

How does area-level education relate to young people's drinking patterns in Chile? Findings from a national population substance use survey

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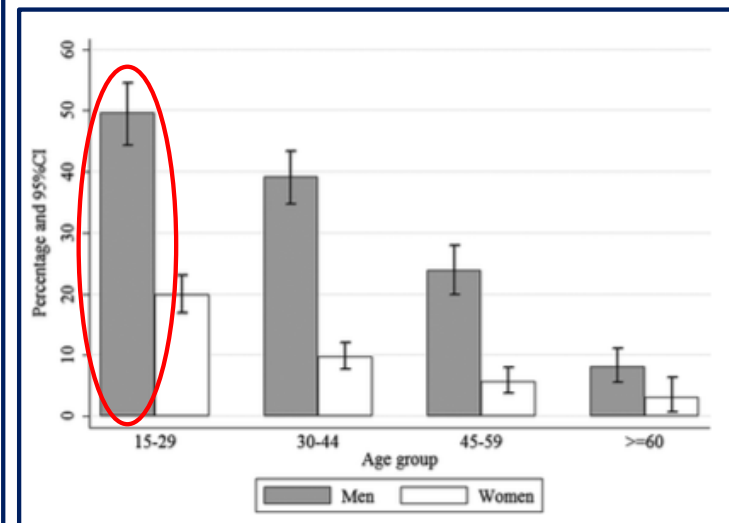
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Young people's alcohol use in Chile



Identification of upstream factors:
Interventions at area level could widely benefit young people and involve multiple social actors in reducing alcohol use and harm³

Percentage of deaths attributable to alcohol use by age and gender



Source: Castillo-Carniglia, A., Kaufman, J. S., & Pino, P. (2013).

Young people aged 15 to 24 reported the heaviest amount of alcohol consumed on a typical occasion (80 gr of pure alcohol)²

Chile

Economic growth, income inequality and socioeconomic segregation



School and residential socioeconomic segregation^{4,5}

*Uneven distribution of disadvantaged people across municipalities
Social exclusion of disadvantaged groups⁶*

Hypotheses

Among young people aged 18 to 25

- Drinking (vs. non-drinking) and frequent drinking (vs. infrequent) are positively associated with area-level education
- Heavy episodic drinking (once or more vs. never) is negatively associated with area-level education

Individual-level data

National General Population Substance Use Survey

Objective

- Aims to determine the magnitude and trends of substance use and the associated risk/protective factors

Representative

- Nationally representative sample

Age

- General population aged 12 to 64

Sampling design

- Complex survey design: multi-stage stratified cluster sampling
- Municipalities, census tracts and households

Sample size

- 2014: 19,512 2016: 19,147

Alcohol use measures

Among those reporting past-year alcohol use

Drinker status

Drinking vs. non-drinking

Have you ever consumed alcohol (beer, wine or spirits)?

Response options: yes/no

Frequency of drinking

Frequent vs. infrequent

How often do you drink alcohol?

Infrequent: never / once a month or less

Frequent: 2 to 4 times a month / 2 to 3 times a week / 4 or more times a week

Heavy episodic drinking

Once or more vs. never

How often have you consumed 6 or more drinks on a single occasion?

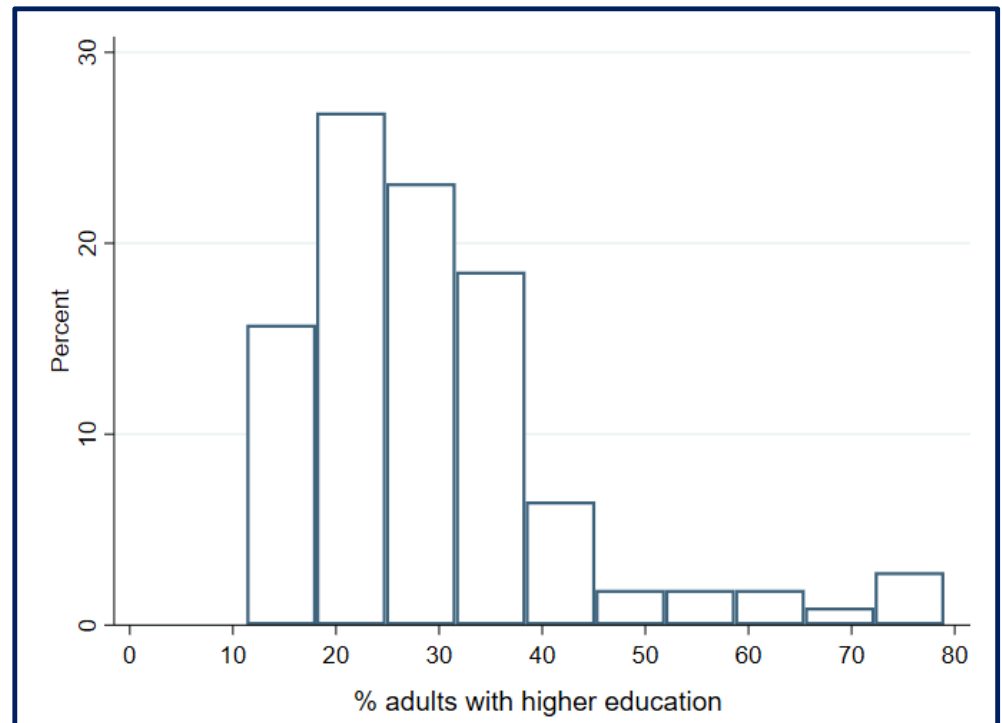
Never

Once or more: less than once a month, monthly, weekly and daily

Area-level education

- Area-level education was measured as the percentage of adults aged 25 and over with higher education in each municipality (district).
- Information was extracted from the National Census 2017
- Range: 11.3% – 79%

