

**Dr Ciara  
Kelly**

**Investigating  
Adolescent Binge  
Drinking in the  
West of Ireland  
using the Planet  
Youth 2020  
Survey: Key  
Findings and  
Implications**



Planet Youth in Ireland  
**Conference**







# Investigating Adolescent Binge Drinking in the West of Ireland using the Planet Youth 2020 Survey: Key Findings and Implications

**Kelly C<sup>1,2</sup>, Major E<sup>3</sup>, Durcan M<sup>4</sup>, O'Donovan D<sup>5</sup>, McNamara Á<sup>2</sup>**

<sup>1</sup>Health Service Executive Public Health Dublin and Midlands, Health Service Executive, Dr. Steeven's Hospital, Steeven's Lane, Dublin 8, Ireland,

<sup>2</sup>Health Service Executive Public Health West and Northwest, Health Service Executive, Merlin Park, Galway, Ireland

<sup>3</sup>Western

Region Drug & Alcohol Task Force, Galway Roscommon Education Training Board, Parkmore, Galway, Ireland

<sup>4</sup>Western Region

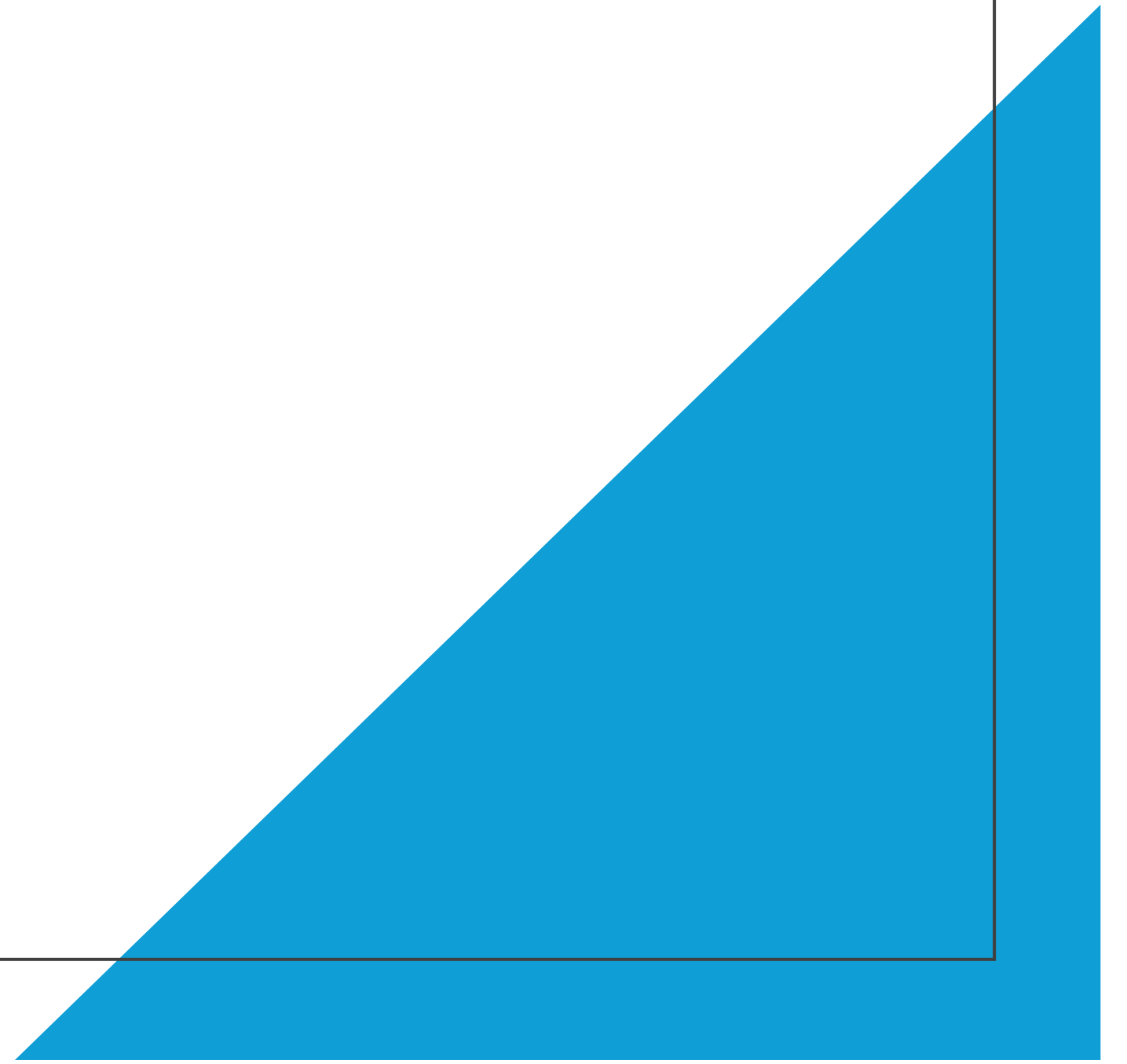
Drug & Alcohol Task Force, Health Service Executive, Parkmore, Galway, Ireland

<sup>5</sup>School of Medicine,

Dentistry and Biomedical Sciences, Centre for Public Health, Queens University, Belfast BT97BL, United Kingdom

**Planet Youth in Ireland Conference – 17<sup>th</sup> November 2023**

# Introduction



# Alcohol – A Global Public Health Issue

- Leading cause of morbidity and mortality worldwide
- Causal factor in >200 disease and injury conditions<sup>1</sup>
- Health and non-health sector impacts
- Volume and pattern of consumption key factors in determining alcohol-related harms<sup>2</sup>



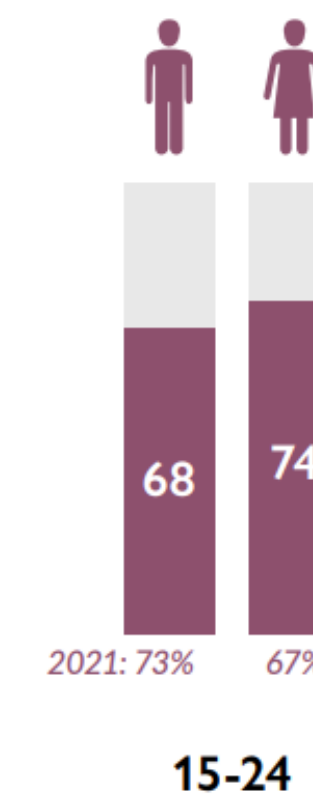
# Alcohol in Ireland

- Per capita consumption – 10.2 litres in 2022<sup>3</sup>
- Healthy Ireland 2022<sup>4</sup>
  - 67% aged 15+ consumed alcohol in previous 6/12
  - 32% of drinkers considered binge drinkers\*
  - 22% aged 15+ considered binge drinkers\*
- Cultural normalisation of excessive and harmful consumption
- Limited awareness of alcohol-related harms<sup>5</sup>

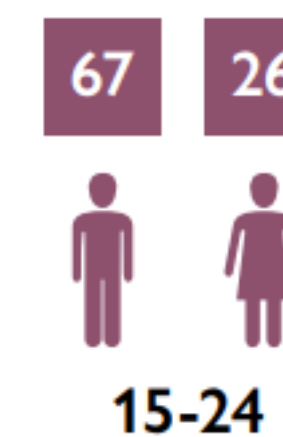
\*Binge drinking – consuming  $\geq 6$  std drinks in single occasion

## Healthy Ireland Survey 2022<sup>4</sup>

Proportion who consumed alcohol in previous 6-month period - by gender and age (%)



Drinkers who binge drink - by age and gender (%)



