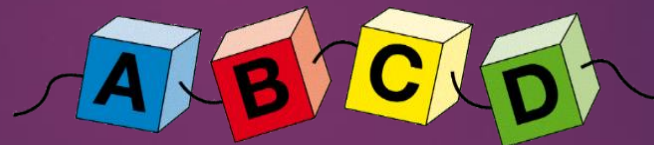




Amsterdam UMC

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The association between social media use and substance use behaviour among adolescents: The ABCD-Study

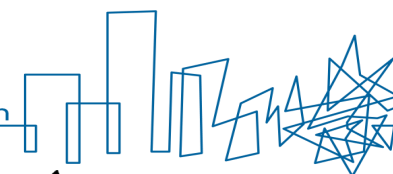


Amsterdam Born Children and their Development

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Supervisors: dr. Susanne de Rooij; dr. Tanja Vrijkotte; dr. Anja Lok; dr. Helle Larsen

Centre for Urban Mental Health



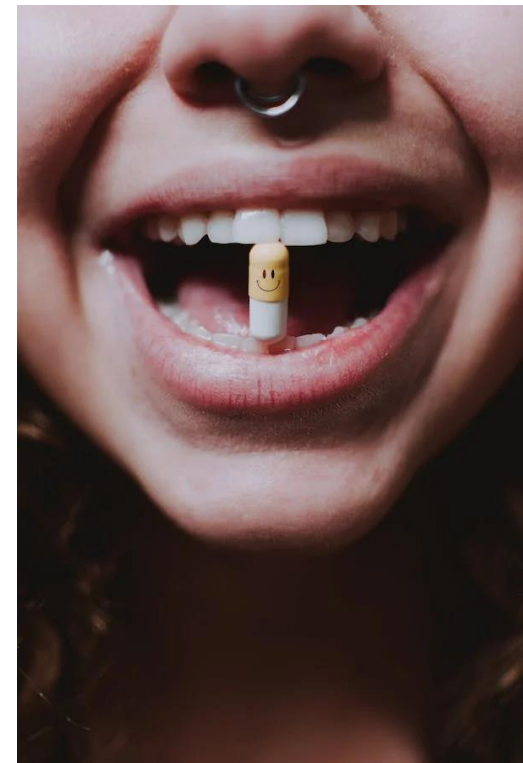
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✓ The authors declare no conflicts of interest

Background

- ▶ Social media in daily life
- ▶ Anonymous and free environment → *The wild west?*
- ▶ Online norms and values regarding substance use
- ▶ Evolving landscape



Objectives

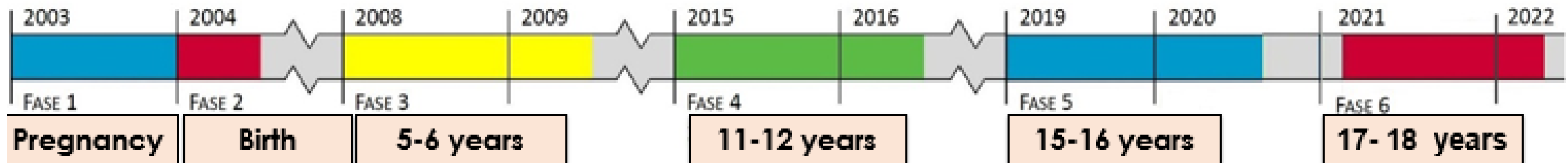
▶ Exploring:

- **Frequency** of daily social media use (SMU) and **problematic SMU** in relation to **various substances**.
- **Moderation** by **parental rules** on alcohol, drugs, smoking, and screen time?

