

A close-up photograph of a person's hands holding a lit cigarette. The person is wearing a brown braided bracelet on their left wrist and a black ring on their right ring finger. The background is blurred, showing a yellow garment. A white rectangular text box is centered over the image, containing the title in white, bold, uppercase letters.

# CANNABIS USE AND POTENTIAL RISKS FOR YOUTH

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**I'm not a comedian so let  
me skip to the  
punchlines...**

**Most teens do not use substances. But many  
do.**

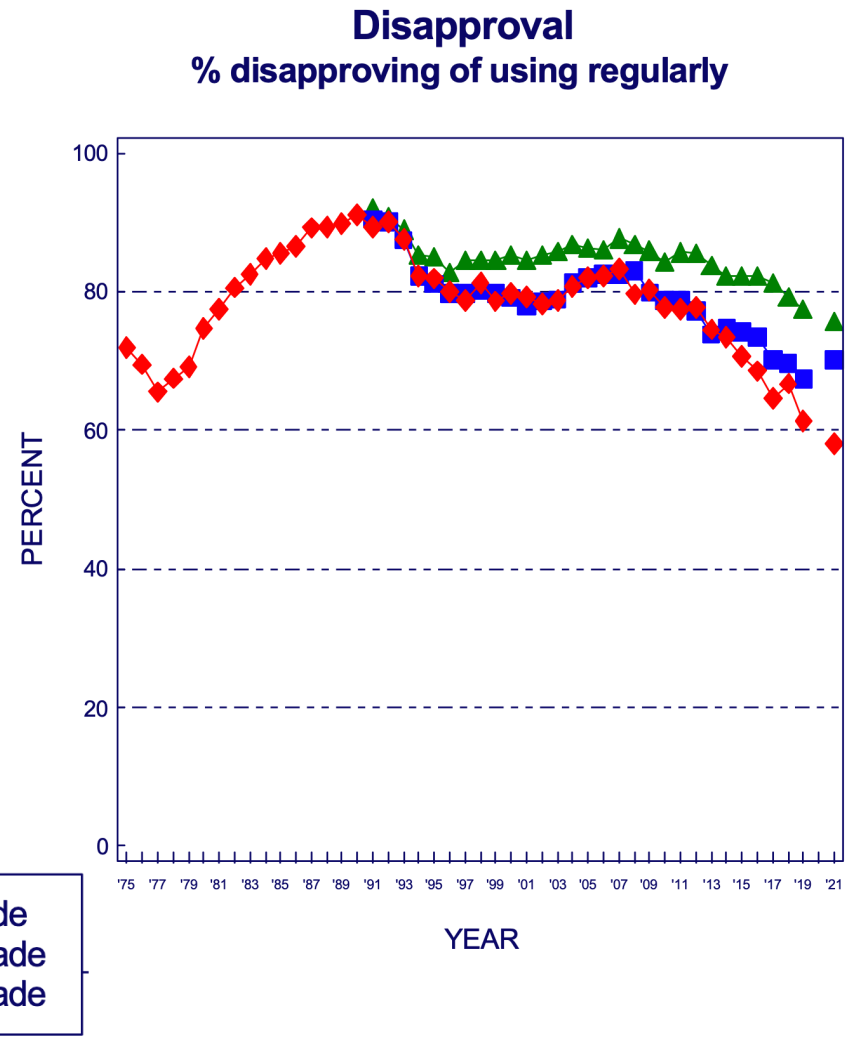
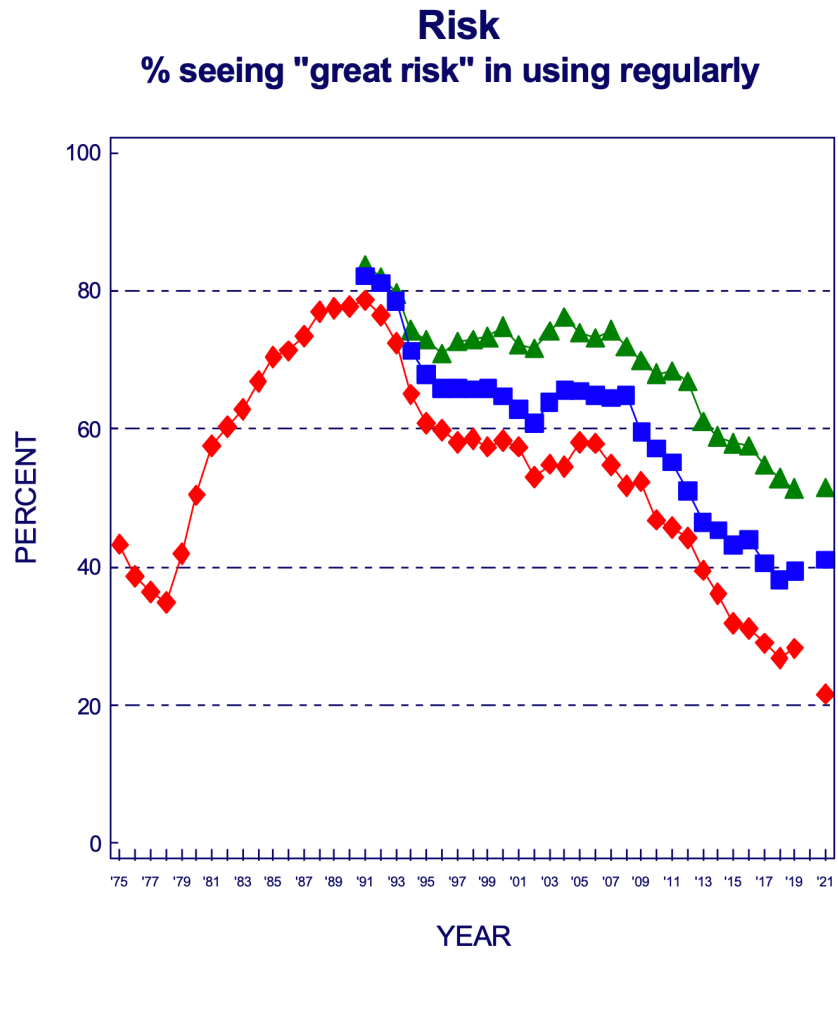
**While overall rates of (cannabis) use have remained stable, the overall landscape of use has done a 180.**

**There is a lot we don't understand. (and we need to be honest about that.)**

## **There are two things we know....**

1. Adolescents are at heightened risk for negative effects.
2. Adolescents who use cannabis are more likely to experience other mental health concerns.

**Schools represent the prevention arm of our  
mental health system.**

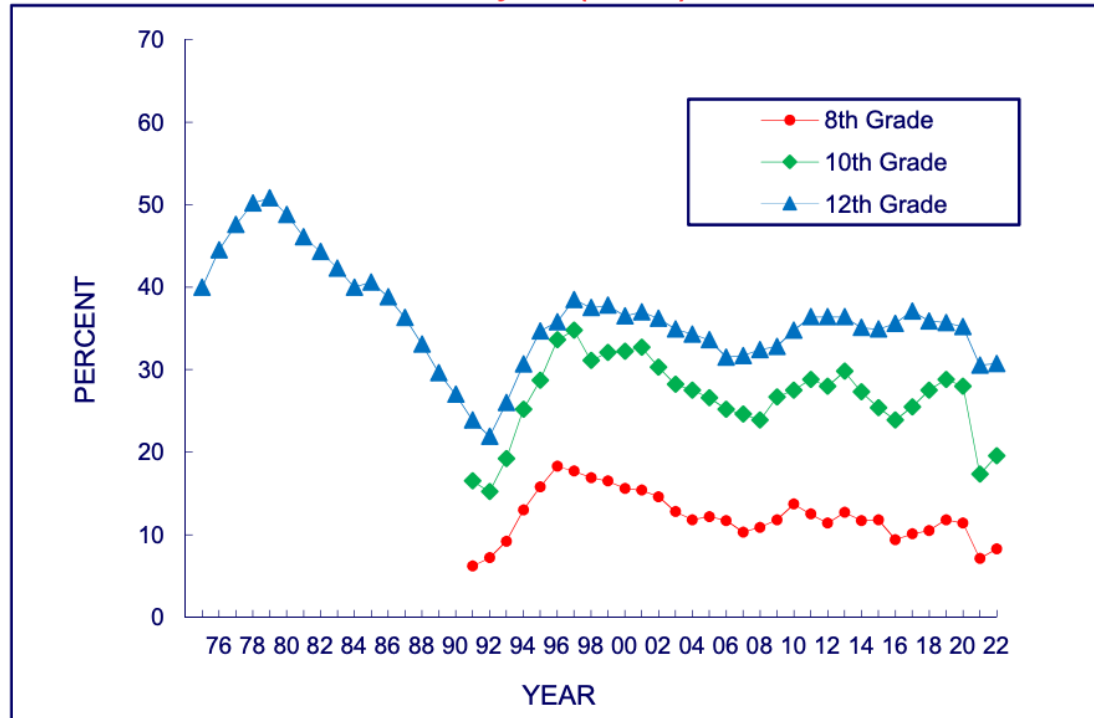


Source. The Monitoring the Future study, the University of Michigan.

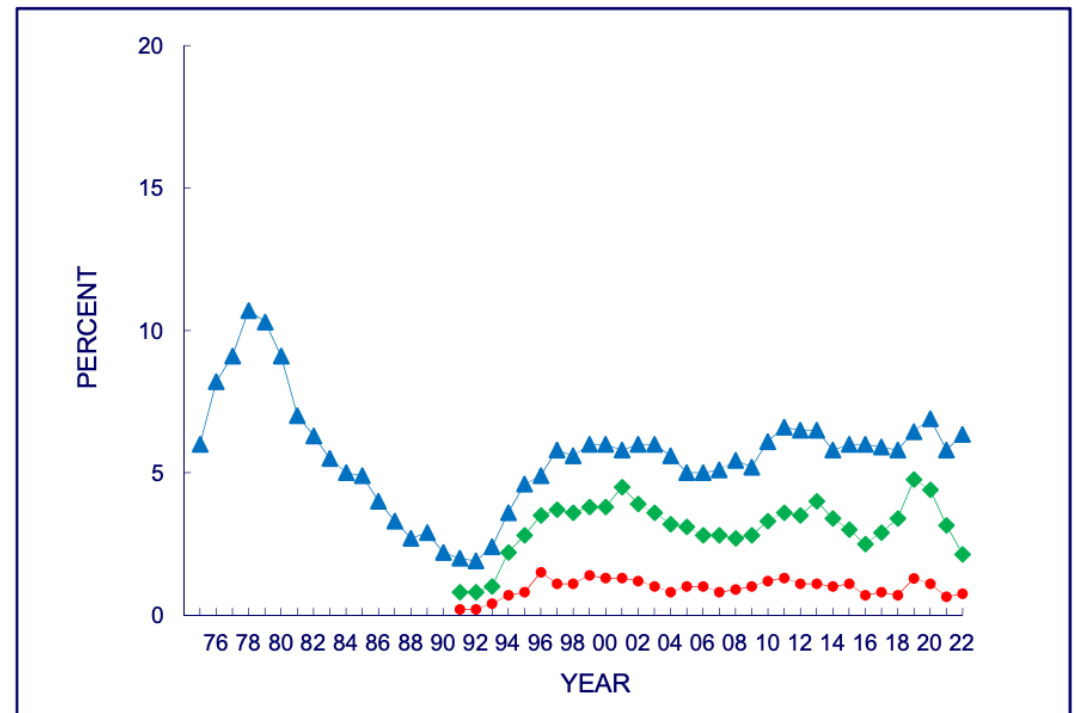


## Trends in Annual Prevalence and 30-Day Prevalence of Daily Use in Grades 8, 10, and 12

Marijuana (Annual)



