



HHS Public Access

Author manuscript

J Adolesc Health. Author manuscript; available in PMC 2024 November 01.

Published in final edited form as:

J Adolesc Health. 2023 November ; 73(5): 961–964. doi:10.1016/j.jadohealth.2023.05.028.

Associations between parental drinking and alcohol use among their adolescent children: Findings from a national survey of U.S. parent-child dyads

Michele K. Bohm, MPH^a, Marissa B. Esser, PhD^a

^aDivision of Population Health, National Center for Chronic Disease Prevention and Health Promotion, Centers for Disease Control and Prevention, 4770 Buford Hwy NE, MS-S107-6, Atlanta, GA 30341 USA

Abstract

Purpose: Underage drinking is common and costly. This study examined associations between parent and child drinking using recent U.S. national survey data.

Method: We analyzed responses of 740 parent-child dyads from 2020 SummerStyles and YouthStyles surveys. Parents and their adolescent children answered questions about past 30-day alcohol use. We estimated prevalence of adolescent drinking and explored differences by sociodemographics. A multivariable logistic regression model assessed whether parents' drinking behaviors were associated with drinking among their children.

Results: Overall, 6.6% of adolescents drank alcohol, with no significant differences by sociodemographics. Adolescents whose parents drank frequently (≥ 5 days/month), or binge drank, had significantly higher odds of drinking than adolescents whose parents did not drink or did not binge drink, respectively.

Conclusions: Parents could drink less to reduce the likelihood of drinking among their children. Implementation of effective population-level strategies (e.g., increasing alcohol taxes, regulating alcohol sales) can reduce excessive drinking among both adults and adolescents.

Implications and Contributions: This study analyzed parent-child dyad data from a recent U.S. national survey. Parent binge drinking or drinking more than weekly, on average, were associated with alcohol use among their children. Parents could drink less to reduce alcohol-related harms among adolescents. Population-level strategies can complement other underage drinking prevention efforts.

Corresponding author (current address): Michele K. Bohm, MPH, Policy Analysis and Engagement Office, Office of Policy, Performance, and Evaluation, Centers for Disease Control and Prevention, Phone: 1-770-488-3928; mbohm@cdc.gov, 1600 Clifton Road, NE Mailstop H 21-11, Atlanta, Georgia 30329 USA, Coauthor: Marissa B. Esser, PhD, messer@cdc.gov.

Disclaimer: The findings and conclusions in this article are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention.

Conflicts of interest: The authors have no potential, perceived, or real conflicts of interest. The authors wrote the first draft themselves.

The findings of this study were presented at a conference, Alcohol Policy 19, on September 14, 2022 in Arlington, VA.

Keywords

alcohol; underage drinking; parents; youth; binge drinking; YouthStyles

Underage drinking in the U.S. remains common and costly, increasing the risk for injuries, suicide, and violence [1,2]. During 2015–2019, excessive alcohol use was responsible for nearly 4,000 deaths annually among individuals younger than 21 [3].

Parents' permissiveness toward alcohol influences whether their children drink. Adolescents are less likely to drink when parents have strict rules against drinking or communicate cautionary messages [4]. In contrast, access to substances in the home, parents allowing children to drink, or parental provision of alcohol are associated with earlier initiation and alcohol problems [5,6,7].

Underage drinking is also associated with adult drinking, even at levels below those indicative of alcohol use disorder [8,9]. A systematic review based mostly on older data from specific populations, individual jurisdictions, or from outside the U.S. concluded that adolescent alcohol use is associated with parental drinking [10]. However, parent and child drinking has not been assessed using recent data from the overall U.S. population. There are disparities in recent declines in adolescent alcohol use [11]. The alcohol regulatory environment and marketplace are changing. Additionally, adolescents who use alcohol commonly use other substances, creating new challenges given an increasingly unpredictable drug supply [11]. Understanding parental influence on children's alcohol use in a more current U.S. context can guide public health prevention efforts. Our study examined this association using recent national survey data.

Methods

We analyzed data from 740 parent-child dyads in the June 2020 SummerStyles and YouthStyles surveys, which are representative of the non-institutionalized U.S. population. An adult answered the first survey and, if applicable, one of their children ages 12–17 answered the same questions in the second survey. More detailed information on methodology and weighting have been previously published [12]. Proprietary data were licensed by the company that conducts the surveys (Porter Novelli) to the Centers for Disease Control and Prevention (CDC). This study was exempt from institutional review board approval because CDC did not engage in human subjects research and personal identifiers were not included in the licensed data file.