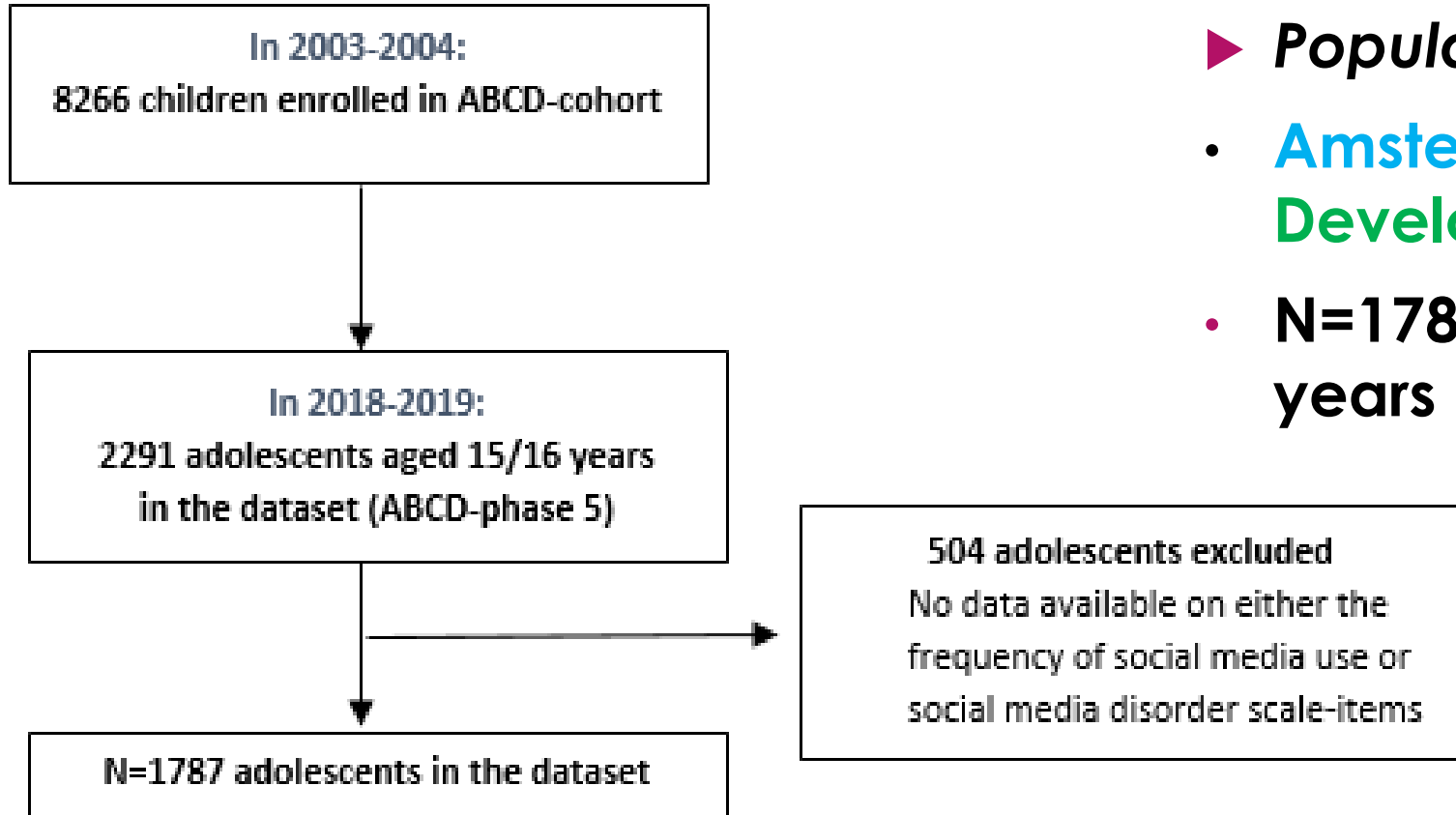
→ Understanding problematic substance use in current (digital) peer and parental contexts of adolescents.

Data: The ABCD-study

- ▶ Start cohort 2003-2004
- ▶ 8000+ pregnant women in Amsterdam
- ▶ Early-life factors
- ▶ Different social and ethnic groups



Data



► Population sample

- **Amsterdam Born Children and their Development** study (Phase-5).
- **N=1787 adolescents aged 15-16 years**