Distribution of surveyed municipalities according to the percentage of adults aged 25 and over with higher education



Municipalities=108

Analytical plan

Pooled data: N=5,847

- Complete cases analysis
- Drinker status: N=5,537, 95%

- Frequency of drinking and Heavy episodic drinking: N= 3,763, 96%

Multilevel modelling

- *Hierarchical structure of data*
- Individuals nested within municipalities

Multilevel logistic regression

- Drinker status: drinking vs. non-drinking
- Frequency of drinking: frequent vs. infrequent
- Heavy episodic drinking: once or more vs. never

Adjustment approach

- Employment status, marital status, head of household's education, self-rated health, gender, age, survey year

Drinker status

Drinking vs. non-drinking

N=5,537

	IQOR	95% CI
Area-level education	1.25	1.03,1.54
	OR	95% CI
Self-rated health	0.99	0.91,1.08
Marital status		
Single (ref)		
Married/cohabiting	1.08	0.89,1.32
Separated	0.65	0.36,1.17
Head of household's education		
Primary (ref)		
Secondary	1.13	0.94,1.36
Tertiary	1.59	1.27,1.99
Economic activity		
In employment (ref)		
Not in employment	0.75	0.63,0.88
Age	1.07	1.03,1.11
Women (vs. men)	0.71	0.61,0.83

Frequency of drinking

Frequent vs. infrequent

N=3,763

	IQOR	95% CI
Area-level education	1.20	1.08,1.33
	OR	95% CI
Self-rated health	0.99	0.91,1.02
Marital status		
Single (ref)		
Married/cohabiting	0.68	0.57,0.80
Separated	0.48	0.23,0.97
Head of household's education		
Primary (ref)		
Secondary	0.91	0.76,1.09
Tertiary	1.40	1.14,1.70
Economic activity		
In employment (ref)		
Not in employment	0.79	0.68,0.91
Age	1.05	1.01,1.08
Women (vs. men)	0.55	0.48,0.63

Heavy episodic drinking

Once or more vs. never

N=3,763

	IQOR	95% CI
Area-level education	1.14	1.01,1.27
	OR	95% CI
Self-rated health	1.01	1.001,1.01
Marital status		
Single (ref)		
Married/cohabiting	0.72	0.59,0.87
Separated	0.66	0.31,1.41
Head of household's education		
Primary (ref)		
Secondary	0.99	0.82,1.20
Tertiary	0.78	0.78,1.20
Economic activity		
Employed (ref)		
Non-employed	0.87	0.74,1.01
Age	1.02	0.98,1.05
Women (vs. men)	0.38	0.33,0.44

Conclusions

Frequent drinking was socioeconomically patterned at area level

- Socially advantaged areas: purchasing power and greater availability of social drinking settings⁷

Area-level education seems to be unrelated to being a drinker and heavy episodic drinking among young people

- Significant variation between municipalities in drinker status
- Lack of association might also relate to the definition of the area⁸

References

1. Castillo-Carniglia Á, Kaufman JS, Pino P. Alcohol-Attributable Mortality and Years of Potential Life Lost in Chile in 2009. *Alcohol Alcohol*. 2013;48(6):729-36.
2. Margozzini P, Sapag JC. El consumo riesgoso de alcohol en Chile: tareas pendientes y oportunidades para las políticas públicas [Harmful drinking in Chile: tasks and opportunities for public policy]. *Temas de la Agenda Pública*. 2015;10(75):1-15.
3. Jackson N, Denny S, Ameratunga S. Social and socio-demographic neighborhood effects on adolescent alcohol use: A systematic review of multi-level studies. *Soc Sci Med*. 2014;115:10-20.
4. Organisation for Economic Co-operation and Development. (2012). *OECD Economic Survey: Chile 2012 OECD Economic survey*: OECD Publishing.
5. Larrañaga, O., & Sanhueza, C. (2007). *Residential segregation effects on Poor's opportunities in Chile*. Santiago, Chile: Departamento de Economía, Universidad de Chile.
6. Valenzuela, J. P., Bellei, C., & De Los Ríos, D. (2010). Segregación Escolar en Chile. In S. Martinic & G. Elacqua (Eds.), *¿ Fin del ciclo? Cambios en la gobernanza del sistema educativo* (pp. 209-229). Santiago de Chile: UNESCO and Pontificia Universidad Católica de Chile.
7. Karriker-Jaffe KJ. Areas of disadvantage: a systematic review of effects of area-level socioeconomic status on substance use outcomes. *Drug Alcohol Rev*. 2011;30(1):84-95.
8. Diez Roux AV, Mair C. Neighborhoods and health. *Ann N Y Acad Sci*. 2010;1186:125-45.

Thanks