We developed alcohol-related questions for the surveys, including validated consumption questions used previously in national surveys [13]. Parents and adolescents reported frequency of past 30-day alcohol use, including binge drinking, i.e., having at least 4 (female) or 5 (male) drinks within a couple of hours. Parents' alcohol use was categorized as frequent (> 5 days/month), weekly or less, on average (1–4 days/month) or no drinking. Parent binge drinking was dichotomized as any (> 1 binge drinking days/month) vs. no binge drinking. Our only outcome measure was adolescent alcohol use, dichotomized as any (> 1 days/month) vs. no drinking. Respondents also indicated their agreement with the statement,

“It is acceptable to binge drink during a social occasion, like a party, wedding, or sports game.” We created a dichotomous variable to indicate whether parents held permissive attitudes, i.e., agreed or strongly agreed that binge drinking is sometimes acceptable.

We calculated the weighted distribution of respondent sociodemographic characteristics and percentages overall who reported any alcohol use. We used the Rao-Scott chi-square goodness-of-fit test to assess differences in adolescent drinking by parent and child sociodemographics. Next, we used a multivariable logistic regression model to estimate associations between any adolescent alcohol consumption (outcome) and parents’ frequency of alcohol use, binge drinking, and binge drinking attitude (exposures). We calculated adjusted odds ratios (AOR) and 95% confidence intervals (CIs), adjusting for child age, sex, and race/ethnicity. Statistically significant findings were determined at $p < 0.05$. All analyses applied the Styles youth weights and used SAS software version 9.4 (SAS Institute).

Results

Overall, 6.6% of adolescents reported alcohol use, with no significant differences by either parent or child sociodemographics (Table 1). More than half of parents reported past 30-day alcohol use (53.8%) and 27.2% reported they drank frequently (on 5 days/month) and 26.6% reported they drank weekly or less, on average. Over a third (35.3%) who drank reported binge drinking (Table 2). Approximately one in five parents (20.2%) held a permissive attitude toward binge drinking. Alcohol use was significantly more prevalent among adolescents whose parents drank frequently, binge drank, or had permissive attitudes (data not shown). However, only parents’ frequent drinking and binge drinking remained significant after adjusting for covariates in the model. Adolescents had approximately four times greater odds of drinking if their parents reported either frequent drinking (AOR=4.1) or binge drinking (AOR=3.7) than adolescents whose parents did not drink or drank but did not binge drink, respectively.

Discussion

Using a national U.S. sample, we found that adolescents whose parents binge drank or drank more than weekly, on average, regardless of whether they binge drank, were more likely to drink. Our results provide further evidence that underage drinking is correlated with drinking by adults, including parents [14]. Parent-based interventions that promote monitoring, strong communication and emotional support are effective [15]. Population-level strategies can also reduce excessive drinking among both adults and adolescents; these include increasing alcohol taxes, enforcing laws prohibiting sales to minors, and maintaining limits on when and where alcohol is sold [16]. Some of these strategies reduce the availability and accessibility of alcohol specifically for adolescents. Others may operate through pathways of adult influence, creating healthier policy environments and parental norms, both of which are related to underage drinking [17].

This study is subject to limitations. The prevalence of adolescent alcohol use is lower than estimates from other studies conducted in prior years [1], which may be due to a smaller sample size or actual declines in alcohol use during the COVID-19 pandemic

because of fewer opportunities for social interactions and greater parental supervision [11]. Differences in survey administration, confidentiality protocols, and proximity of parents while completing the survey may also play a role. Our analysis could not control for all confounding factors, including genetics. Self-report of substance use is subject to social desirability bias. Finally, no causal inferences can be made from these cross-sectional data. Nonetheless, our findings suggest there is value in studying this relationship further using data from larger nationally representative samples with more available covariates to better understand the complex interactions between alcohol use norms among parents and their children's behaviors.

The findings of this national study suggest that if parents drink less often and avoid binge drinking, it could reduce the likelihood of underage drinking and associated alcohol-related harms. Evidence-based population-level interventions can prevent both excessive drinking among adults and underage drinking.

Acknowledgements:

We wish to thank Mr. Fred Fridinger, Dr. Kurt Greenlund, Ms. Jessica Mesnick, and Dr. Deanne Weber for their support during preparation of this manuscript. All who contributed significantly to this manuscript have been listed.