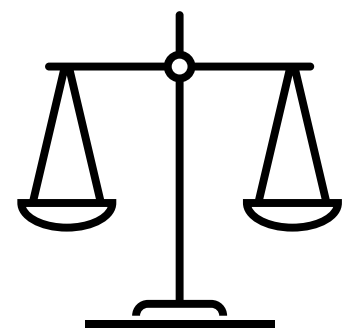


---

# Adolescent Alcohol Use in Ireland



***Risk and protective factors?***

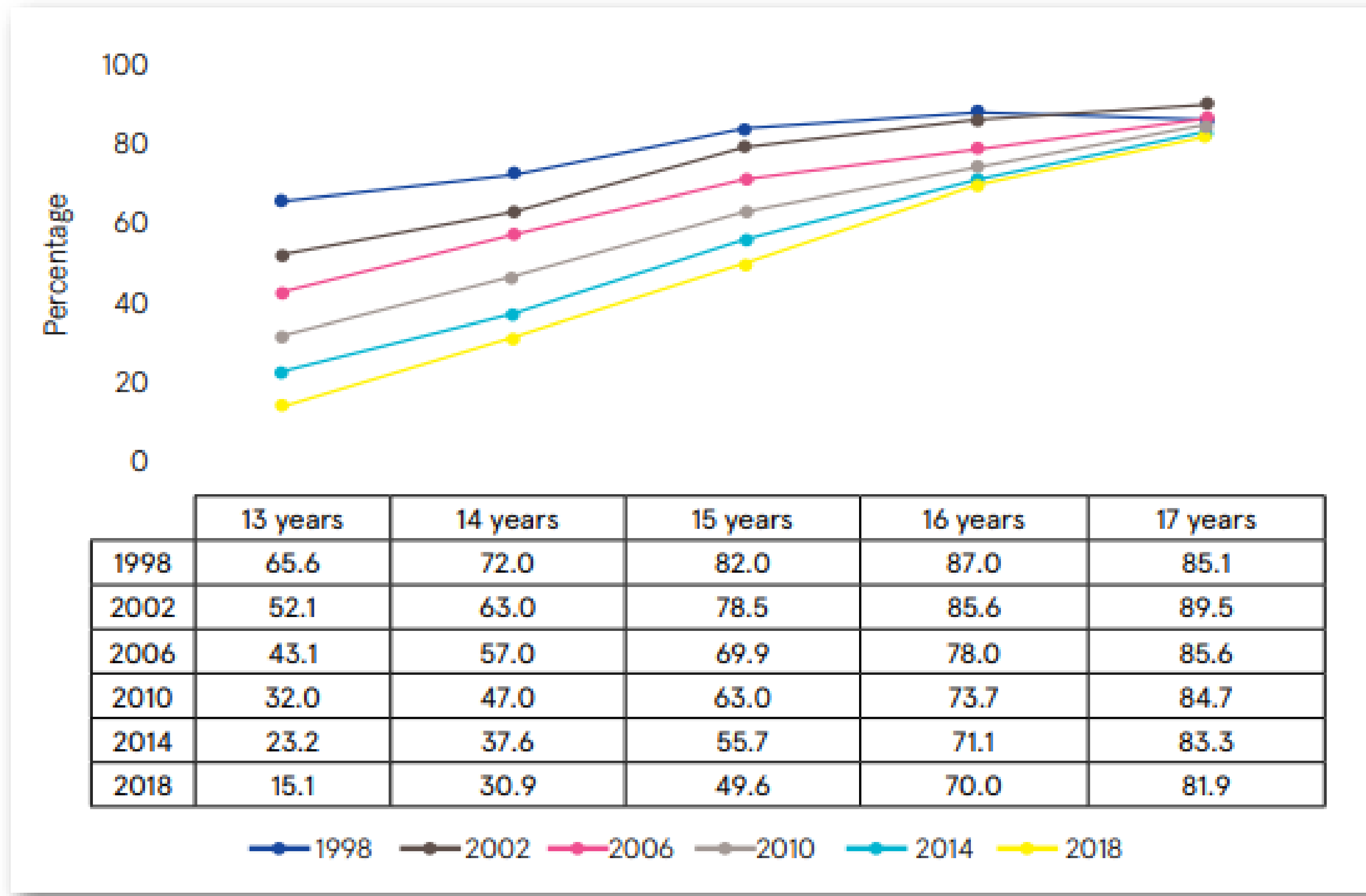


- Adolescence is when alcohol use typically begins<sup>6,7</sup>
- Period of major developmental transitions
- More vulnerable to alcohol-related harm vs. adults
- Risk of harmful patterns of consumption persisting

## **In Ireland:**

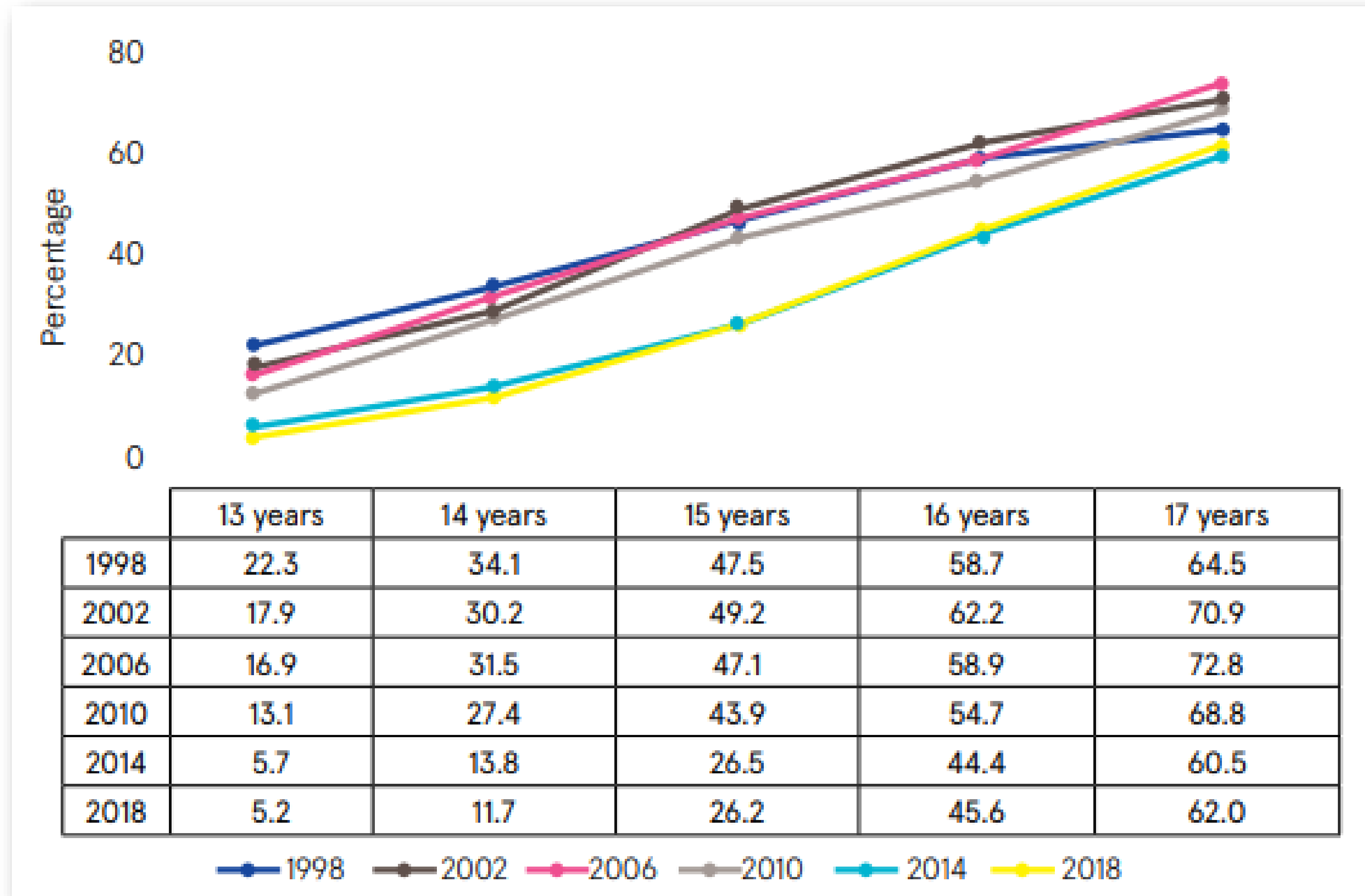
- 82% have had first drink by age 17<sup>8</sup>
- 62% of 17-year-olds report having been ‘really drunk’<sup>8</sup>
- 1/4 to 1/3 of 15-16-year-olds report being drunk in past month<sup>9</sup>
- 32% of adolescents aged 15-16 report binge drinking in past 30 days<sup>10</sup>