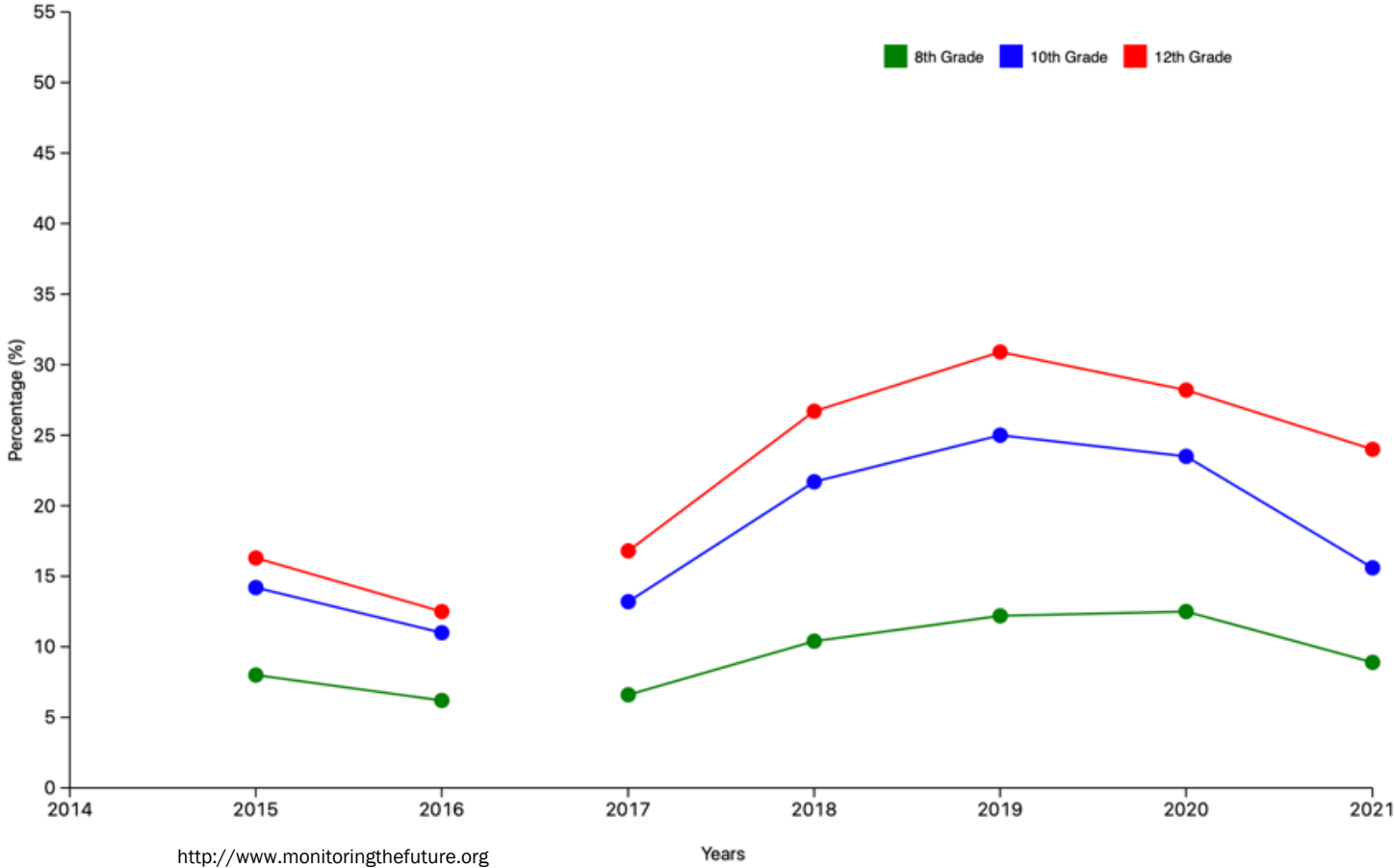
Marijuana (Daily)



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

# Vaping Trends Post COVID

**Any Vaping: Trends in 30 Day Prevalence of Use in Grades 8, 10, and 12**

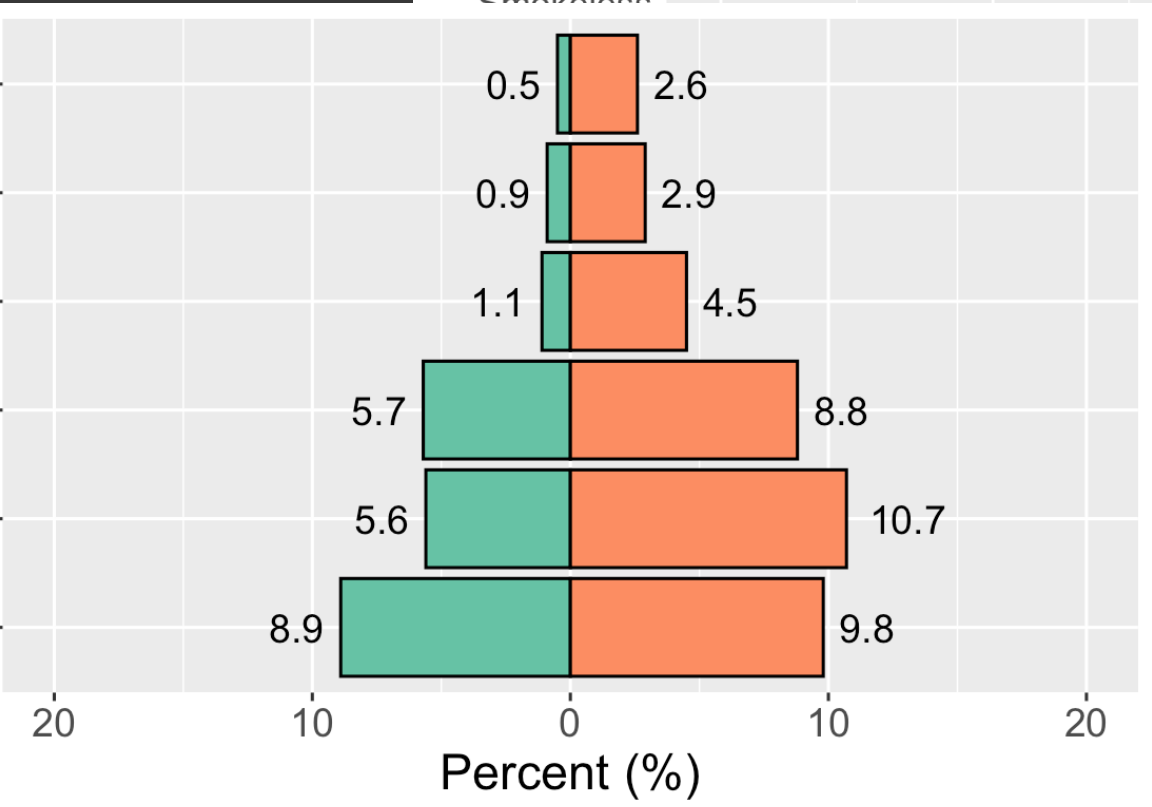


# Disparities in Use

## Past 30-Day Substance Use by Gender

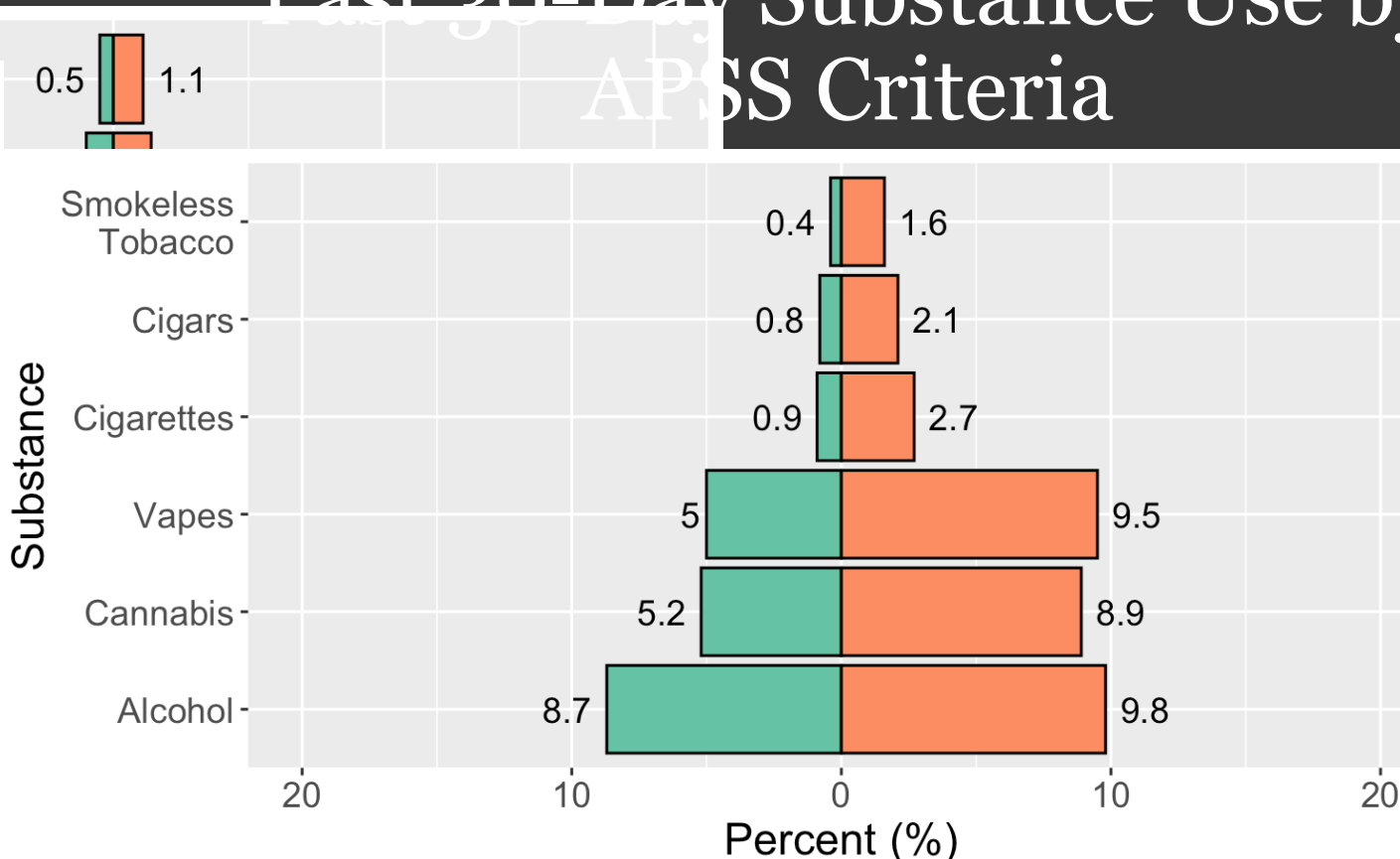
## Past 30-Day Substance Use by Sexual Orientation