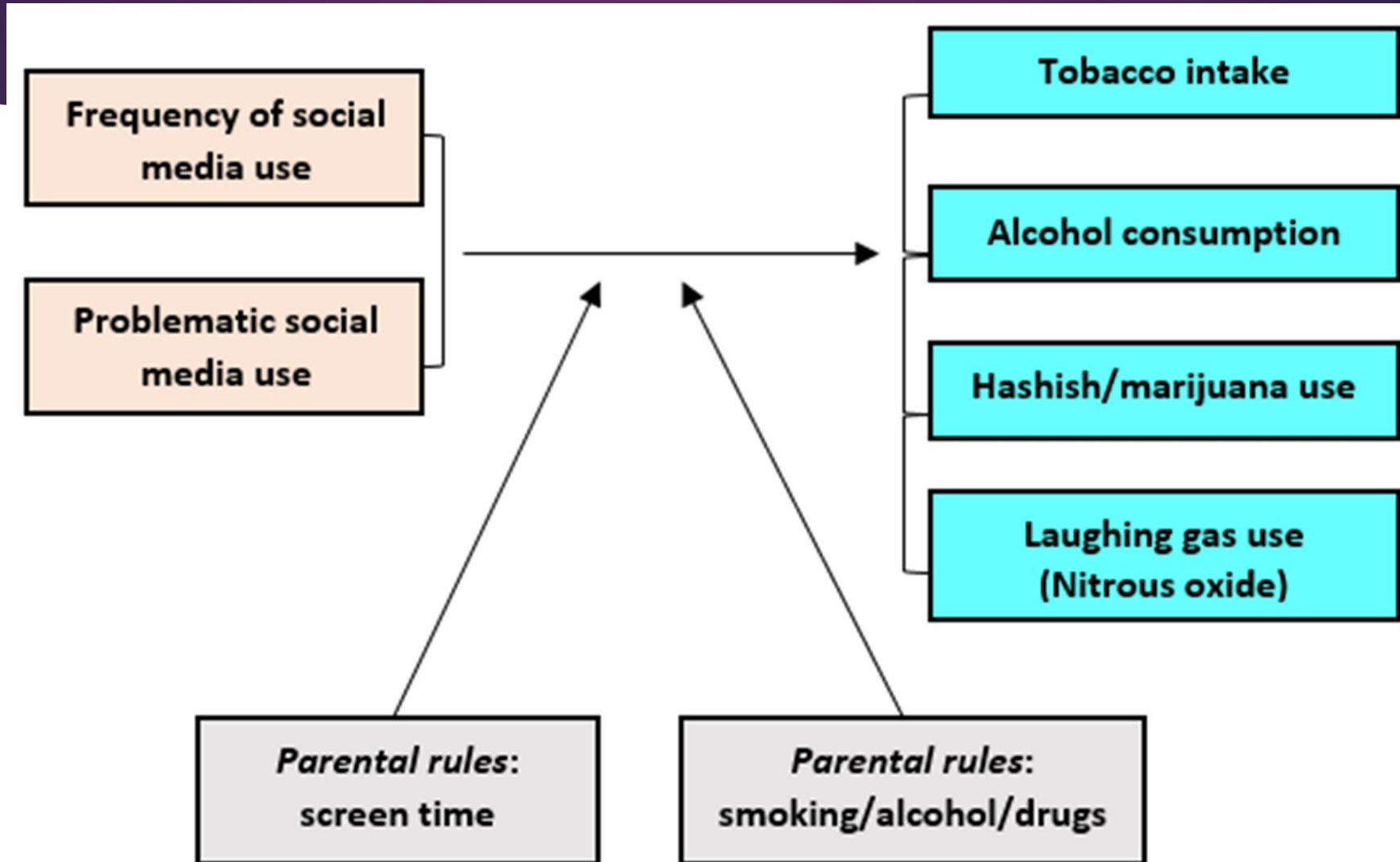
Methods

▶ **Main analysis**

- We specifically investigated whether both frequent and problematic social media use (SMU) predicted the **frequency** and **intensity** of **tobacco, alcohol, hashish/marijuana**, and **laughing gas** intake
- Additionally, we examined whether the presence of **parental rules moderated these associations** ($p \leq 0.013$ after Bonferonni correction)

