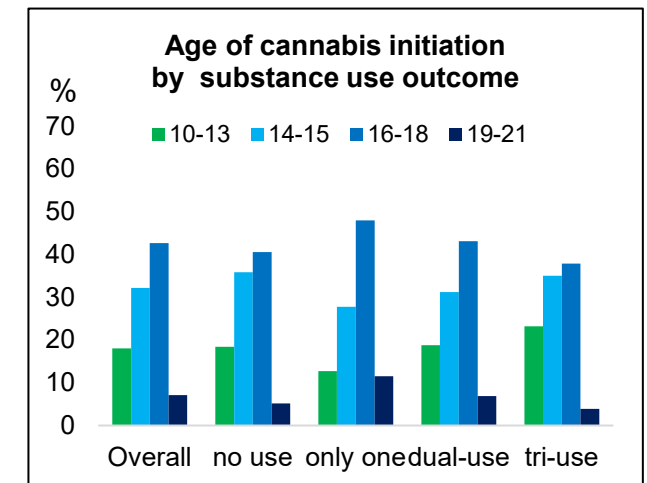
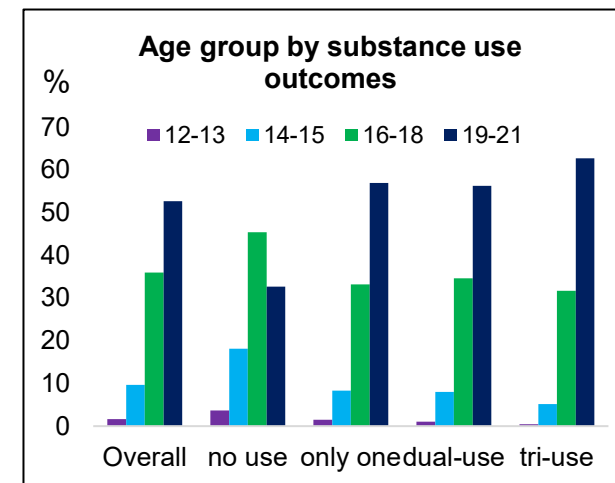
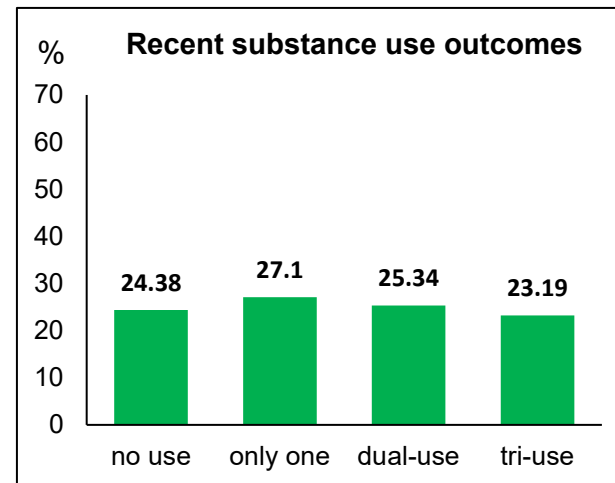


INTRODUCTION

- Alcohol, cannabis and tobacco are the most available and frequently used psychoactive substances in the United States.
- Dual and tri-substance use are associated with adverse outcomes including higher frequency and quantity of substance use, poor mental health, high psychological distress, low rates of school completion and substance use disorder in adulthood.
- We aimed to examine whether early age of cannabis initiation was associated with dual- and tri- substance use.

RESULTS



METHODS

SAMPLE

- Respondents between 12- and 21-years old with lifetime cannabis use in the National Survey on Drug Use and Health (2016-2019) (n= 21,735).

MEASURES

Outcome measure

- We created a four-level categorial outcome variable based on participants alcohol, cannabis and tobacco use in the past month (no use, only one substance, dual substance use and tri-substance use).

Exposure measure

- Age of cannabis initiation

STATISTICAL ANALYSES

- We conducted a series of weighted multinomial logistic regression models adjusting for socio-demographics (age, gender, ethnicity/race, family income) to obtain adjusted conditional odds ratio (aOR) and 95% confidence intervals (table 1).
- All statistical analyses were conducted using R software.

Table 1. Associations between age of cannabis initiation and substance use outcomes in youth with lifetime cannabis use

Substance use outcome reference	Only one	Dual-use		Tri-use		
	No use aOR (95% CI)	No use aOR (95% CI)	Only one aOR (95% CI)	No use aOR (95% CI)	Only one aOR (95% CI)	Dual use aOR (95% CI)
Age of cannabis initiation						
10-13	0.79 (0.59 - 1.07)	2.42 (1.70 - 3.44) ^a	3.05 (2.39 - 3.91) ^a	7.43 (5.40 - 10.23) ^a	9.38 (6.86 - 12.83) ^a	3.07 (2.19 - 4.30) ^a
14-15	0.72 (0.54 - 0.95) ^c	1.52 (1.08 - 2.13) ^c	2.12 (1.65 - 2.72) ^a	3.89 (2.85 - 5.32) ^a	5.44 (3.97 - 7.45) ^a	2.57 (1.80 - 3.66) ^a
16-18	0.76 (0.58 - 0.99) ^c	1.17 (0.84 - 1.63)	1.54 (1.26 - 1.87) ^a	2.02 (1.49 - 2.74) ^b	2.66 (1.98 - 3.57) ^a	1.73 (1.21 - 2.48) ^a
19-21	Ref	Ref	Ref	Ref	Ref	Ref

Note: Results in table 1 were obtained using adjusted multinomial logistic regression modeling of substance use outcome categories by socio-demographic characteristics (age, gender, ethnicity/race, family income). aOR = Adjusted conditional odds ratio. a) < 0.001, b) < 0.01, c) < 0.05

CONCLUSION

- In this nationally representative sample of 12-21 years old with lifetime cannabis use, dual and tri-substance use was common (50% of the sample).
- Earlier age of cannabis initiation was associated with higher likelihood of dual and tri-substance use compared to no substance use and single substance use outcome categories.
- Primary prevention strategies should focus on younger individuals and multiple substance use.
- Future studies should investigate whether interventions focused on delaying cannabis initiation could have a positive impact on decreasing dual and tri-substance use.

FUNDING

This study was funded by T32DA031099 (Hasin), and R01DA037866 (Martins).

CONTACT: pd2664@cumc.columbia.edu