Funding:

This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

Abbreviations:

CDC	Centers for Disease Control and Prevention
CI	Confidence interval
AOR	Adjusted odds ratio
CPSTF	Community Preventive Services Task Force

References

- [1]. Center for Behavioral Health Statistics and Quality. Results from the 2020 National Survey on Drug Use and Health: Detailed Tables. Rockville (MD): Substance Abuse and Mental Health Services Administration, 2021. Available at <https://www.samhsa.gov/data/>. Accessed January 25, 2023.
- [2]. Centers for Disease Control and Prevention. Underage Drinking. Available at <https://www.cdc.gov/alcohol/fact-sheets/underage-drinking.htm>. Accessed January 25, 2023.
- [3]. Centers for Disease Control and Prevention. Alcohol-Related Disease Impact (ARDI) application. Available at <https://www.cdc.gov/ardi>. Accessed January 13, 2023.
- [4]. Cox MJ, Janssen T, Lopez-Vergara H, Barnett NP, Jackson KM. Parental drinking as context for parental socialization of adolescent alcohol use. *J Adolesc Health*. 2018;69(1):22–32. Available at <https://dx.doi.org/10.1016%2Fj.adolescence.2018.08.009>. Accessed January 23, 2023.
- [5]. Komro KA, Maldonado-Molina MM, Tobler AL, Bonds JR, Muller KE. Effects of home access and availability of alcohol on young adolescents' alcohol use. *Addiction*. 2007;102(10):1597–608. Available at 10.1111/j.1360-0443.2007.01941.x. Accessed January 23, 2023. [PubMed: 17854336]

- [6]. Staff J, Maggs J. Parents allowing drinking is associated with adolescents' heavy alcohol use. *Alcohol Clin Exp Res*. 2020;44(1):188–195. Available at <https://dx.doi.org/10.1111%2Facer.14224>. Accessed January 25, 2023. [PubMed: 31750959]
- [7]. Kaynak Ö, Winters KC, Cacciola J, Kirby KC, Arria AM. Providing alcohol for underage youth: What messages should we be sending parents? *J Stud Alcohol Drugs*. 2014;75(4):590–605. Available at 10.15288/jsad.2014.75.590. Accessed January 25, 2023. [PubMed: 24988258]
- [8]. Bendtsen P, Damsgaard MT, Huckle T, Casswell S, Kuntsche E, Arnold P, et al. Adolescent alcohol use: a reflection of national drinking patterns and policy? *Addiction*. 2014;109(11):1857–68. Available at 10.1111/add.12681. Accessed January 25, 2023. [PubMed: 25041190]
- [9]. Elam KK, Sternberg A, Waddell JT, Blake AJ, Chassin L. Mother and father prescription opioid misuse, alcohol use disorder, and parent knowledge in pathways to adolescent alcohol use. *J Youth Adolesc*. 2020;49:1663–73. Available at 10.1007/s10964-02001266-2. Accessed January 25, 2023. [PubMed: 32542579]
- [10]. Yap MBH, Cheong TWK, Zaravinos-Tsakos F, Lubman DI, Jorm AF. Modifiable parenting factors associated with adolescent alcohol misuse; a systematic review and meta-analysis of longitudinal studies. *Addiction*. 2017;112(7):1142–62. Available at 10.1111/add.13785. Accessed January 25, 2023. [PubMed: 28178373]
- [11]. Hoots BE, Li J, Hertz MF, et al. Alcohol and other substance use before and during the COVID-19 pandemic among high school students — Youth Risk Behavior Survey, United States, 2021. *MMWR Suppl*. 2023;72(Suppl-1):84–92. Available at 10.15585/mmwr.su7201a10. Accessed April 28, 2023. [PubMed: 37104552]
- [12]. Novelli Porter. Porter Novelli Styles: ConsumerStyles & YouthStyles. Available at <https://styles.porternovelli.com/consumer-youthstyles/>. Accessed January 26, 2023.
- [13]. Behavioral Risk Factor Surveillance System Survey Questionnaire. Atlanta (GA): U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, 2020. Available at <https://www.cdc.gov/brfss/questionnaires/index.htm>. Accessed January 26, 2023.
- [14]. Nelson TF, Naimi TS, Brewer RD, Wechsler H. The state sets the rate: The relationship among state-specific college binge drinking, state binge drinking rates, and selected state alcohol control policies. *Am J Public Health*. 2005;95(3):441–6. Available at 10.2105/ajph.2004.043810. Accessed January 26, 2023. [PubMed: 15727974]
- [15]. Bo A, Hai AH, Jaccard J. Parent-based interventions on adolescent alcohol use outcomes: A systematic review and meta-analysis. *Drug Alcohol Depend*. 2018;191:98–109. Available at 10.1016/j.drugalcdep.2018.05.031. Accessed January 26, 2023. [PubMed: 30096640]
- [16]. Centers for Disease Control and Prevention. Preventing Excessive Alcohol Use. Available at <https://www.cdc.gov/alcohol/fact-sheets/prevention.htm>. Accessed January 26, 2023.
- [17]. Xuan Z, Blanchette JG, Nelson TF, Nguyen TH, Hadland SE, Oussayef NL, et al. (2015). Youth drinking in the United States: Relationships with alcohol policies and adult drinking. *Pediatrics*. 2015;136(1):18–27. Available at 10.1542/peds.2015-0537. Accessed January 26, 2023. [PubMed: 26034246]