Past 30-Day Substance Use by Gender



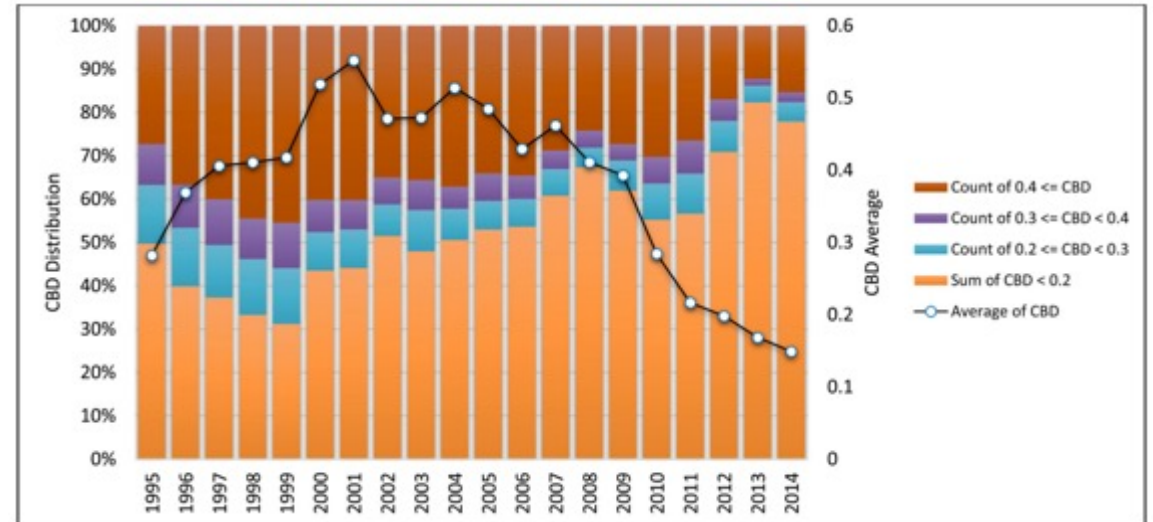
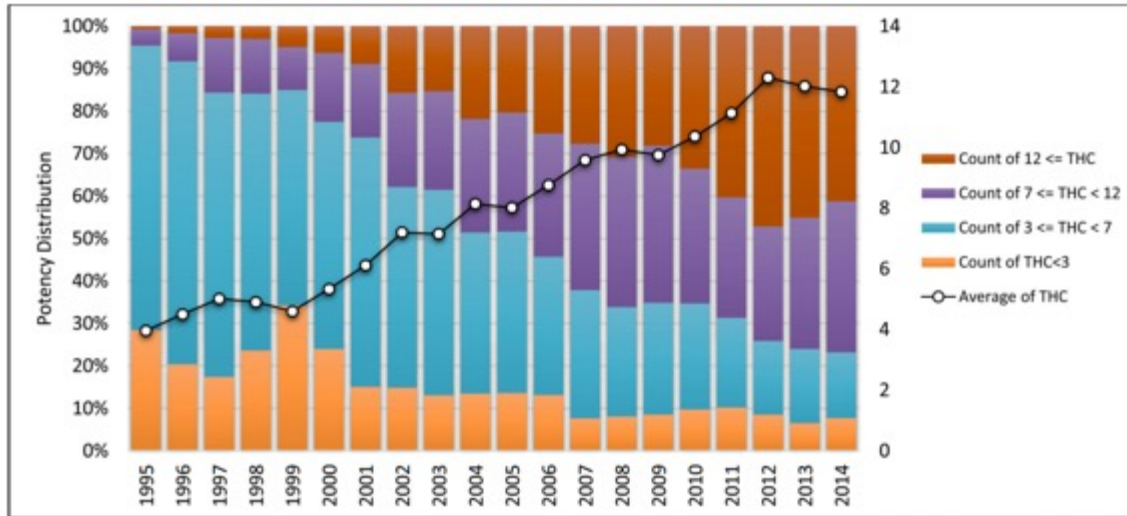
█ Cis Gender 
 █ Gender Diverse

Past 30-Day Substance Use by APSS Criteria



█ Below threshold 
 █ Above threshold

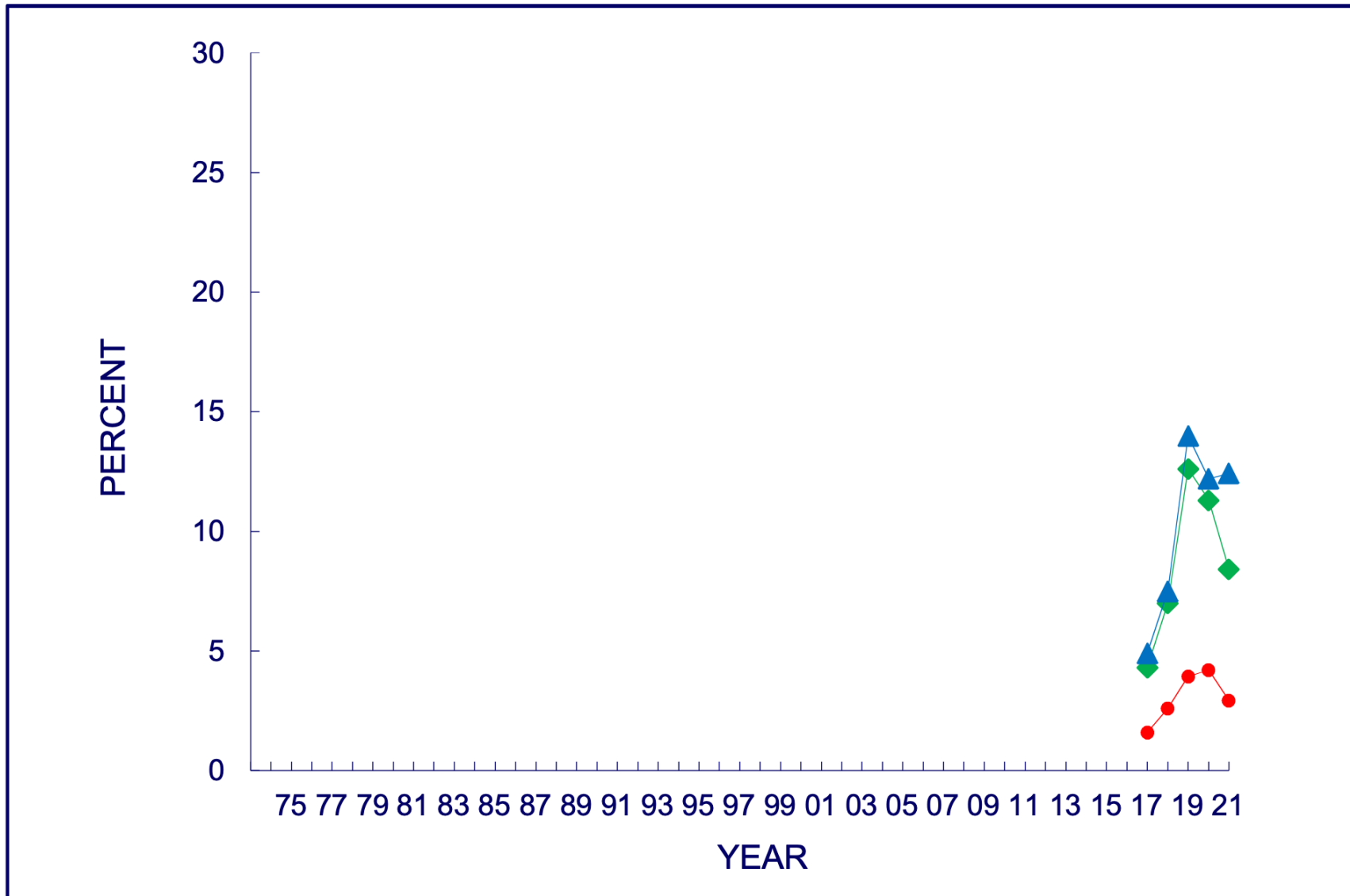
# Cannabis is far more potent than in prior decades.





**Novel forms of THC delivery are the new norm, yet use is difficult to detect, and we have very little information on long-term effects.**

## Vaping Marijuana (30-Day)



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

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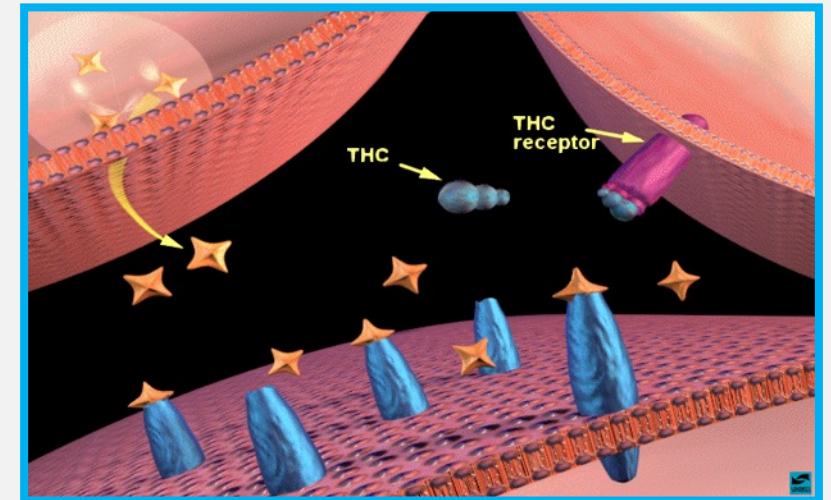
wm  
smile

LOGAN  
COMMUNICATIONS

THIS IS HAPPENING AGAINST A SOCIETAL BACKDROP THAT IS INCREASINGLY PERMISSIVE OF USE...