# Trends - Adolescent Alcohol Consumption<sup>3</sup>



# Consumption Pattern Trends

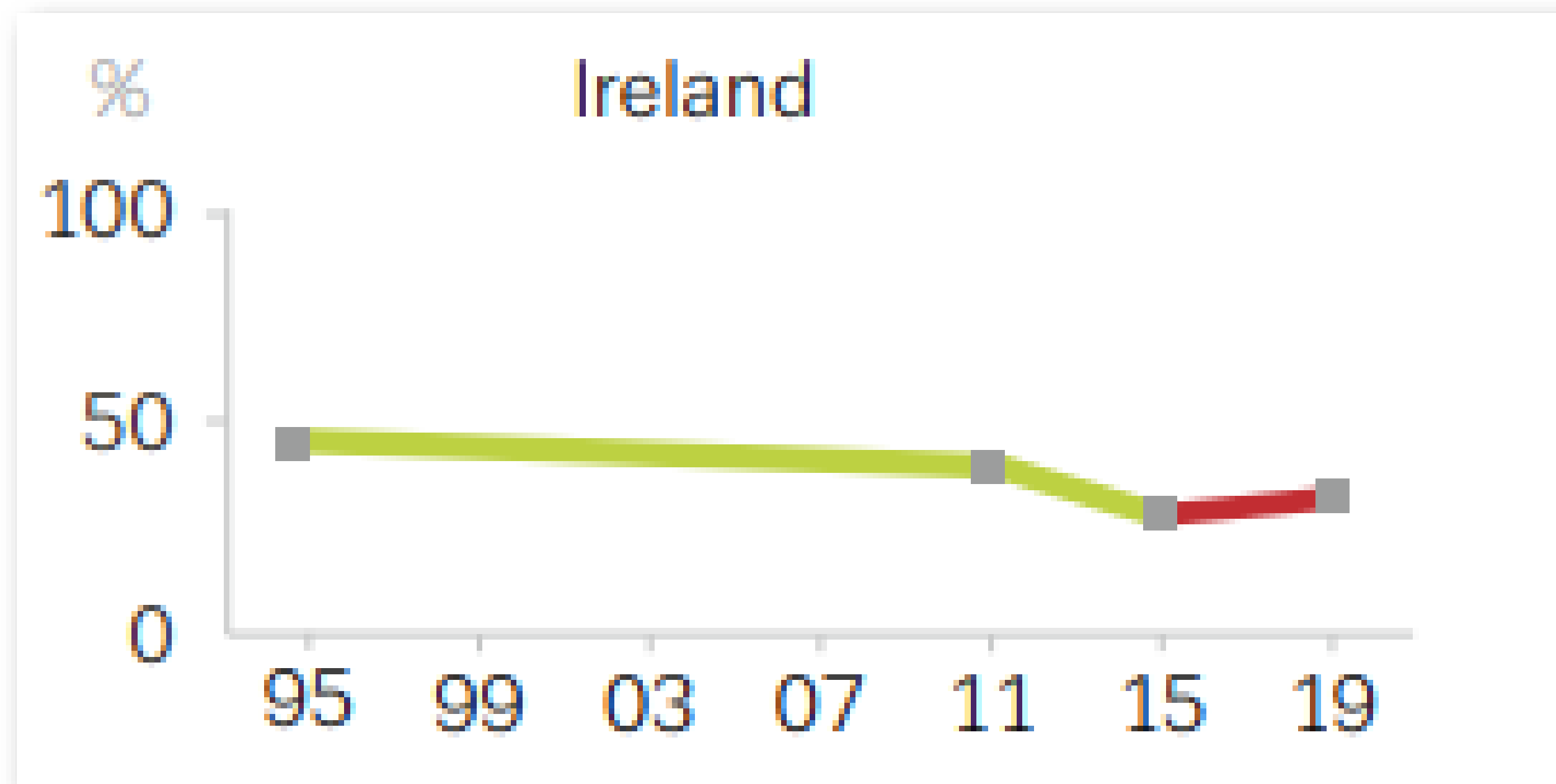
## - Adolescent Lifetime Drunkenness<sup>3</sup>





# Consumption Pattern Trends

## - Binge Drinking / HED<sup>11</sup>



### 30-day HED prevalence:

- ESPAD 2015 - 28%
- ESPAD 2019 - 32%

*HED -  $\geq 5$  drinks in single occasion in past 30 days*

# Study Rationale, Aim & Methods





---

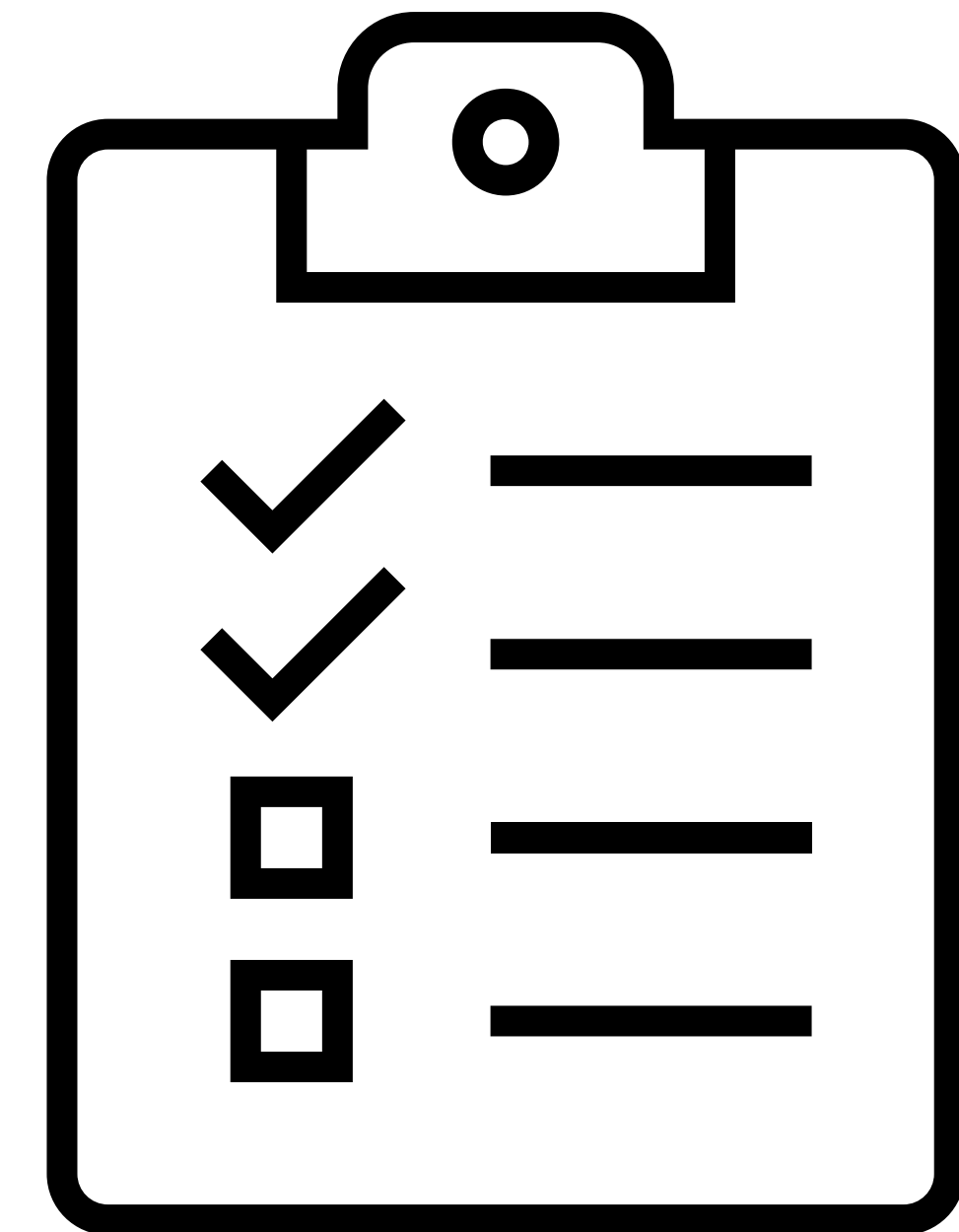
# Study Rationale and Aim

## Rationale

- Knowledge of factors influencing adolescent alcohol use can inform efforts to protect this group from alcohol-related harm
- Binge drinking – prevalent and harmful pattern of consumption
- Sizeable international literature on risk/protective factors
- Limited data in the Irish context