Table 1.

Select sociodemographic characteristics and prevalence of any reported alcohol use in the past 30 days among parent-child^a dyads, SummerStyles and YouthStyles, 2020.

Characteristic	Unweighted no. (weighted %)
Total	740
Adolescent child sex	
Male	368 (51.1)
Female	372 (48.9)
Adolescent child race/ethnicity	
White, non-Hispanic	475 (53.2)
Black, non-Hispanic	52 (12.2)
Other, non-Hispanic	91 (10.1)
Hispanic	122 (24.5)
Parent sex	
Male	298 (35.7)
Female	442 (64.3)
Parent race/ethnicity	
White, non-Hispanic	532 (59.5)
Black, non-Hispanic	61 (13.4)
Other, non-Hispanic	60 (7.8)
Hispanic	87 (19.4)
Parent education	
Less than high school	18 (5.9)
High school	130 (20.7)
Some college	229 (32.4)
Bachelor's degree or higher	363 (41.0)
Annual household income	
<\$25,000	52 (10.4)
\$25,000–\$49,999	101 (16.5)
\$50,000–\$74,999	136 (18.3)
\$75,000	451 (54.8)
Region^b	
Northeast	132 (15.7)
Midwest	177 (22.7)
South	267 (38.4)
West	164 (23.1)
Adolescent child alcohol use	51 (6.6)
Parent alcohol use	406 (53.8)

^a Adolescent children ages 12–17 years; median age = 15 years.

^b Regions were based on U.S. Census Bureau definitions

(https://www2.census.gov/geo/pdfs/maps-data/maps/reference/us_regdiv.pdf)

Table 2.

Parent alcohol consumption behaviors and binge drinking attitude and the association with past 30-day adolescent child alcohol consumption, SummerStyles and YouthStyles, 2020.

	Parents		Adolescent children with past 30-day alcohol use	
	Unweighted no. (weighted %)	AOR ^a	(95% CI)	p-value ^d
Frequency of parent drinking in the past 30 days				
Frequent drinking (≥ 5 days/month)	216 (27.2)	4.06	(1.28–12.91)	0.018 ^d
Weekly drinking or less, on average (1–4 days/month)	190 (26.6)	2.49	(0.67–9.21)	0.172
No drinking	334 (46.2)	1.00	Reference	
Binge drinking among parents who drank in the past 30 days				
1 Binge drinking ^b days/month	133 (35.3)	3.71	(1.62–8.50)	0.002 ^d
No binge drinking	273 (64.7)	1.00	Reference	
Binge drinking attitude among parents				
<i>It is acceptable to binge drink during a social occasion, like a party, wedding, or sports game.</i>				
“Agree” or “Strongly agree”	149 (20.2)	1.42	(0.65–3.14)	0.381
“Neither,” “Disagree,” or “Strongly disagree”	591 (79.8)	1.00	Reference	

Abbreviations: AOR = adjusted odds ratio; CI = confidence interval

^aOne multivariable logistic regression model was analyzed. In addition to variables listed in table (parents’ frequency of drinking, binge drinking, and binge drinking attitude), the model also adjusted for adolescent child age, sex, and race/ethnicity.

^bBinge drinking was defined as consuming ≥ 5 drinks for males or ≥ 4 drinks for females within a couple of hours during the past 30 days.

^cNeither agree nor disagree.

^dp <0.05.