→ **Ordinal logistic regression models**

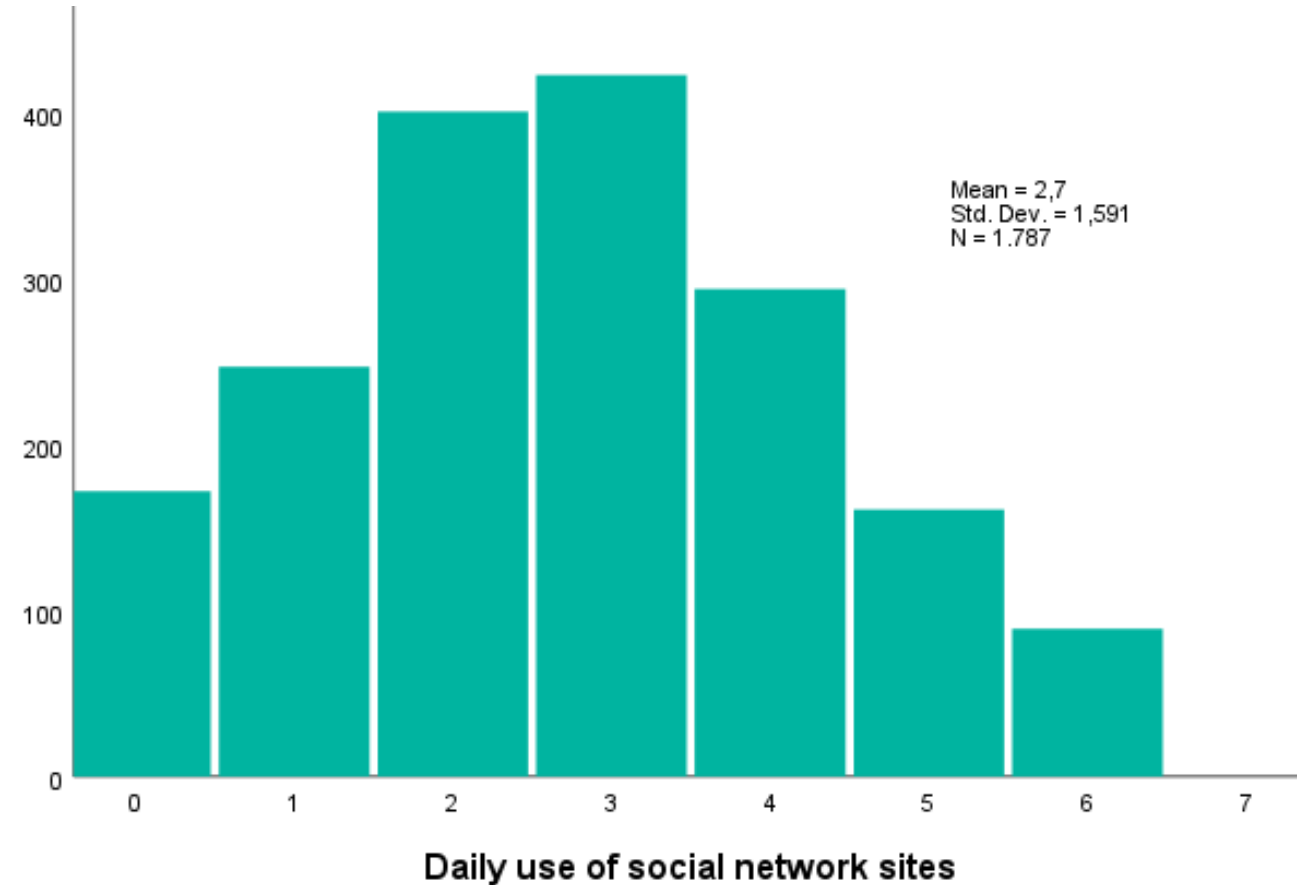
Research model



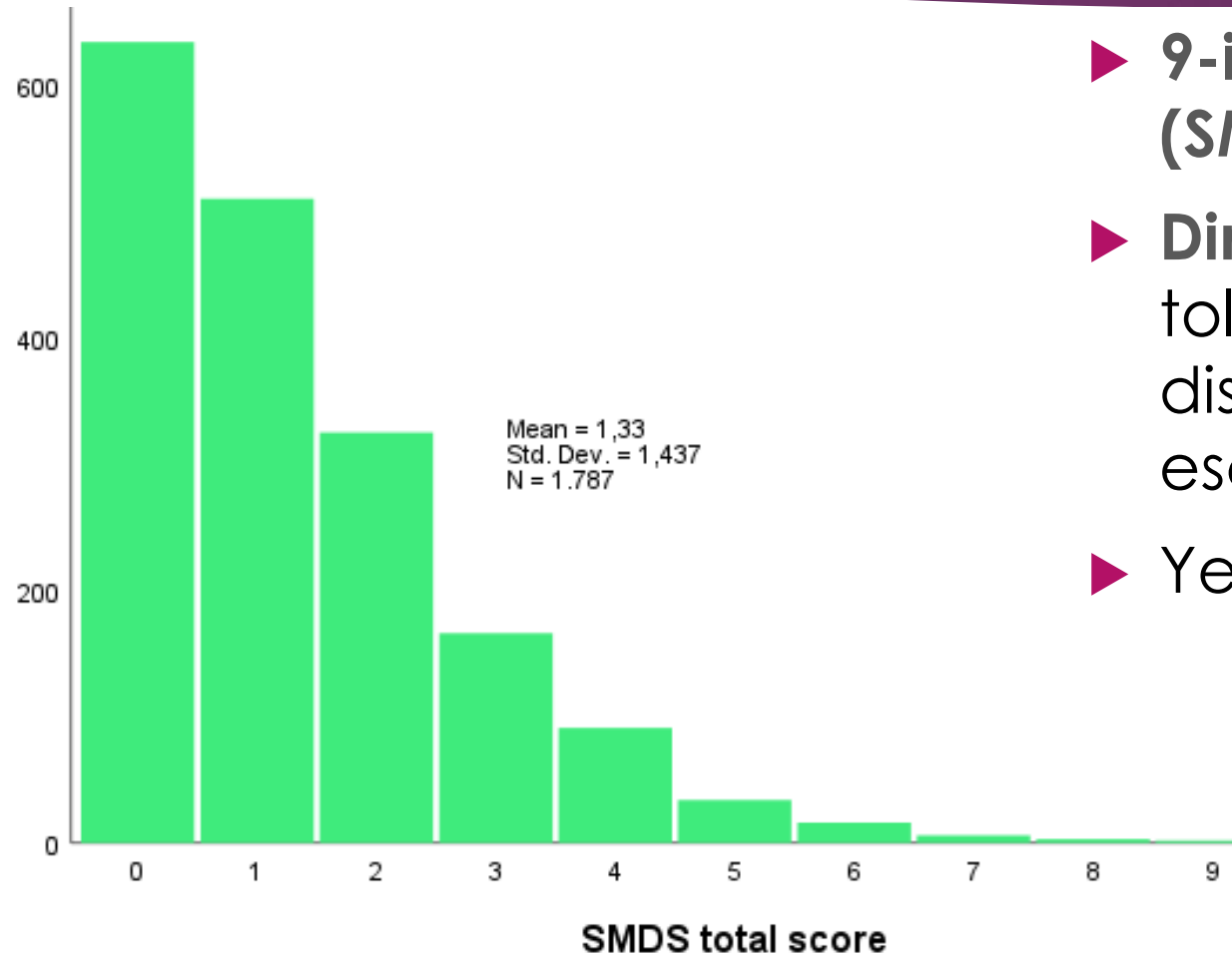
Predictors: Frequency SMU

► Daily use (viewing, responding, sharing/posting) of social network sites

(0=never; 1=1-2 times a day; 2=3-5 times a day; **3=6-10 times a day**; 4=11-20 times a day; 5=21-40 times a day; 6=more than 40 times a day).



Predictors: Problematic SMU



- ▶ **9-item Social Media Disorder Scale (SMDS)** ([van den Eijnden et al., 2016](#))
- ▶ **Dimensions:** preoccupation; tolerance; withdrawal; persistence; displacement; problems; deception; escape; conflict
- ▶ Yes/no

Outcome measures

Smoking behaviour

- **Frequency of smoking cigarettes/cut tobacco** (0 =never to 6=daily)
- **Intensity of weekly smoking cigarettes/ cut tobacco** (0= none; to 7= more than 60 per week (>3 packages))
- **Frequency of smoking water pipe** (0=never to 4= more than 19 times)

Alcohol consumption

(Last month)

- **Intensity weekly consumption of glasses, bottles or cans of alcohol** (0=0 to 7=more than 30)
- **Frequency of binge drinking (5+ glasses per occasion)** (0=not to 4=10 times or more)

Soft drug use

- **Frequency of (ever) using hashish or marijuana** (0=never to 4=more than 19 times).
- **Frequency of (ever) using laughing gas (nitrous oxide)** (0=never to 4=more than 19 times).

Moderators: Parental rules

Rules substance use

Do your parents allow you to:

- ▶ Smoke
- ▶ Use drugs
- ▶ Drink alcohol

0= "Yes" or "I don't know"

1= No

Rules screen time

- ▶ Do your parents have rules about how many hours a day you can watch TV, play (online) games, and use a laptop/tablet or mobile phone?