## Aim

- To examine
  - the prevalence of, and
  - potential risk and protective factors associated with,
  - binge-drinking among 15–16-year-old adolescents in the West of Ireland



# Study Design and Data Collection

## Study Design

- Cross-sectional
- Secondary analysis of Planet Youth 2020 Survey dataset

## Study Instrument

- Planet Youth Questionnaire
  - Administered during class hours

## Ethics

- Planet Youth Survey originally approved by RCPI Research Ethics Committee

## Population

- 15-16-year-olds in secondary schools and Youthreach centres of Galway/Mayo/Roscommon (n=6373)
- All schools and Youthreach centres invited for 2020 survey – all opted to participate
- Response rate 79.8% (n=5083)
  - Adjusted 78.5% (n=5000 valid surveys)
- Participants aged 15-16 in the dataset for present study: **4473**



# Variables

---

## Dependent variable

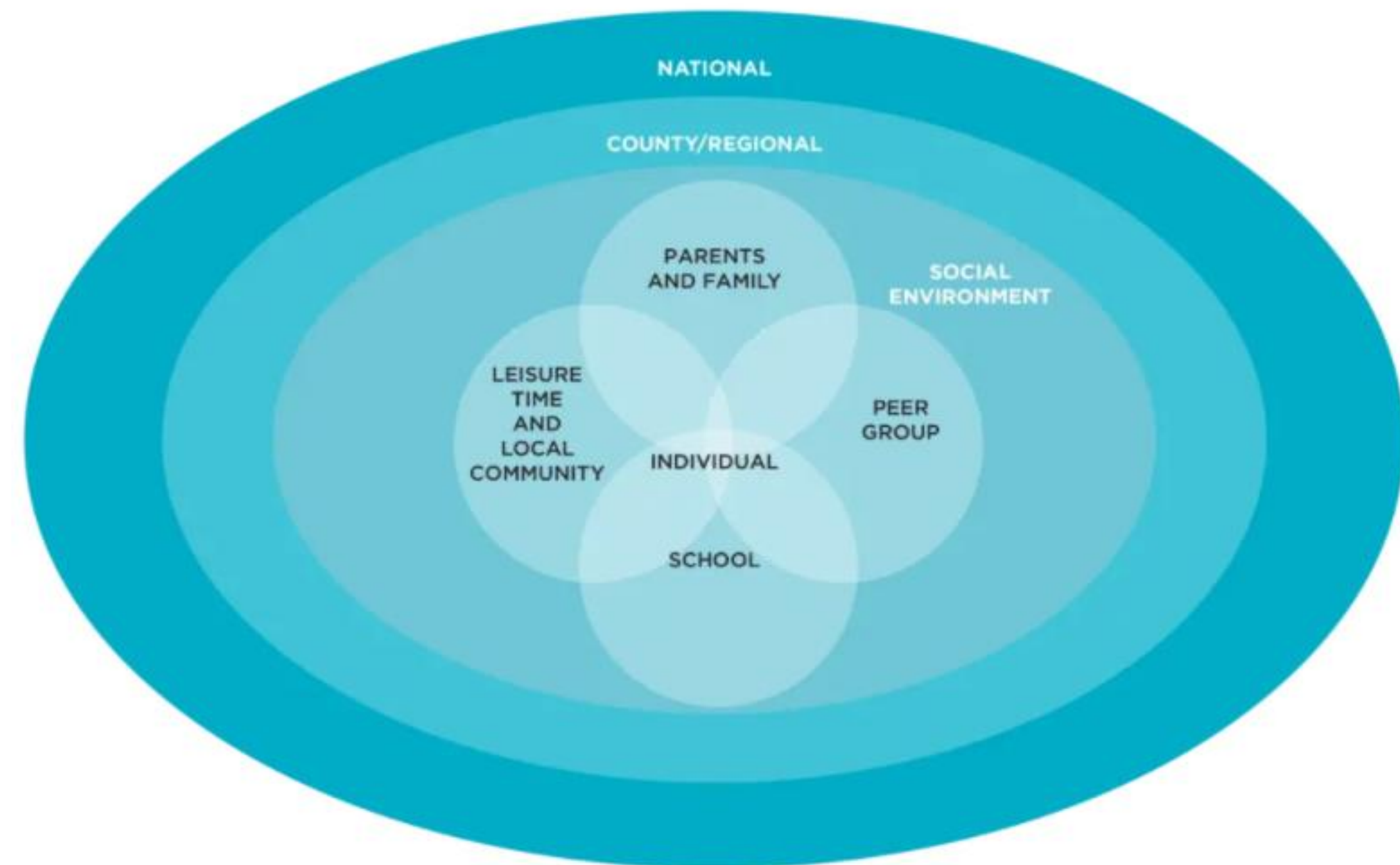
- Binge drinking:
  - Participants were asked to respond for the number of times they had consumed  $\geq 5$  alcoholic drinks in 2 hours or less
  - Categorised as 'Ever' vs. 'Never':  
*Consumption of  $\geq 5$  drinks in 2 hours or less*





# Selecting Independent Variables

- Review of peer-reviewed literature
- Consideration of Planet Youth model domains – social environment of adolescents
- Largely aligned with PY domains





# Independent Variables

Socio-demographic Factors	Individual Factors	Parents and Family Factors	Peer Factors	School Factors	Leisure Factors / Source of Alcohol in Local Community
Gender	Self-rated mental health	Parental supervision*	Having friends who drink alcohol	School engagement*	Team/club sport participation
Ethnicity	Current cigarette use (past 30-day)	Parental drunkenness			Alcohol supply from friends
Maternal education	Current cannabis use (past 30-day)	Parental reaction to adolescent drunkenness Alcohol supply from parents			Alcohol supply from another adult
<b>*Scale variable</b>					