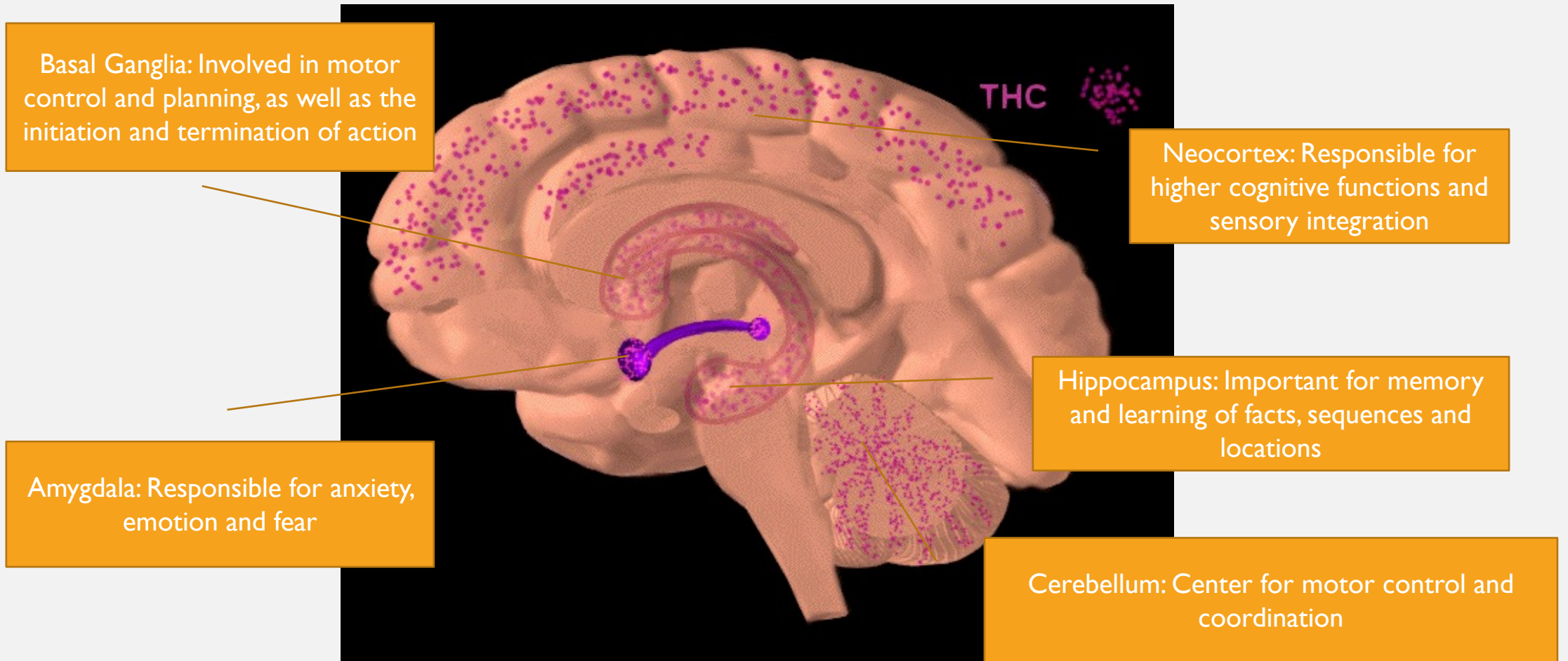
# >200 PHYTOCANNABINOIDS IN THE CANNABIS PLANT

- $\Delta^9$ -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



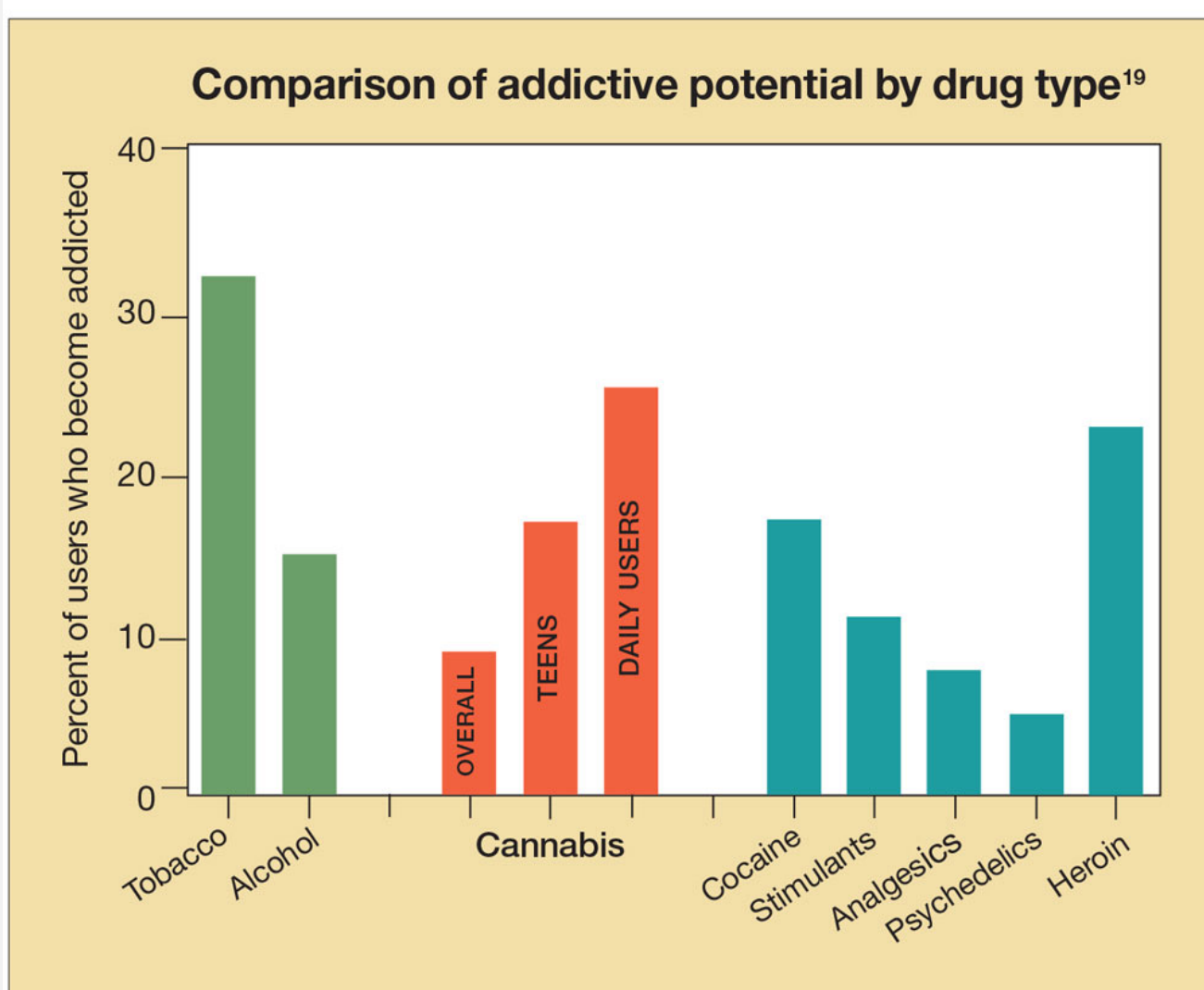
**Ongoing brain development makes teenage use particularly risky.**



# 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

# ADDICTION LIABILITY



- 4M people aged 12+ have a past year CUD
- ~23% of people who received addiction treatment received treatment for CUDs
- Average adult entering tx for CUD has used daily for 10 years, tried to quit 6 times

# SIGNS OF CANNABIS DEPENDENCE

## Tolerance/withdrawal

- Anger or Aggression
- Decreased Appetite / Weight Loss
- Irritability
- Nervousness / Anxiety
- Restlessness
- Sleep Difficulties / Strange Dreams

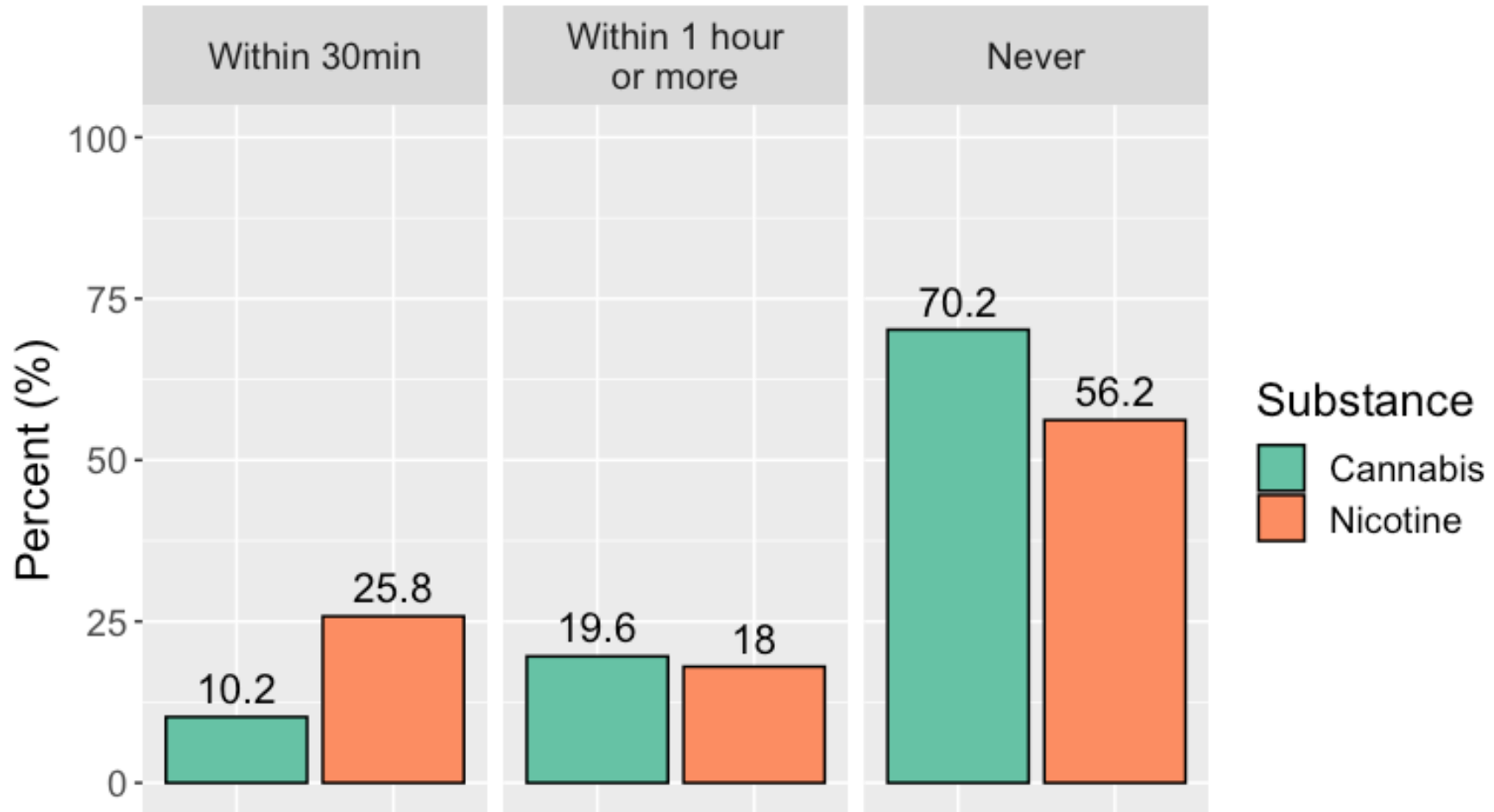
## Preoccupation

## Loss of control

## Continued use in the face of adverse consequences

## Cognitive distortions/denial

## Cannabis and Nicotine Craving



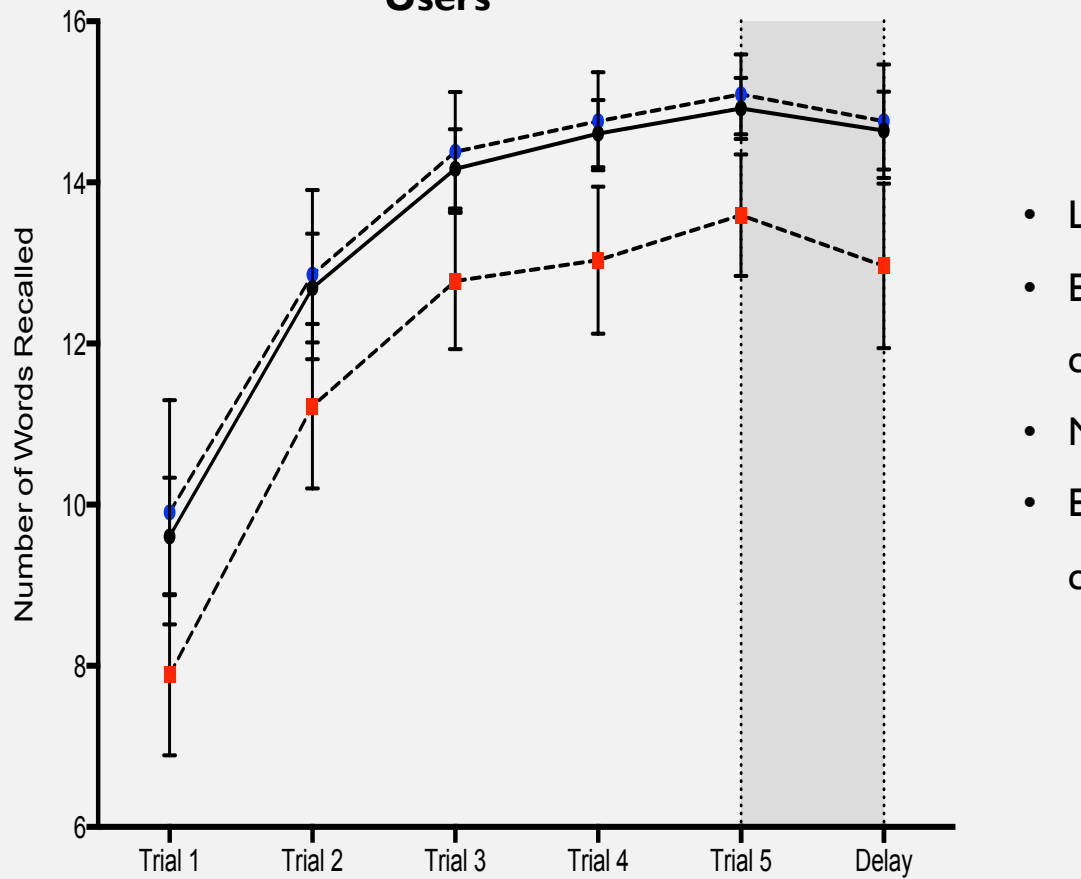
# CANNABIS AND OTHER SUBSTANCE USE





# CANNABIS AND COGNITION

## Differences in Encoding Across Five Learning Trials among Controls, Late Onset Marijuana Users and Early Onset Marijuana Users

