Self-Referring	Group Comparisons
Depression/Anxiety (PHQ-4)	M=3.7 *SD=3.8*	M=3.0 *SD=3.3*	0.0001
Psychotic-like Symptoms (APSS)	M=1.1 *SD=1.6*	M=0.9 *SD=1.4*	0.0004
Emotional Reactivity (ERS)	M=24.4 *SD=23.7*	M=20.8 *SD=20.8*	0.001
Inattention/Hyperactivity	M=0.8 *SD=0.8*	M=0.7 *SD=0.7*	.001
Risk-Taking	M=3.9 *SD=1.9*	M=3.9 *SD=1.8*	.57
Lifetime Substance Use (% yes)			
Alcohol	20.1%	15.0%	0.06
Cannabis	10.5%	11.9%	0.32
Vaped Nicotine	12.3%	12.4%	0.93
Past-Month Use Frequency (Among participants with lifetime use)			
Alcohol	M=0.19 *SD*=0.74	M=0.19 *SD*=0.71	.91
Cannabis	M=0.24 *SD*=1.08	M=0.24 *SD*=1.02	.89
Vaped Nicotine	M=0.27 *SD*=1.22	M=0.29 *SD*=1.11	.65
Suicidal Thoughts and Behaviors			
Past-year suicide attempt	6.6%	3.1%	0.02

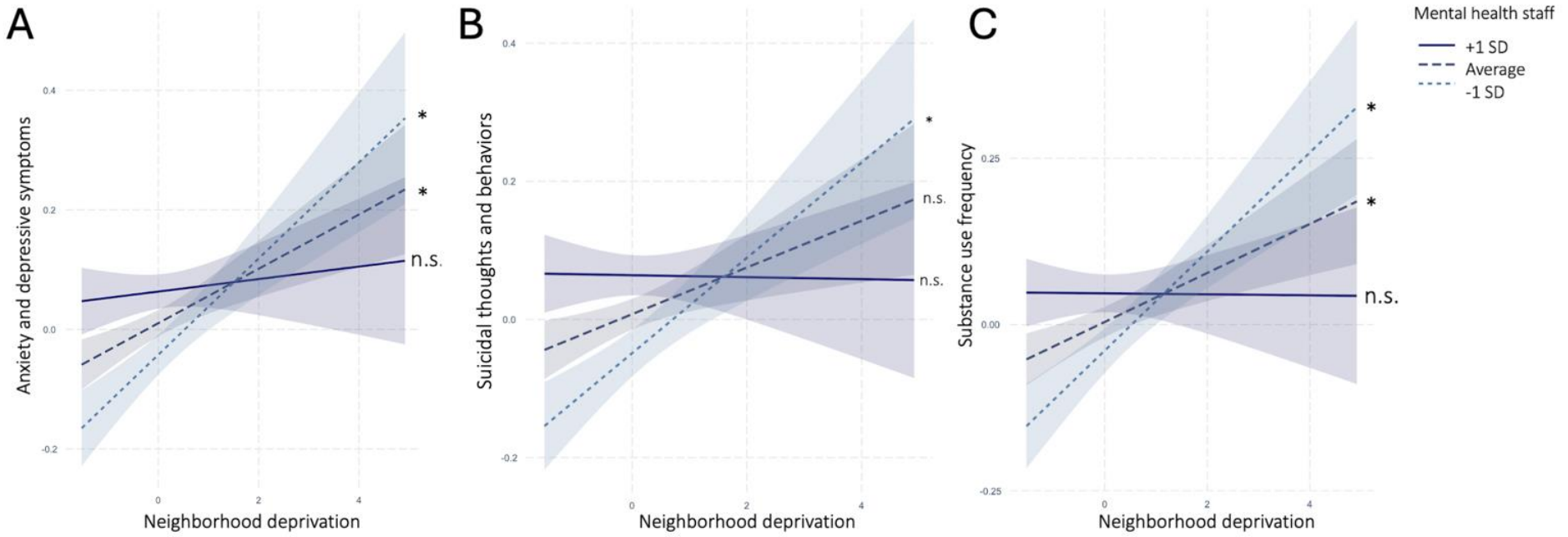
Costello et al., in press, School Psychology

Topics Discussed with Referred Students

Domain	Staff Reporting Topic *N* (%)
Feeling Nervous/Anxious/On-Edge (Symptoms of Anxiety)	66.7%
Feeling Down/Depressed/Hopeless (Symptoms of Depression)	60.0%
Stressful Life Events	53.3%
School-Related Concerns	53.3%
Problems with Peers	46.7%
Problems with Family	40.0%
Problems with Alcohol Use	33.3%
Problems with Vaping or Other Nicotine Use	33.3%
Inattention/Restlessness/Hyperactivity (Symptoms of ADHD)	26.7%
Suicidal Thoughts	13.3%
Problems with Cannabis Use	6.7%
Problems with Other Drugs	6.7%
Other (write-in)	0.0%

Note: Topics discussed were queried using a "select all that apply" format, and thus, percentages will not sum to 100.

Costello et al., in press, School Psychology



Vargas et al., in press, JAACAP

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https://www.linkedin.com/company/projectidecide/

Please reach out with any questions or thoughts…

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