*Note: Parent refers to parent or carer*

# Statistical Analysis

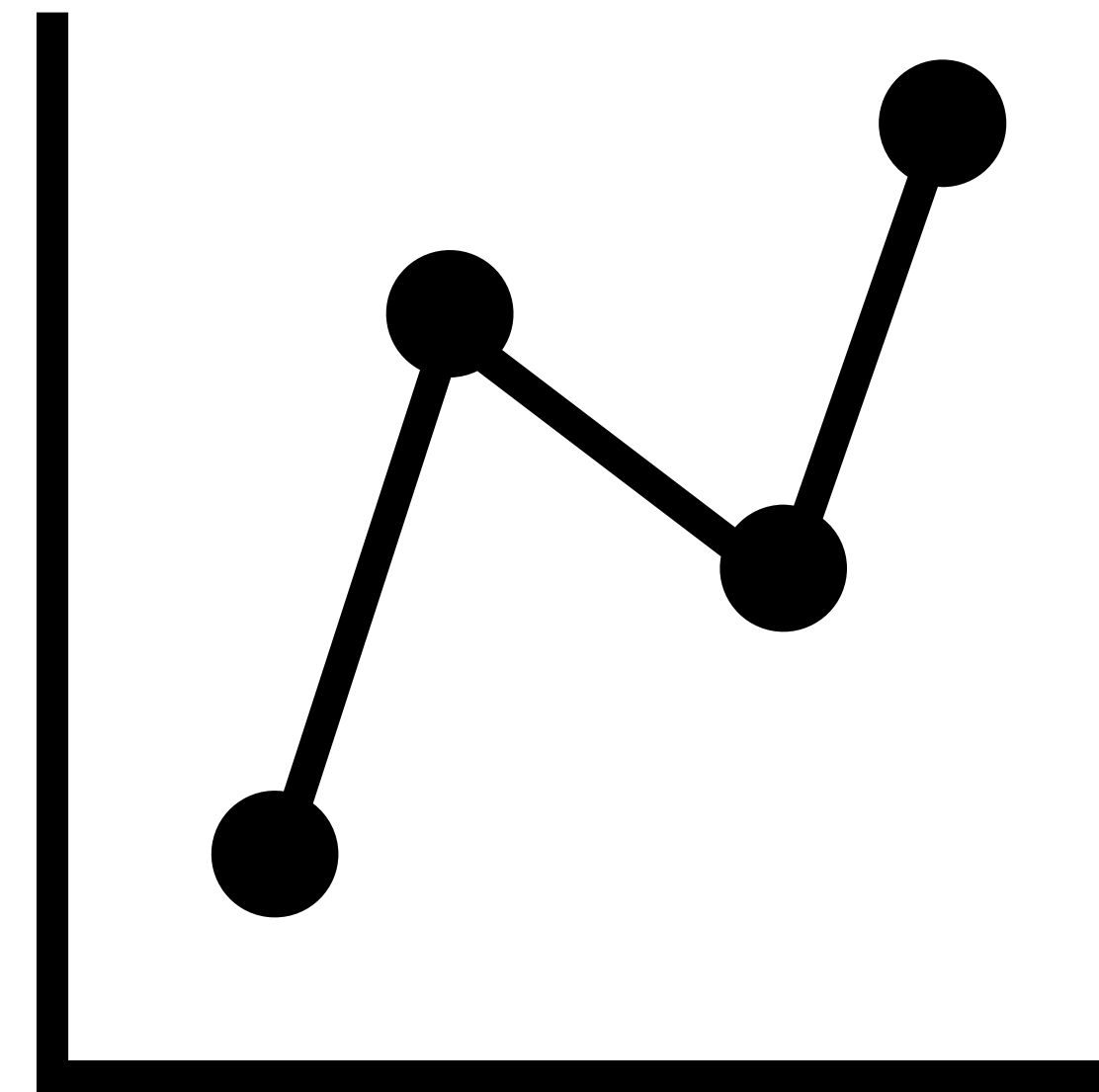
## SPSS v27

### Descriptive statistics:

- Prevalence of binge drinking
- Characteristics of participants

### Logistic Regression:

- Univariable analysis (unadjusted OR, 95% CI)
- Multivariable logistic regression
- Complete case analysis (n = 3968)
- Variables sequentially added by domain to model
- Final model: All independent variables (adjusted OR, 95% CI)
- $p < 0.05$  considered statistically significant



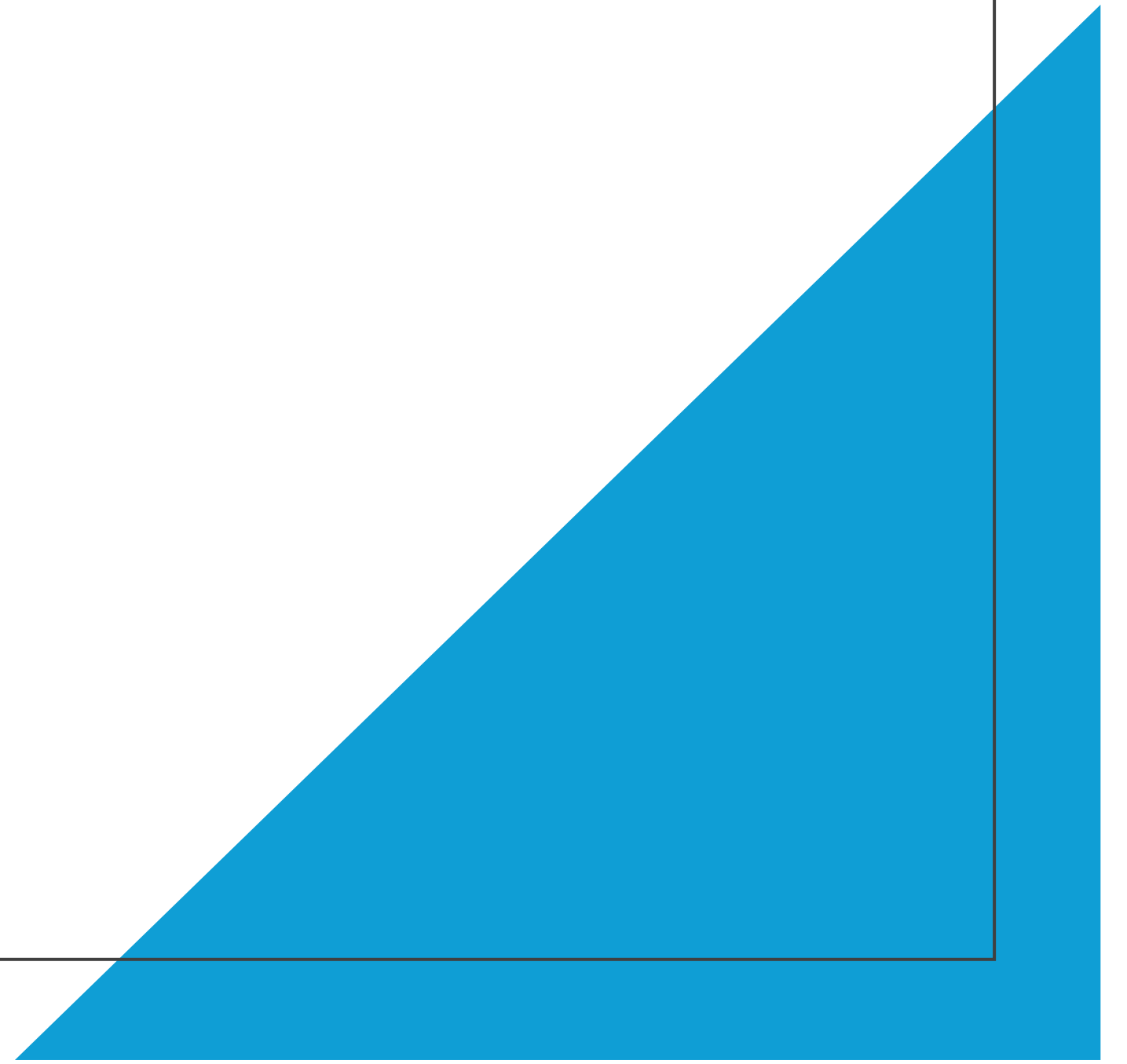
# Multivariable Logistic Regression Models\*

Model 1: Socio-demographic	Model 2: Individual	Model 3: Parents and family	Model 4: Peer Group	Model 5: School	Model 6 (Final Model): Leisure Time / Source of Alcohol in Local Community
Gender	Self-rated mental health	Parental supervision	Having friends who drink	School engagement	Team sport participation
Ethnicity	Current cigarette use	Parental drunkenness			Gets alcohol from friends
Maternal education	Current cannabis use	Parental reaction to adolescent drunkenness			Gets alcohol from another adult
		Gets alcohol from parents			