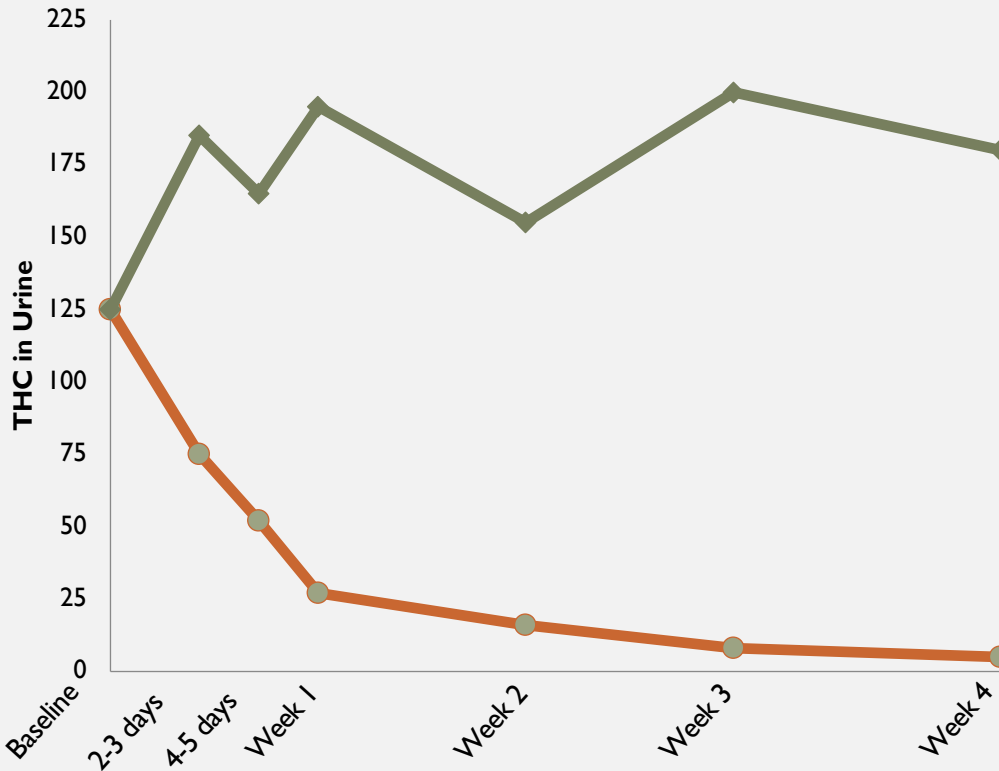


- Learning improved with repetition, with no group effect on the learning slope
- Early users learned < words overall than late onset users or CON; Late onset = controls
- No differences in percent retention
- Early users used < overall learning strategies and < semantic clustering than controls

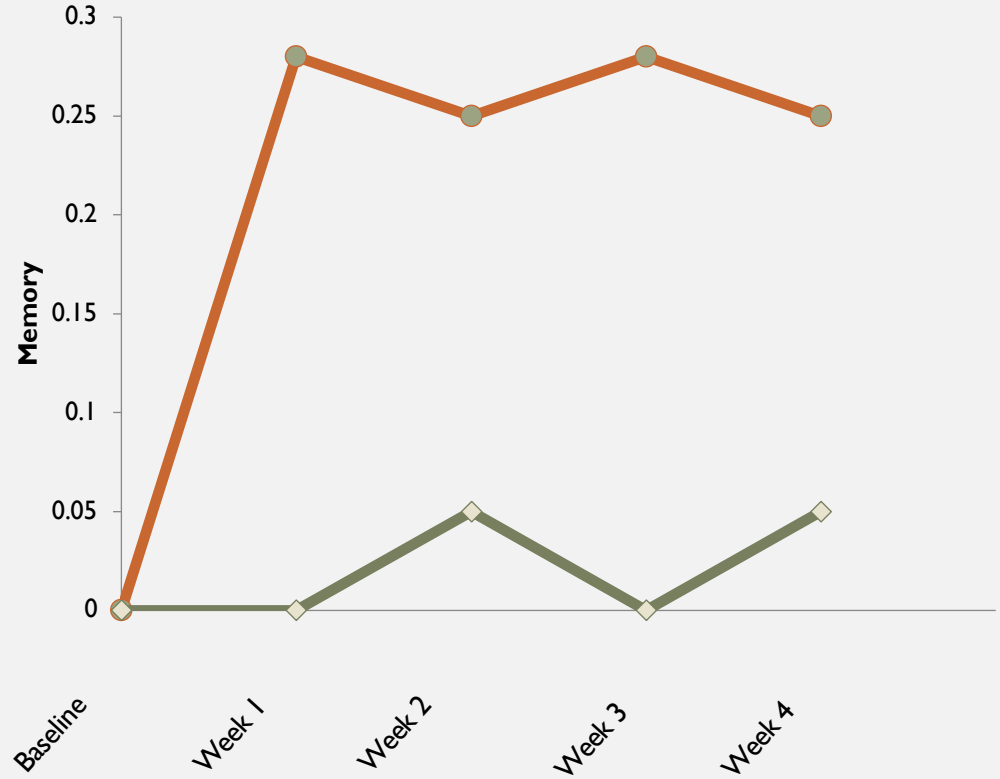
# Ongoing Study on Neurocognitive Recovery with Cannabis Abstinence in High School Students