0=No

1=Yes

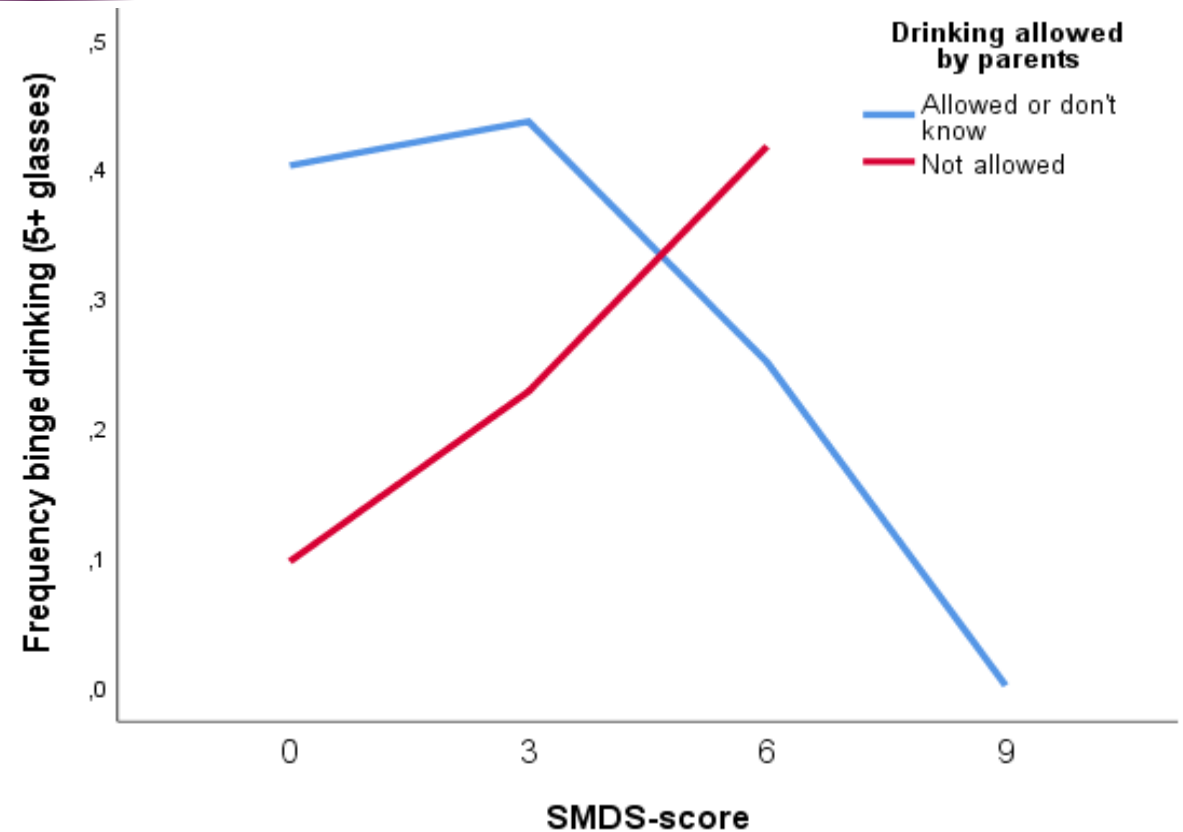
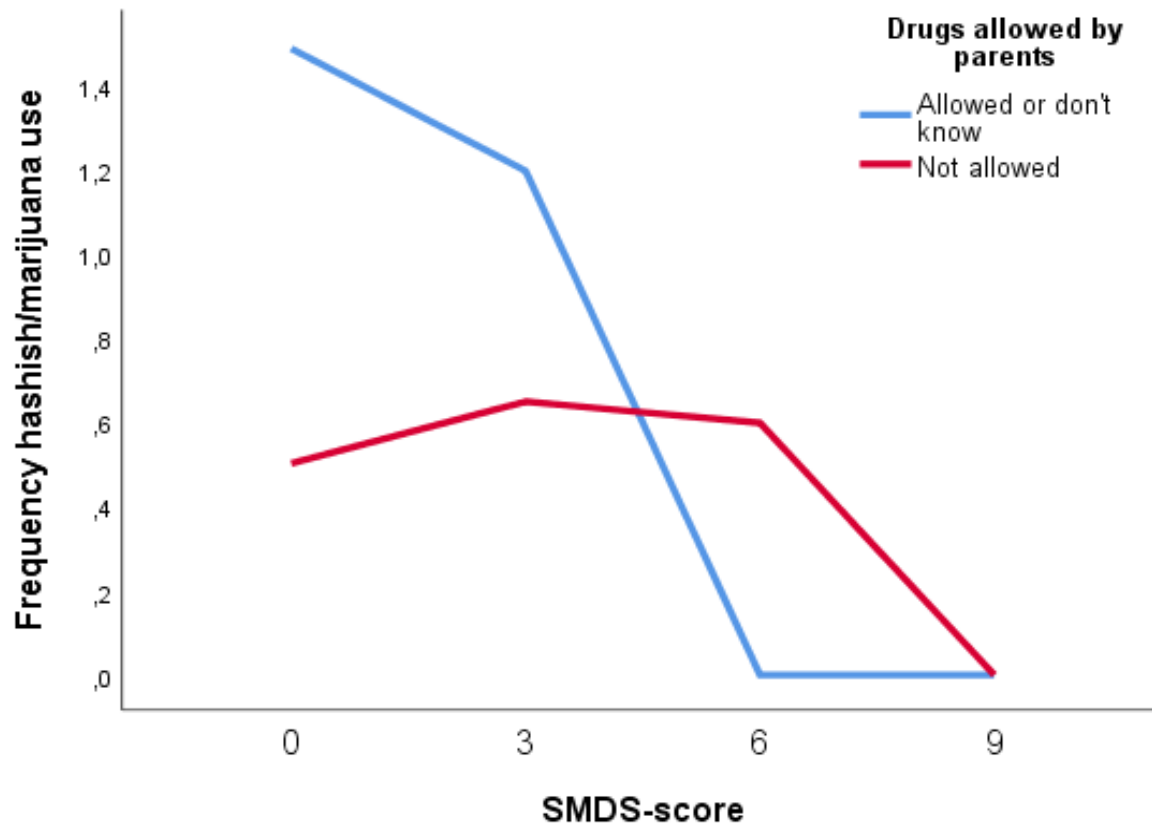
Results