\*Variables added sequentially by domain to each model



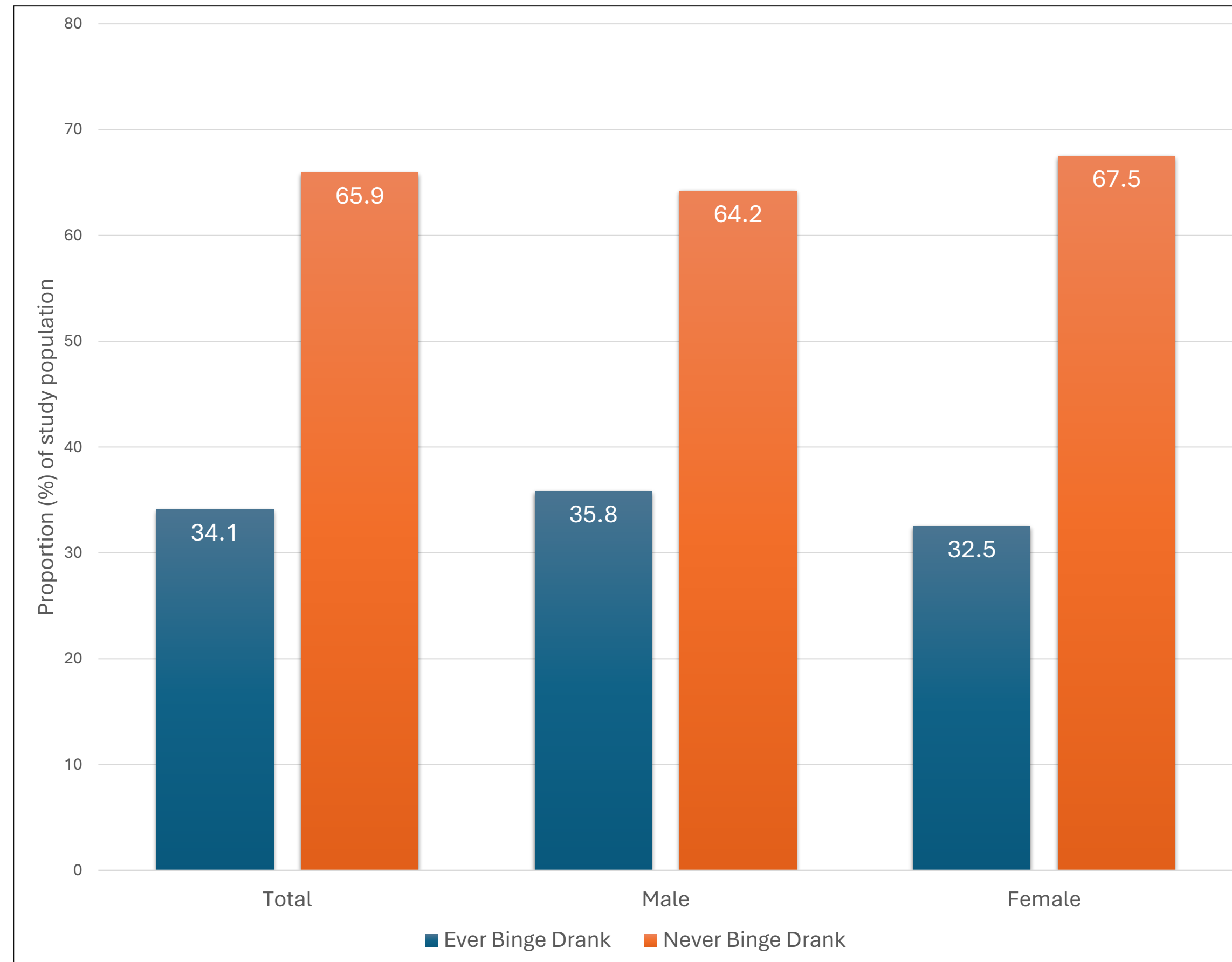
# Results



---

# Prevalence of Ever Binge Drinking

-  
Overall  
and  
by Gender



Valid n for binge drinking = 4389. Valid n for gender = 4394.

---

# Number of Binge Drinking Episodes

Number of Previous Binge Drinking Episodes	n	(%) of all participants	(%) of ever binge drinkers
0 times	2893	65.9	N/A
1-2 times	615	14.0	41.1
3-5 times	337	7.7	22.5
6-9 times	196	4.5	13.1
10-19 times	186	4.2	12.4
20-39 times	79	1.8	5.3
40 times or more	84	1.9	5.6



# Characteristics of Participants

## - Sociodemographic and Individual Factors

	Valid	
Variables	n	n (%)
<b>Sociodemographic</b>		
<b>Gender</b>	4395	
Male		2172 (49.4)
Female		2223 (50.6)
<b>Ethnicity</b>	4454	
White		4162 (93.4)
Non-White		292 (6.6)
<b>Maternal Education</b>	4429	
Tertiary		2320 (52.4)
Secondary		994 (22.4)
Primary		230 (5.2)
Didn't Know		885 (20.0)
<b>Individual</b>		
<b>Mental Health</b>	4446	
Very good/good		2101 (47.3)
Okay		1447 (32.5)
Bad/very bad		898 (20.2)
<b>Current cigarette use</b>	4434	
Yes		560 (12.6)
No		3874 (87.4)
<b>Current cannabis use</b>	4395	
Yes		291 (6.6)
No		4104 (93.4)

# Characteristics of Participants

## - Parental/Family and Peer Group Factors

	Valid	
Variables	n	n (%)
<b>Parents and family</b>		
<b>Parental supervision</b>	4419	
Median (IQR)		7 (2)
<b>Parental drunkenness</b>	4432	
At least weekly		704 (15.9)
No/less than weekly		3728 (84.1)
<b>Parental reaction to drunkenness</b>	4399	
A bit against/wouldn't care		1692 (38.5)
Totally against/against it		2707 (61.5)
<b>Gets alcohol from parents</b>	4396	
Never/rarely		3605 (82.0)
Sometimes/often/almost always		791 (18.0)
<b>Peer Group</b>		
<b>Having friends that drink alcohol</b>	4395	
Yes		3872 (88.1)
No		523 (11.9)

IQR: Interquartile range

# Characteristics of Participants

## School and Leisure time /Local Community Factors

	Valid	
Variables	n	n (%)
<b>School</b>		
<b>School engagement</b>	4353	
Mean (sd)		12.8 (2.9)
<b>Leisure Time/Source of Alcohol in Local Community</b>		
<b>Team sports participation</b>	4435	
Never		2014 (45.4)
1-4 times/week		2113 (47.6)
5 or more times/week		308 (7.0)
<b>Gets alcohol from friends</b>	4387	
Never/rarely		2928 (66.7)
Sometimes/often/almost always		1459 (33.3)
<b>Gets alcohol from another adult</b>	4392	
Never/rarely		3500 (79.7)
Sometimes/often/almost always		892 (20.3)

sd: Standard deviation



# Logistic Regression

## Final Model Results

Variable	Binge Drinking (Ever vs. Never)		
	Model 6 (n=3968)		
	aOR	95% CI	p-value
<b>Socio-demographic</b>			
<b>Gender</b>			
Male	Ref		
Female	<b>0.55</b>	<b>0.45-0.67</b>	<b>&lt;0.001</b>
<b>Ethnicity</b>			
White	Ref		
Non-White	<b>0.49</b>	<b>0.31-0.77</b>	<b>0.002</b>
<b>Maternal Education</b>			
Tertiary	Ref		
Secondary	1.06	0.85-1.32	0.594
Primary	1.03	0.67-1.57	0.895
Didn't Know	0.94	0.73-1.21	0.621

Logistic  
Regression  
—  
Final Model  
Results

Variable	Binge Drinking (Ever vs. Never)		
	Model 6 (n=3968)		
	aOR	95% CI	p-value
<u>Individual</u>			
<b>Mental Health</b>			
Very good/good	Ref		
Okay	0.90	0.73-1.10	0.285
<b>Bad/very bad</b>	<b>1.62</b>	<b>1.26-2.10</b>	<b>&lt;0.001</b>
<b>Current cigarette use</b>			
No	Ref		
<b>Yes</b>	<b>4.01</b>	<b>3.01-5.49</b>	<b>&lt;0.001</b>
<b>Current cannabis use</b>			
No	Ref		
<b>Yes</b>	<b>2.79</b>	<b>1.80-4.31</b>	<b>&lt;0.001</b>

# Logistic Regression

## Final Model Results

Variable	Binge Drinking (Ever vs. Never)		
	Model 6 (n=3968)		
	aOR	95% CI	p-value
<b>Parents and family</b>			
<b>Parental supervision</b>			
1 SD increase corresponds to	<b>0.80</b>	<b>0.73-0.88</b>	<b>&lt;0.001</b>
<b>Parental drunkenness</b>			
No/less than weekly	Ref		
At least weekly	1.25	0.98-1.59	0.07
<b>Parental reaction to drunkenness</b>			
A bit against/wouldn't care	Ref		
Totally against/against it	<b>0.51</b>	<b>0.42-0.61</b>	<b>&lt;0.001</b>
<b>Gets alcohol from parents</b>			
Never/rarely	Ref		
Sometimes/often/almost always	<b>1.79</b>	<b>1.42-2.25</b>	<b>&lt;0.001</b>