**Users who Abstain for 30 Days**      **Users who continue to use cannabis**

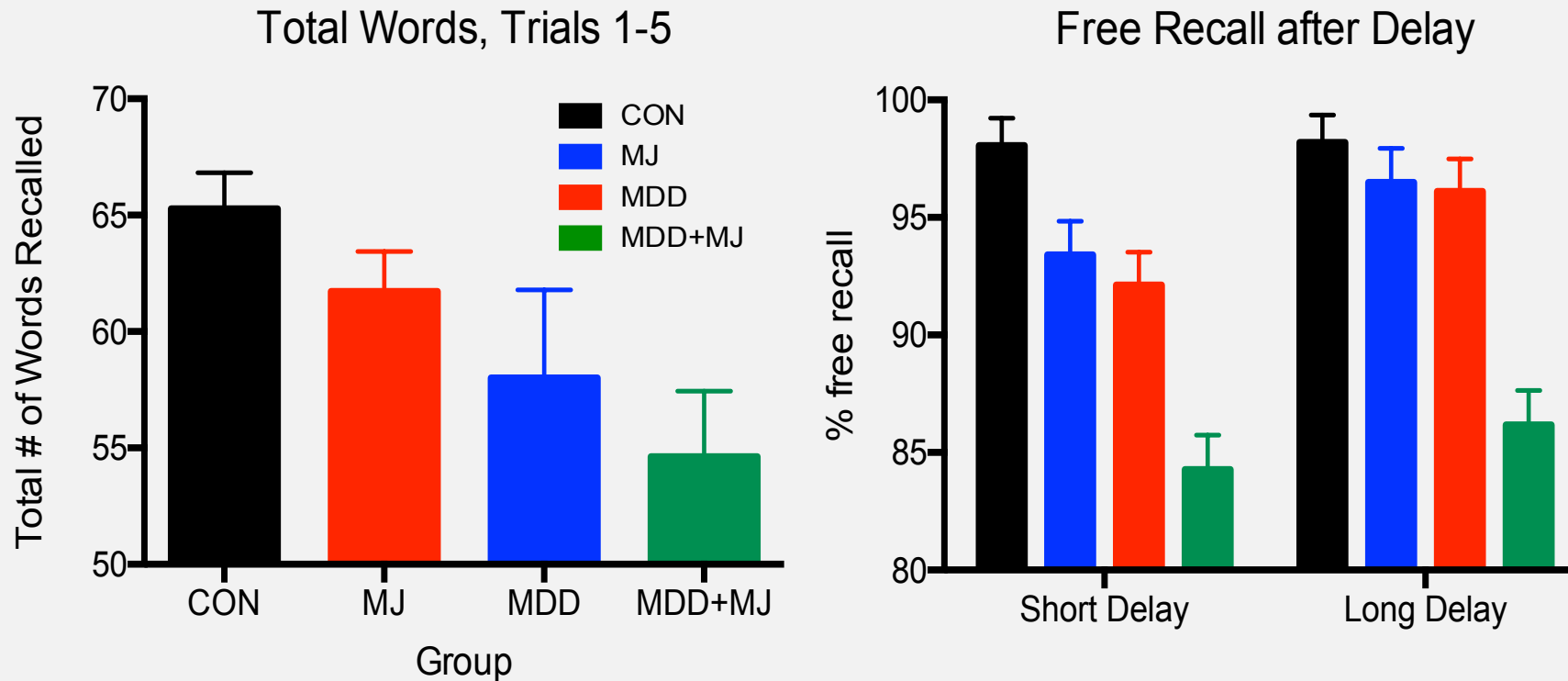
### THC Concentrations in Urine



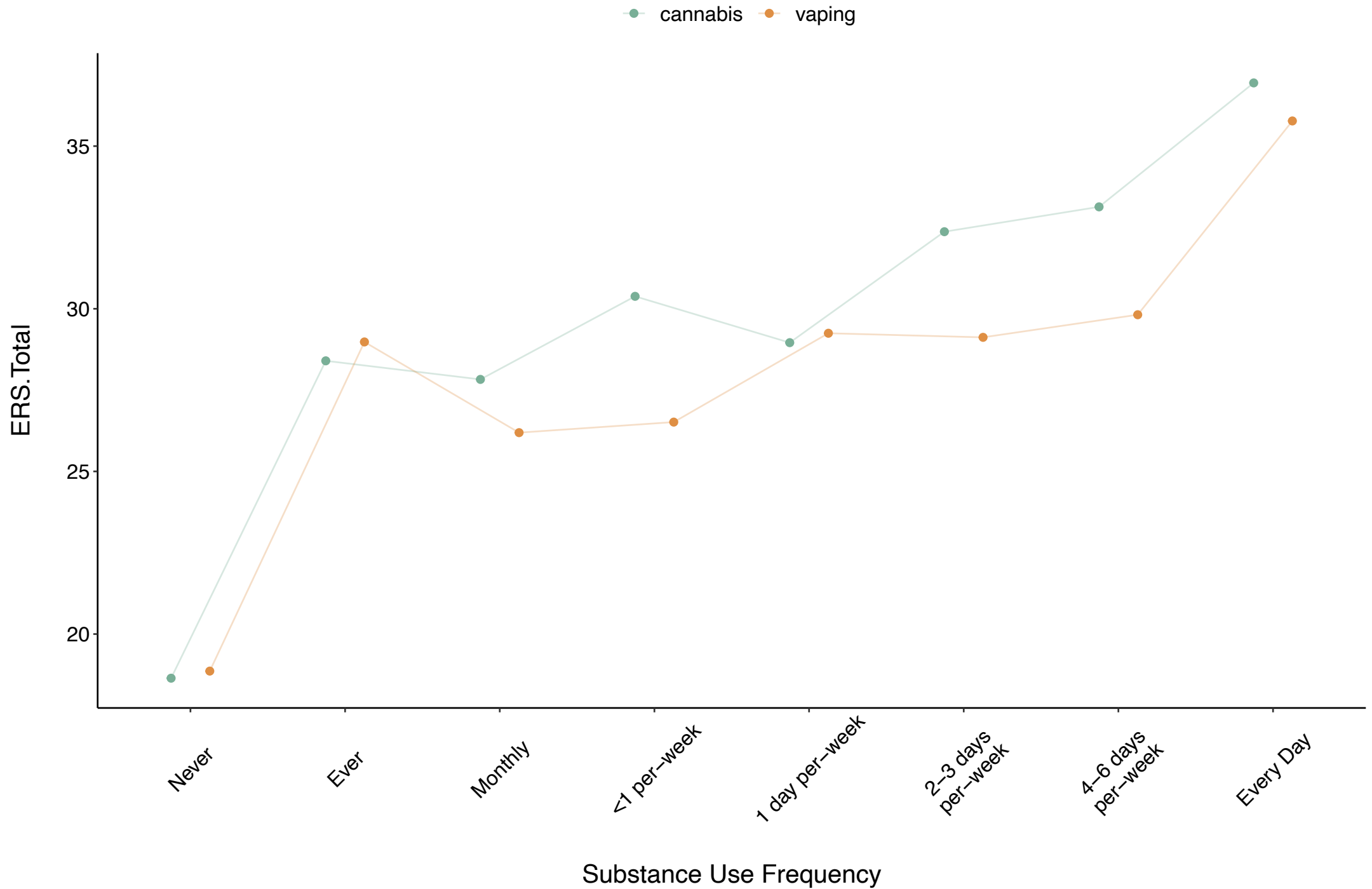
### Memory

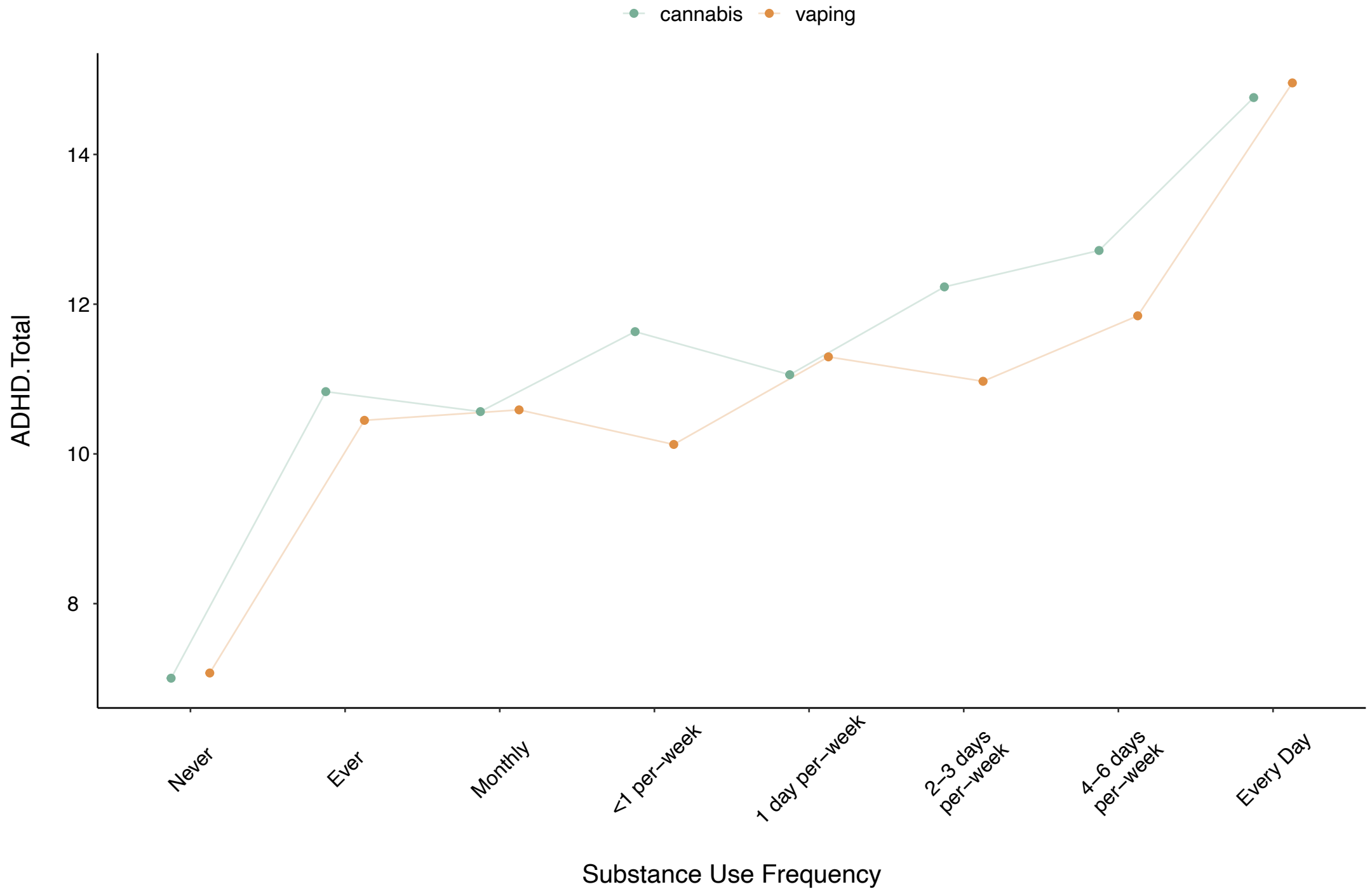


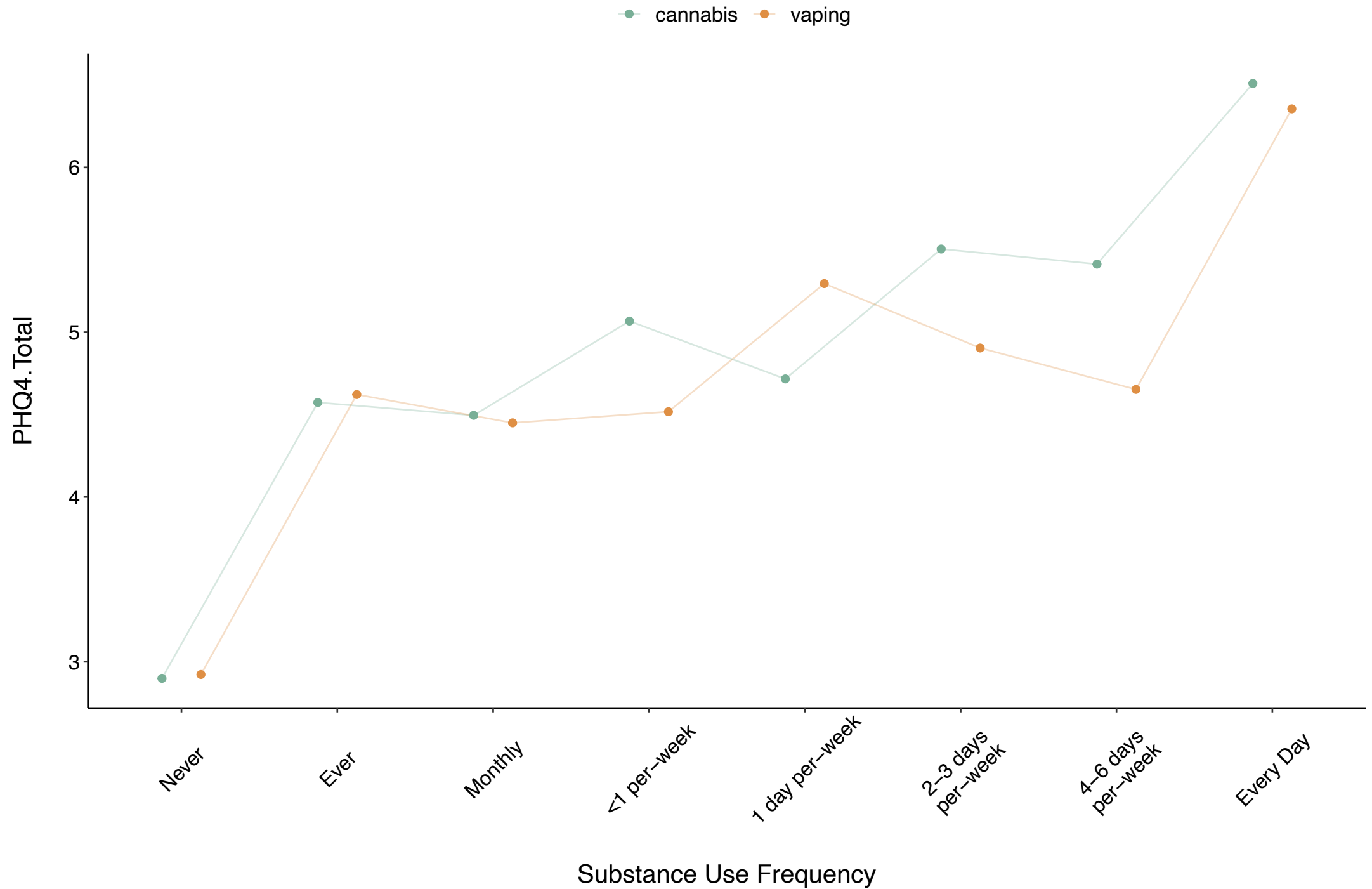
# GREATER VULNERABILITY WITH PSYCHIATRIC DIAGNOSES?



