



Predicting Smoking and Alcohol Use from Underage Use



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Introduction

- Alcohol and marijuana are widely used during adolescence, a critical period of brain development. Underage use is linked to heavier and more persistent use later in life, as repeated exposure can disrupt development and reinforce long-term habits. Underage use is defined as using a substance before the legal age specifically, before age 21 for both alcohol and marijuana. Understanding how age of first use affects long-term consumption patterns is central to studying adolescent substance use.

Research Questions

- Does under-age of smoking predict heavier lifetime smoking? Does the same hold for alcohol?
- Does under-age smoking predict heavier alcohol use? Does the same hold when considering alcohol against smoking?

Methods

Sample

The data comes from the Adolescent Behaviors and Experiences Survey (ABES), a nationally representative CDC survey of 7,705 students who self-reported substance use behaviors online in spring 2021. Collected during the Covid-19 pandemic, ABES provides a timely snapshot of adolescent substance use amid widespread virtual learning

Measures

- Outcome:** Lifetime smoking status: How many times individuals have smoked in lifetime (0, 1–2, 3–9, 10–19, 20–39, 40–99, 100+ times)
- Predictor 1:** Past 30-day drinking (1–7 scale)
- Predictor 2:** Age of first drink (Never, ≤8, 9–10, 11–12, 13–14, 15–16, 17+)
- Predictor 3:** Age of first marijuana use (Never tried, ≤8, 9–10, 11–12, 13–14, 15–16, 17+)

Results

Univariate

- Of the total sample, **44%** of participants reported having consumed alcohol at some point in their lifetime, while the remaining 56% reported no lifetime alcohol consumption.

Bivariate

- A Fisher's Exact Test revealed a **statistically significant** association between the number of drinks consumed in the past 30 days and lifetime smoking frequency ($p = .0005$), suggesting that alcohol consumption and smoking behavior are related among study participants.

Multivariate

- Ordinal logistic regression revealed that both age of first drink ($p = 6.84e-06$) and age of first smoke ($p < .001$) were **significant predictors** of lifetime smoking frequency, suggesting that earlier initiation of both behaviors is associated with greater smoking frequency.

Discussion

Support of Existing Literature

- Early alcohol and marijuana use predicts future substance use, reinforcing the link between adolescent exposure and long-term behavior.

New Perspective on Substance Use Relationships

- Findings suggest substance use behaviors are interconnected and may share common developmental risk factors.

Implications for Prevention

- Results highlight the need for integrated prevention programs targeting alcohol and tobacco use together rather than separately.