SD: Standard deviation

# Logistic Regression

## Final Model Results

Variable	Binge Drinking (Ever vs. Never)		
	Model 6 (n=3968)		
	aOR	95% CI	p-value
<u>Peer Group</u>			
Having friends that drink alcohol			
No	Ref		
Yes	<b>4.95</b>	<b>2.80-8.71</b>	<b>&lt;0.001</b>
<u>School</u>			
School Engagement			
1 SD increase corresponds to	<b>1.26</b>	<b>1.15-1.38</b>	<b>&lt;0.001</b>

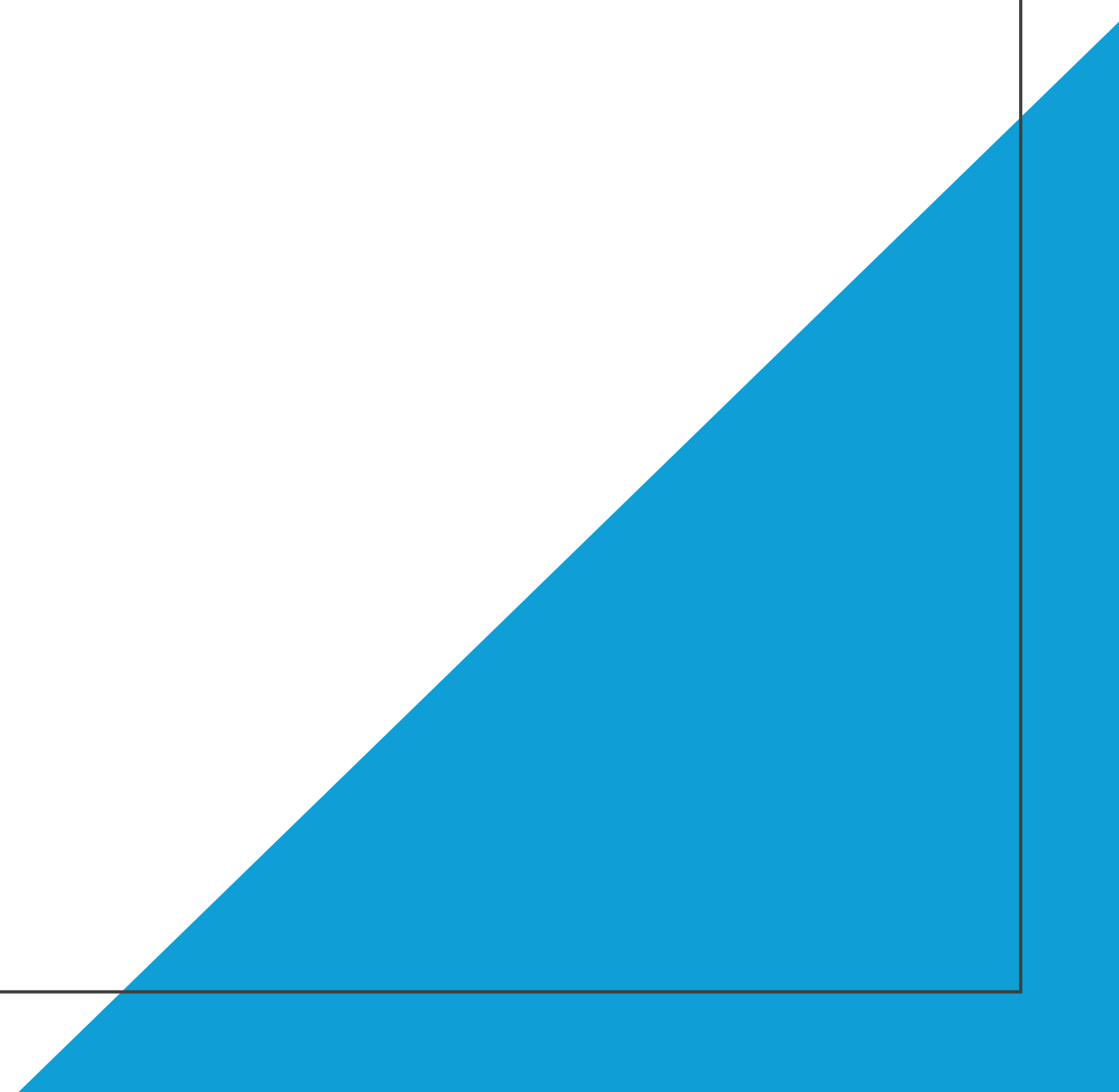
SD: Standard deviation



Logistic  
Regression  
–  
Final Model  
Results

Variable	Binge Drinking (Ever vs. Never)		
	Model 6 (n=3968)		
	aOR	95% CI	p-value
<u>Leisure Time/ Source of Alcohol in Local Community</u>			
<b>Team sports participation</b>			
Never	Ref		
1-4 times/week	<b>1.30</b>	<b>1.07-1.59</b>	<b>0.007</b>
5 or more times/week	<b>1.53</b>	<b>1.07-2.17</b>	<b>0.019</b>
<b>Gets alcohol from friends</b>			
Never/rarely	Ref		
Sometimes/often/almost always	<b>5.99</b>	<b>4.97-7.23</b>	<b>&lt;0.001</b>
<b>Gets alcohol from another adult</b>			
Never/rarely	Ref		
Sometimes/often/almost always	<b>4.19</b>	<b>3.36-5.22</b>	<b>&lt;0.001</b>

# Discussion



# Discussion – Key Findings

## Prevalence of Ever Binge Drinking

- Over one-third of participants (34.1%)
- Challenges with comparisons – variation in binge drinking definitions
- Planet Youth Survey 2018
  - 31.3% reported drinking  $\geq 5$  drinks in 1-hour period or less
- Suggests increasing prevalence of adolescent binge drinking in the West of Ireland
- ESPAD 2019
  - 32% 30-day prevalence of HED ( $\geq 5$  drinks in single occasion in past 30 days)
  - 34% average across the 35 countries included



# Discussion – Key Findings



## Protective Factors (4)

- **Female gender**
  - Substance use generally more common among males
- **Non-White ethnicity**
  - Understudied area – potential for differences in cultural norms/peer vs. family influence
- **Parental factors**
  - Supervision / Reaction to adolescent drunkenness
  - Consistent with international literature on parental factors from developed countries





# Discussion – Key Findings



## Risk Factors (9)

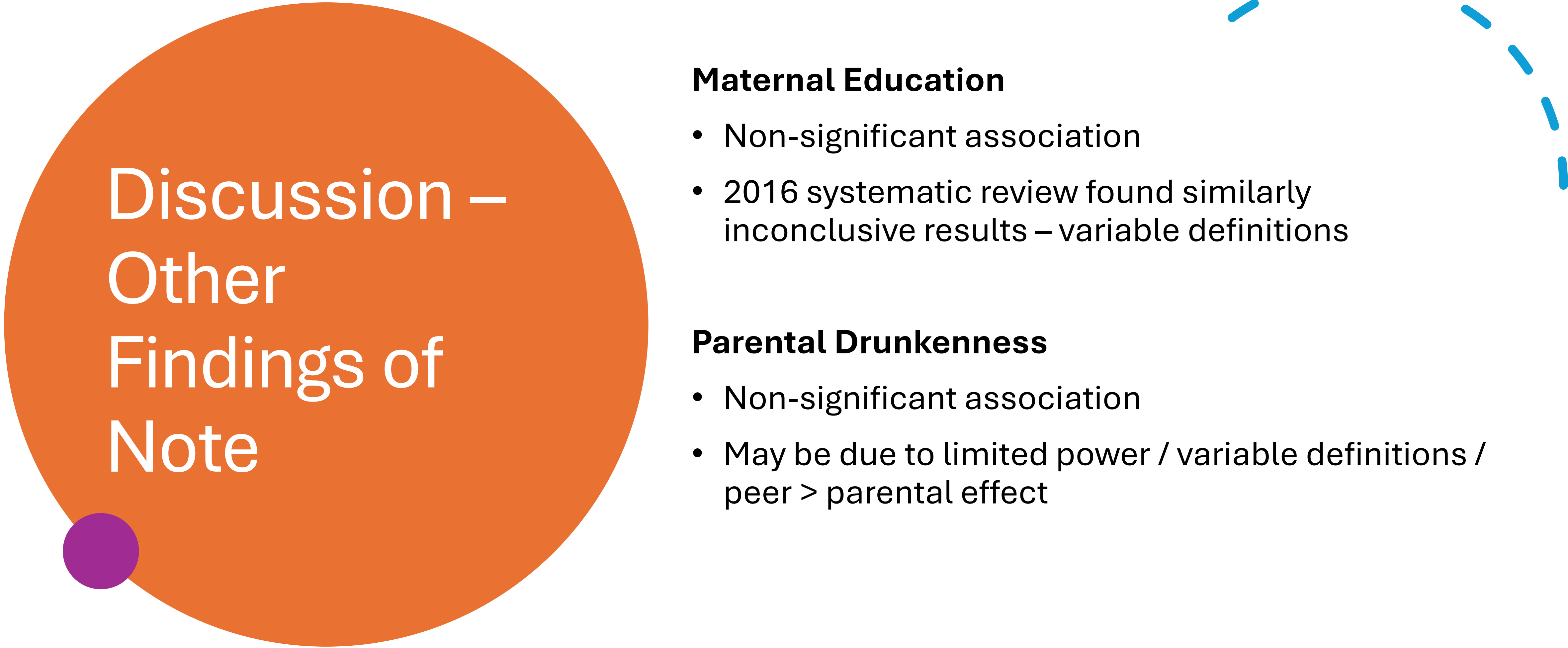
- **Bad/very bad mental health**
- **Current cigarette use**
- **Current cannabis use**
  - Supports existing cross-sectional literature but longitudinal studies needed
- **Sourcing alcohol from parents**
- **Having friends that drink alcohol**
  - Consistent with international literature – peer influence strongest