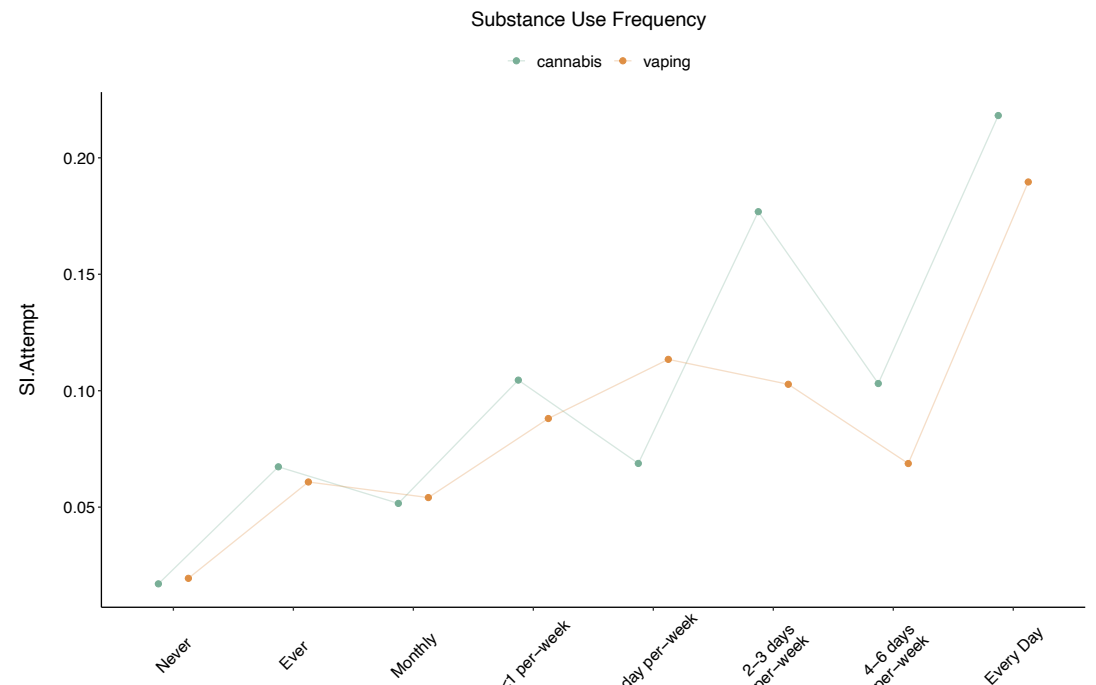
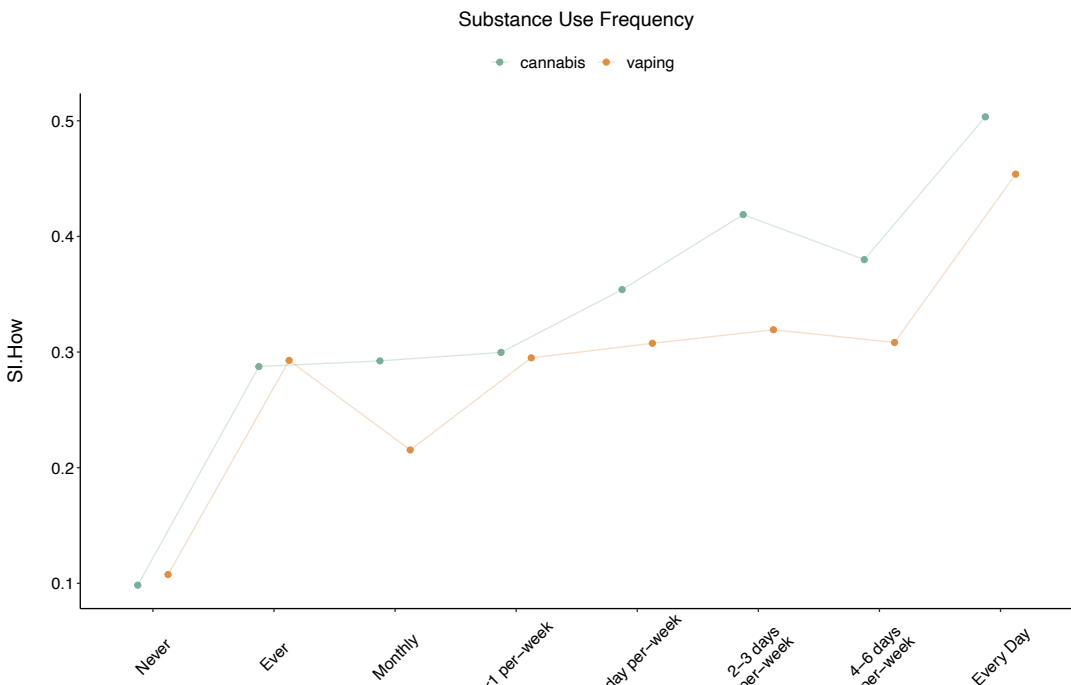
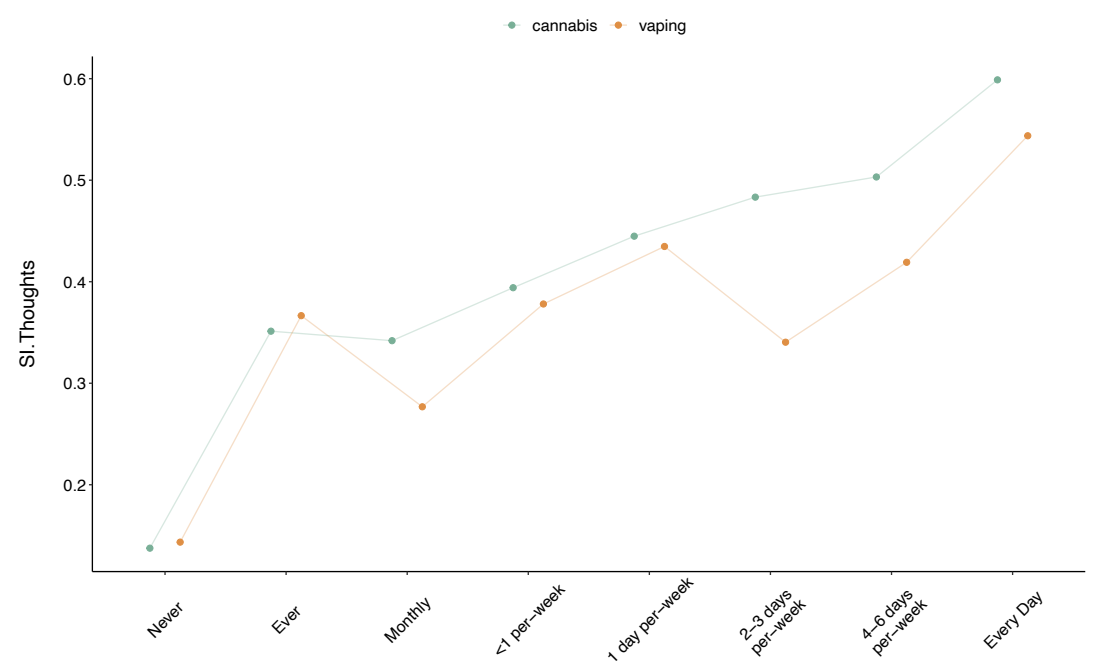
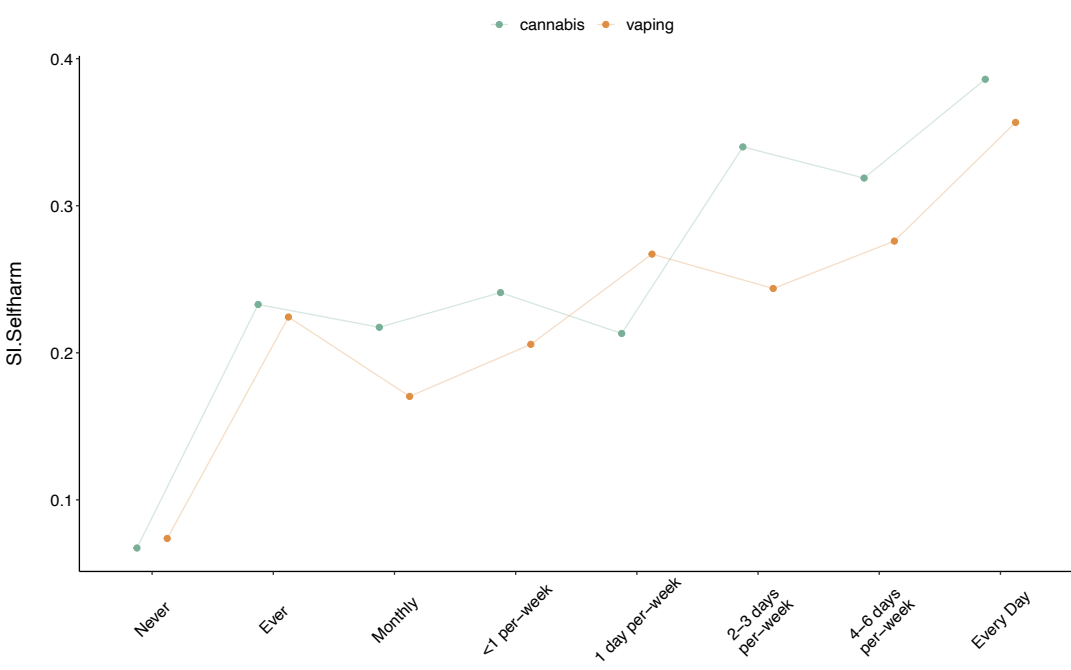
# CANNABIS AND PSYCHIATRIC CO- MORBIDITIES