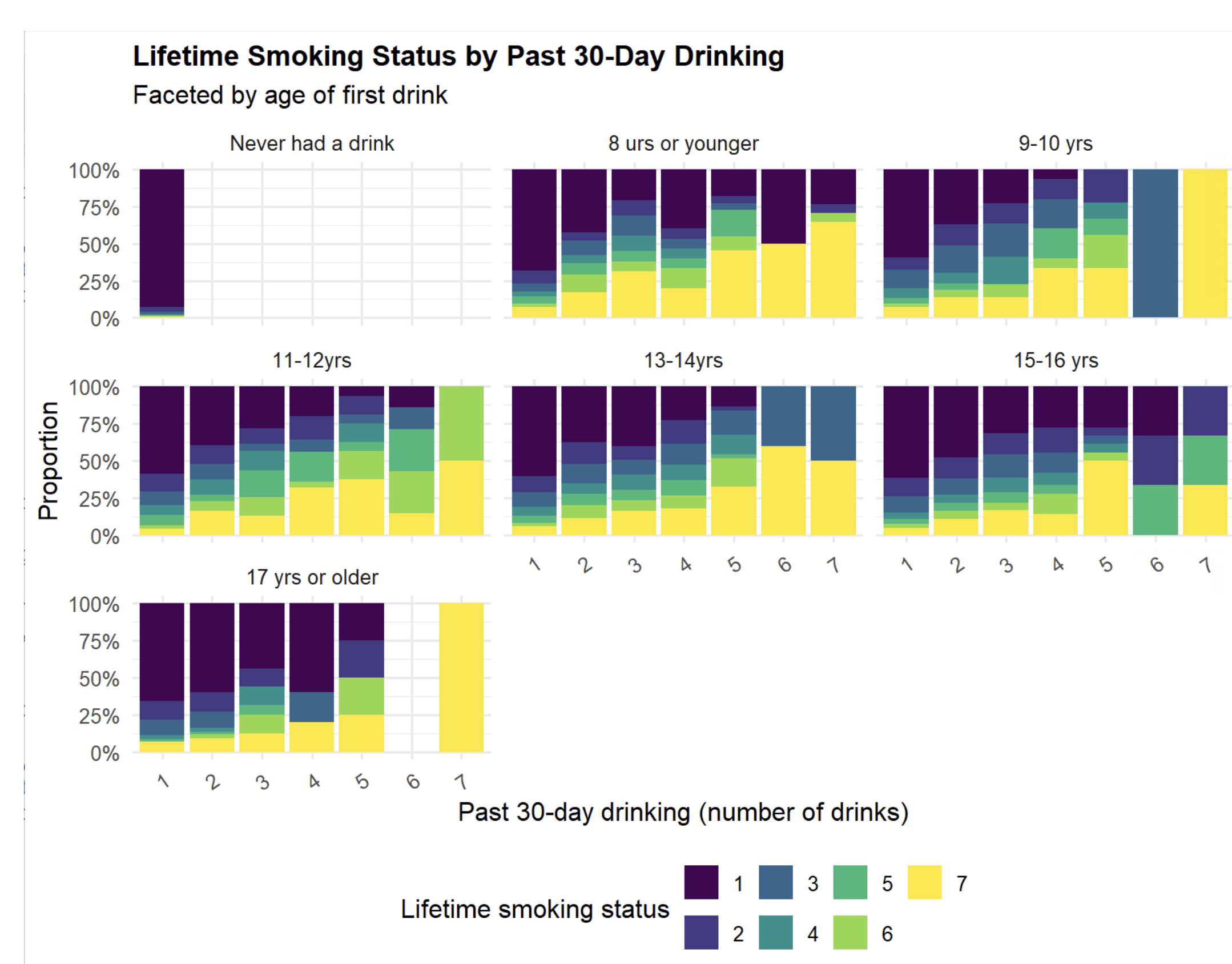


Figure 1: Lifetime Smoking Status by Past 30-Day Drinking (Faceted by Age of First Drink)

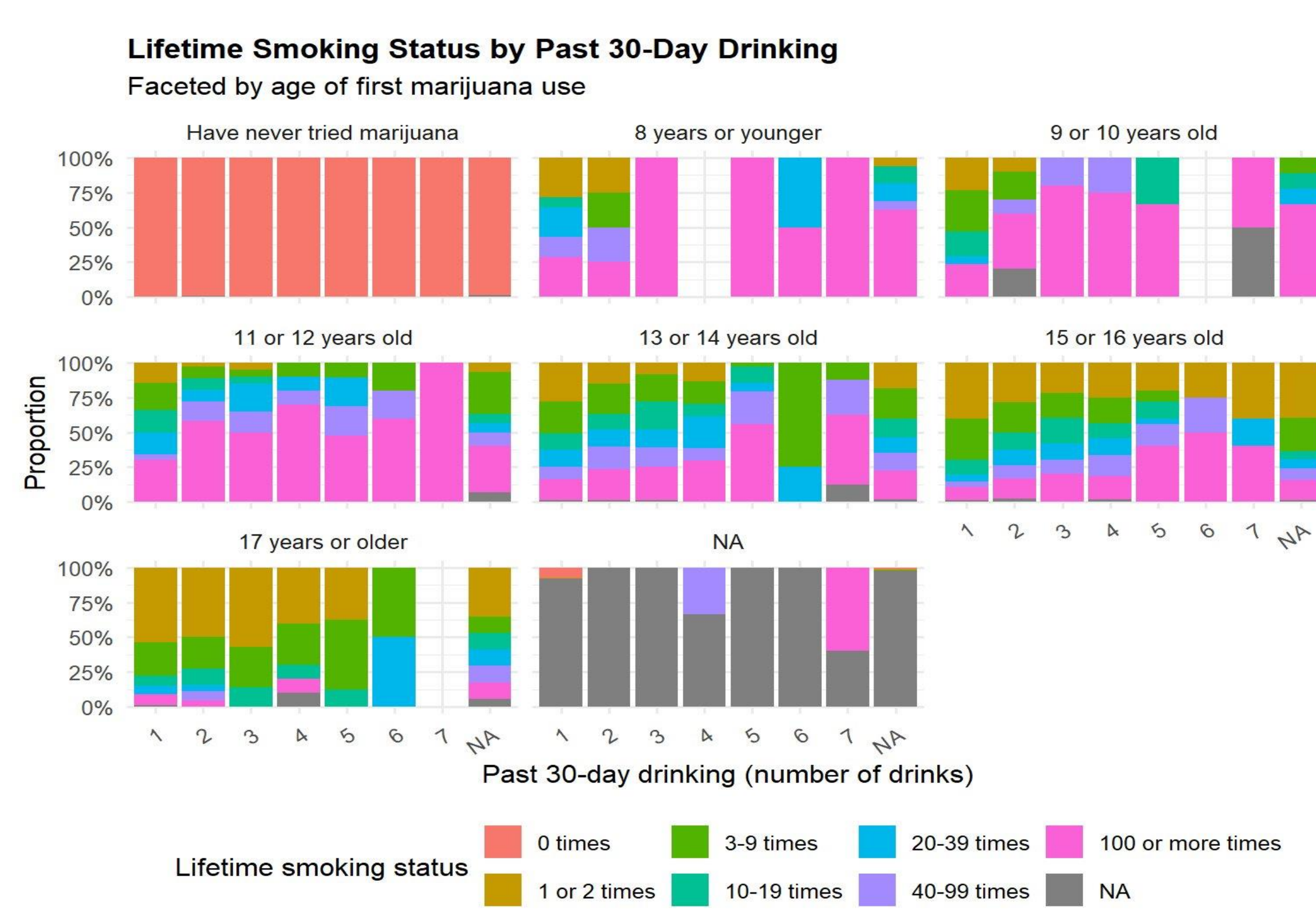


Figure 2: Lifetime Smoking Status by Past 30-Day Drinking (Faceted by Age of First Marijuana Use)

References

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