# Discussion – Key Findings

## Risk Factors (9)

- **School engagement**
  - Unexpected finding – several possible explanations
- **Team/club sports participation**
  - Warrants further exploration – may be other factors contributing
- **Getting alcohol from friends**
- **Getting alcohol from a non-parent adult**
  - Supportive of existing literature



## Discussion – Other Findings of Note

### **Maternal Education**

- Non-significant association
- 2016 systematic review found similarly inconclusive results – variable definitions

### **Parental Drunkenness**

- Non-significant association
- May be due to limited power / variable definitions / peer > parental effect

# Strengths and Limitations

## Strengths

- Large study population
- High response rates – representativeness
- Urban and rural populations included
- Addresses key public health issue and gap in Irish context

## Limitations

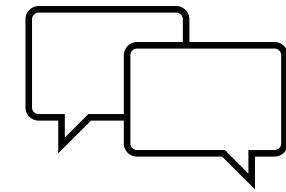
- Cross-sectional design - temporality
- Potential bias (selection, self-report, recall)
- Participants with missing data excluded
- Generalisability to other countries
- Potential for residual confounding





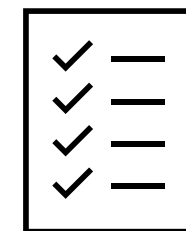
# Public Health Implications (*So What?*)

## **Inform Adolescents and Parents/Carers**



- Limited awareness among Irish population re: alcohol-related harms
- Tailored and multi-modal messaging needed to build on existing communications

## **Protect Adolescent Health**



- Wide range of acute and potentially long-term alcohol-related harms
- Preventable burden of harm to adolescent health
- Need for continued implementation of Public Health (Alcohol) Act 2018 - denormalization and delaying initiation of under-age alcohol use

## **Further Research Needed**

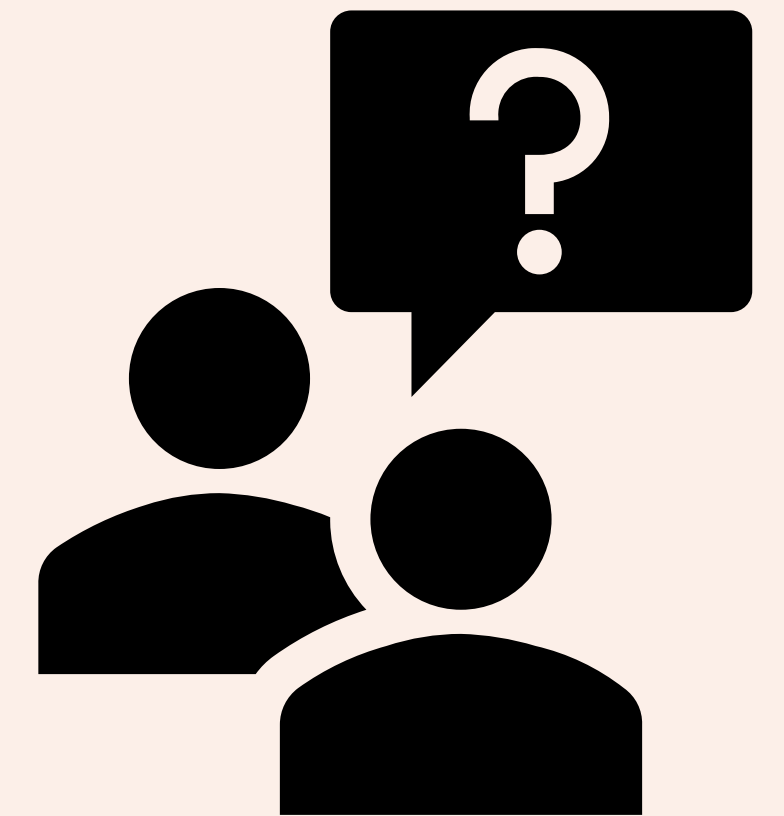


- Trends over time
- Sports participation and adolescent alcohol use
- Peer and cultural norms regarding alcohol use among adolescents

# Thank you!

## Acknowledgements:

- My co-authors
- Western Region Drug and Alcohol Taskforce – Planet Youth West Team
- HSE Alcohol Programme
- Today's Conference team!



# References

1. World Health Organization. Alcohol [Internet]. [cited 2021 Aug 21]. Available from: <https://www.who.int/news-room/fact-sheets/detail/alcohol>
2. O'Dwyer C, Mongan D, Doyle A, Galvin B. Alcohol consumption, alcohol-related harm and alcohol policy in Ireland. HRB Overview Series 11. Dublin: Health Research Board, 2021.
3. Health Research Board National Drugs Library. Annual alcohol consumption data 2022 [Internet]. [cited 2023 Sept 19]. Available from: <https://www.drugsandalcohol.ie/38504/#:~:text=In%202022%20alcohol%20consumption%20was,to%20be%20achieved%20by%202020.>
4. Department of Health. Healthy Ireland Survey 2022 [Internet]. [cited 2023 Sept 19]. Available from: <https://www.gov.ie/en/publication/f9e67-healthy-ireland-survey-2022/>
5. O'Dwyer C and Mongan D. Public awareness of alcohol-related health conditions in Ireland: findings from the Healthy Ireland Survey. Drugnet Ireland, Issue 70, Summer 2019, pp. 19-21. Available from: [https://www.drugsandalcohol.ie/31013/1/Drugnet\\_Ireland\\_Issue\\_70.pdf](https://www.drugsandalcohol.ie/31013/1/Drugnet_Ireland_Issue_70.pdf)
6. Degenhardt L, Stockings E, Patton G, Hall WD, Lynskey M. The increasing global health priority of substance use in young people. Lancet Psychiatry. 2016 Mar 1;3(3):251–64.
7. Alcohol Action Ireland. Alcohol Facts - Alcohol, children and young people [Internet]. [cited 2021 Aug 21]. Available from: <https://alcoholireland.ie/facts/childrenandyoungpeople/>
8. National University of Ireland Galway. Health Behaviour in School-Aged Children (HBSC) Ireland [Internet]. [cited 2021 Aug 21]. Available from: <http://www.nuigalway.ie/hbsc/>
9. Western Region Drug and Alcohol Taskforce/Planet Youth. Growing Up in the West [Internet]. [cited 2021 Aug 21]. Available from: <https://planetyouth.ie/>
10. The European School Survey Project on Alcohol and Other Drugs. ESPAD Report 2019 [Internet] [cited 2022 Jan 8]. Available from: <http://www.espad.org/espad-report-2019>