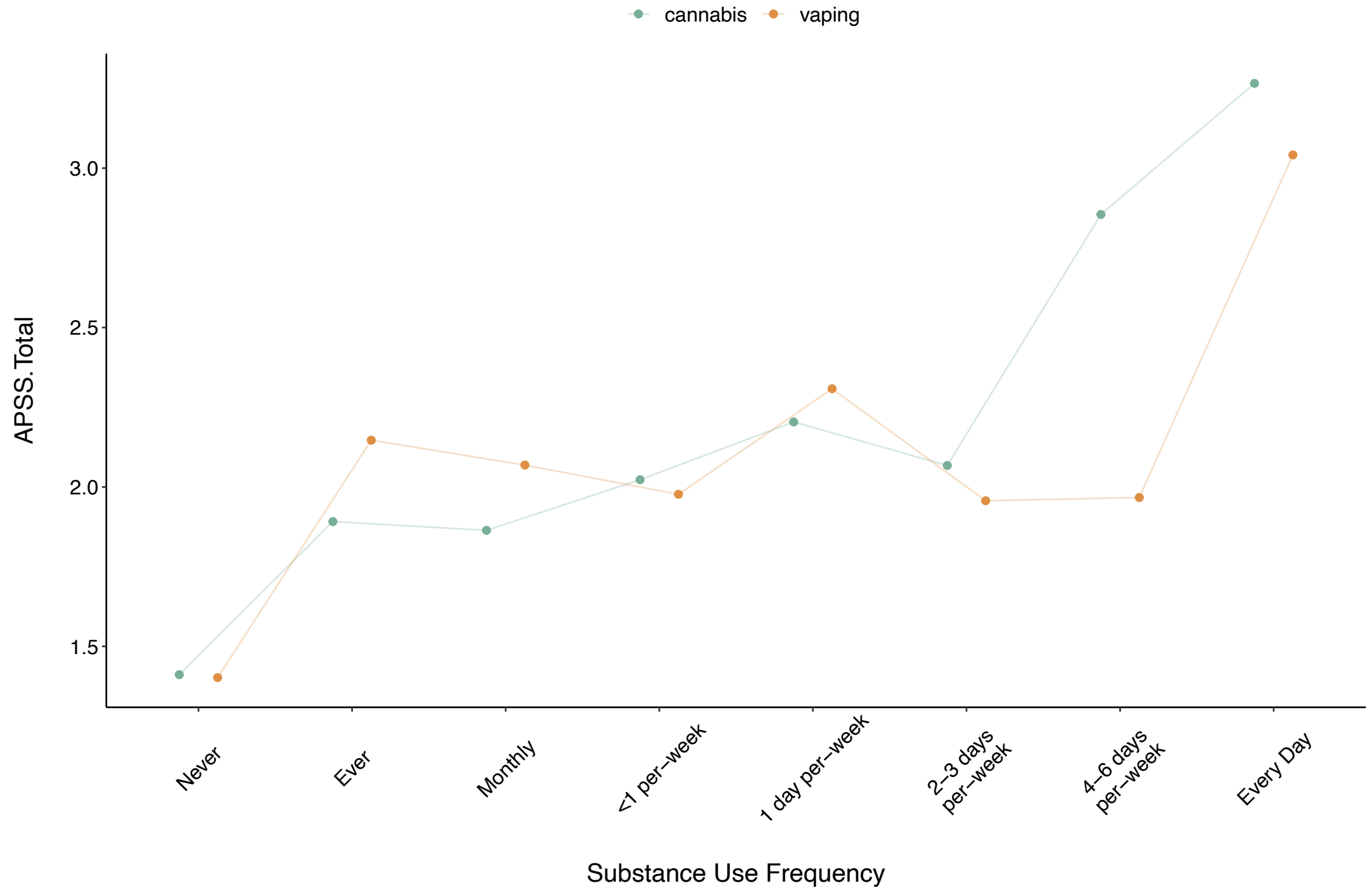








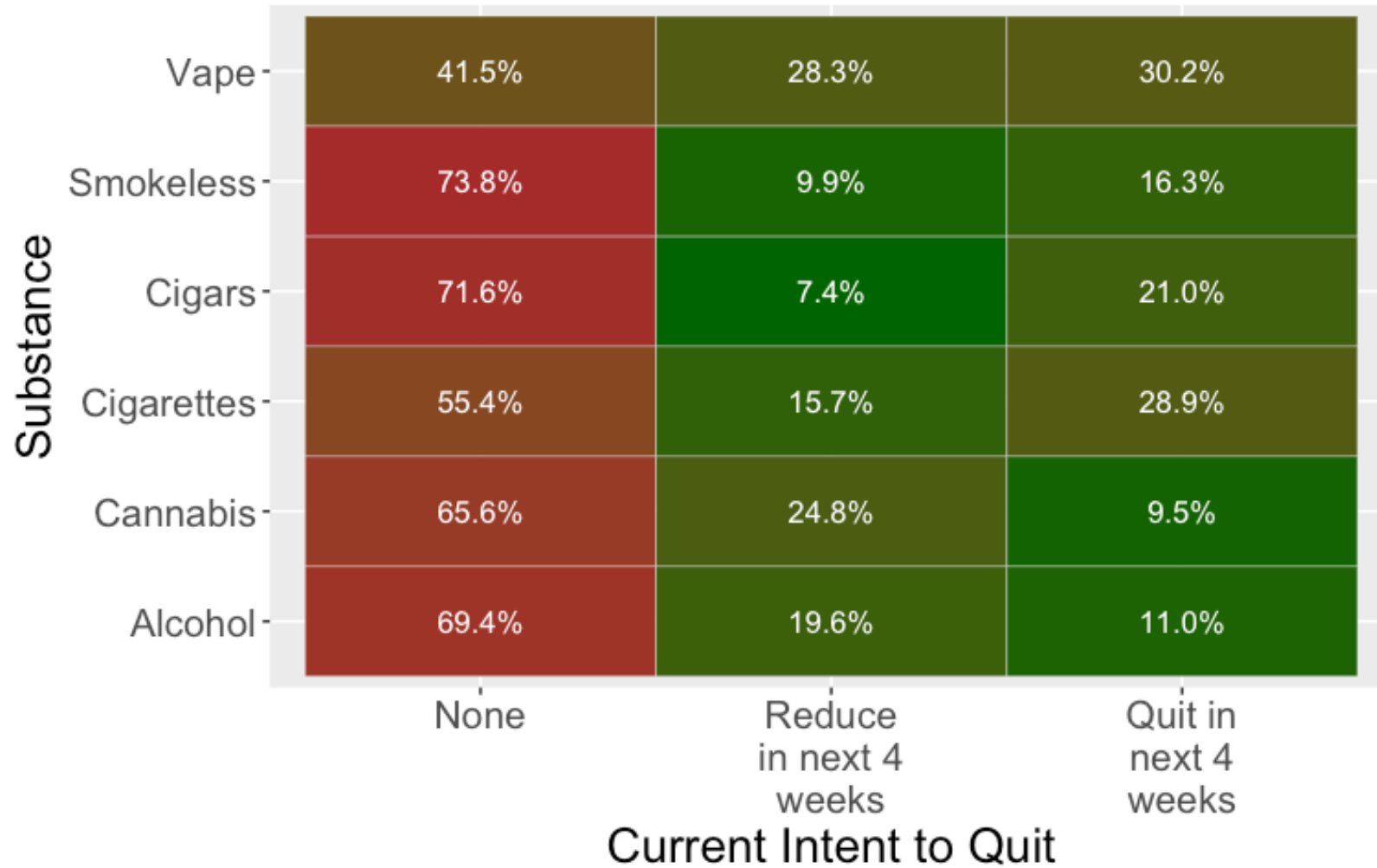


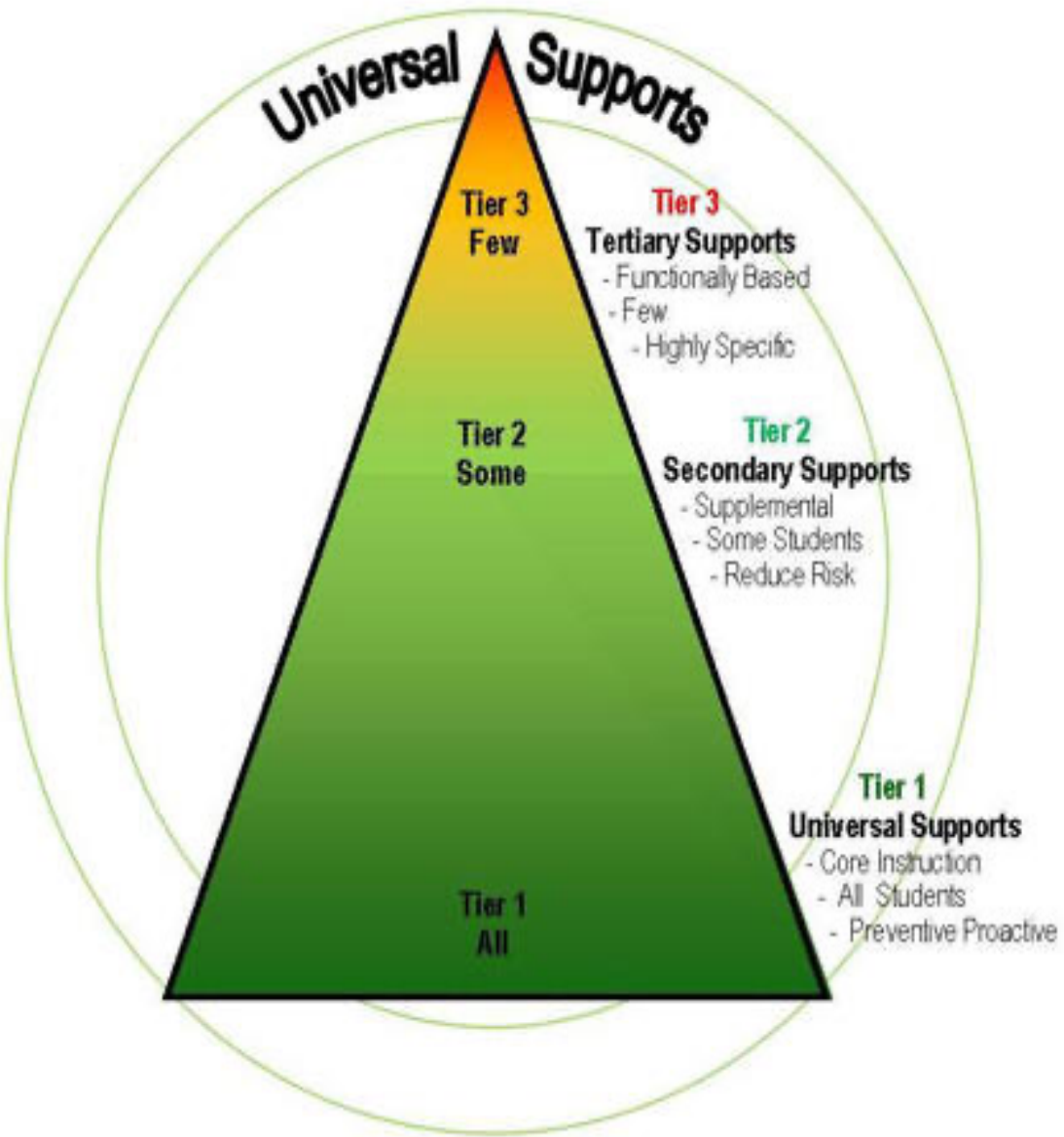




# **Schools as the hub for prevention**

## Student Intent to Quit





**01 Universal prevention**

**02 Early detection and intervention**  
Universal screening (SBIRT)  
Alternatives to punishment

**03 Treatment and Ongoing support**

# Overview of iDECIDE:

iDECIDE is funded by a Cooperative Agreement to MGH from the Massachusetts Department of Public Health, Office of Youth & Young Adult Services' federal award by the Substance Abuse and Mental Health Services Administration.



# iDECIDE Overview Video

# Core Values

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- **Youth are the experts in their own experiences.** Facilitators' jobs are to empower and challenge youth, but not to instruct them.
- **Empowerment, strength-building, and factual information** change behaviors more than punishment.
- Long-lasting behavior change is most achievable when **goals are aligned with individual core values** and fundamental needs.
- Cultivating non-judgmental, authentic, and reliable **relationships with trusted adults at school** is a powerful protective factor against substance use and its co-morbidities.
- **Every student deserves access** to science-based information and support, regardless of socioeconomic status, race, color, religion, gender, gender identity or expression, sexual orientation, national origin, or disability. Improving equity in responses to teen substance use will have positive impacts on individual outcomes and school culture.



# Content Overview

- Four core modules
  - 1. Teen Brain Development, Neurobiology and Addiction, Industry Tactics, Risk and Protective Factors
  - 2. Motives for Use and Specific Drug Effects
  - 3. Identifying Triggers, Healthy Alternatives, Effective Communication, Mindfulness and Meditation
  - 4. Core Values and Setting Goals

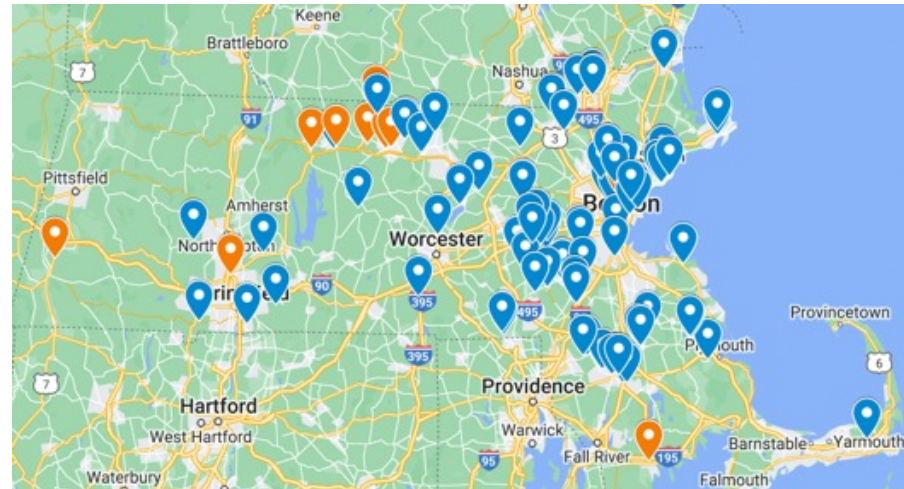
# **OASIS – Optimizing and Advancing SBIRT in Schools**

# To Contact iDECIDE:

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**Please reach out with any questions or thoughts...**



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