Daily frequency SMU OR (95% CI)	Problematic SMU (SMDS) OR (95% CI)	
1.17 (1.09-1.26)	1.20 (1.10-1.30)	Freq. Smoking cigarettes/cut tobacco
1.22 (1.10-1.35)	1.16 (1.04-1.29)	Q Weekly smoking (x cigarettes)
1.10 (1.00-1.21)	1.17 (1.05-1.30)	Freq. Smoking water pipe
1.24 (1.15-1.34)	1.11 (1.02-1.20)	Freq. Binge drinking (5+ glasses)
1.21 (1.14-1.29)	1.10 (1.02-1.18)	Q Weekly alcohol (x glasses)
1.18 (1.11-1.26)	1.10 (1.02-1.19)	Freq. Hashish/marijuana use
1.15 (1.031-1.29)	1.15 (1.03-1.30)	Freq. Laughing gas use

Outcomes

*Adjustment for: age, gender, secondary educational level, ethnicity, peer problems (SDQ)

Results



*Adjustment for: age, gender, secondary educational level, ethnicity, peer problems (SDQ)

* $p \leq 0.013$ after Bonferonni correction

Conclusion

- ▶ **Frequent** and **problematic** SMU → **broad spectrum of substances**
- ▶ **Rules** on alcohol and drugs → less effective?
 - Higher problematic SMU
 - Parental monitoring in an early stage?

Limitations

- ▶ Representative sample? (possible selection effects)
- ▶ Cross-sectional design
- ▶ Categorical/dichotomous nature of the data
- ▶ Absence content-based data

Future implications

- ▶ Understanding **underlying mechanisms**

(e.g. susceptibility to social approval; rewarding feedback; peer norms)

- ▶ Social media use → **trans-diagnostic factor?**

- ▶ **Potential tool** for tackling problematic substance use behaviours?



Thank you for your attention!

Thanks to my team:
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dr. Tanja Vrijkotte
dr. Anja Lok
dr. Helle Larsen

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