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Parents Allowing Drinking is Associated with Adolescents' Heavy Alcohol Use

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Abstract

Background.—Using intergenerational prospective data from the Millennium Cohort Study (MCS), we examine whether parents allowing 14-year-olds to drink alcohol is associated with greater likelihood of early adolescents' heavy episodic drinking (i.e., lifetime, rapid escalation from first drink, and frequent past-year), beyond shared risk factors for parental alcohol permissiveness and adolescent alcohol use.

Methods.—The MCS is a unique, contemporary, nationally-representative study with mother, father, and child data from infancy through age 14 years ($n=11,485$ children and their parents). In a series of multivariate logistic regressions, we estimated whether teenagers whose parents allowed them to drink alcohol ($>1,700$ parents said “yes”) faced an elevated likelihood of heavy alcohol use at age 14, controlling for a large host of likely child and parent confounders measured when children were age 11. To further assess plausible intergenerational associations of parental alcohol permissiveness and offspring heavy alcohol use, Coarsened Exact Matching (CEM) was used to match 14-year-olds whose parents allowed them to drink alcohol with teens whose parents did not allow them to drink on these childhood antecedent variables.

Results.—Adolescents whose parents allowed them to drink had higher odds of heavy drinking (Odds Ratio=2.40; 95% Confidence Interval=1.96 to 2.94), rapidly escalating from initiation to heavy drinking (OR=1.94; CI=1.52 to 2.49), and frequent heavy drinking (OR=2.32; 1.73 to 3.09), beyond child and parent confounders and using CEM methods.

Conclusions.—Adolescents who were allowed to drink were more likely to have transitioned quickly from their first drink to consuming 5 or more drinks at one time and to drinking heavily 3 or more times in the past year. Given well-documented harms of adolescent heavy drinking, these results do not support the idea that parents allowing children to drink alcohol inoculates them against alcohol misuse.

Keywords

Adolescent alcohol use; Adolescent heavy episodic drinking; Parents allow drinking; Parental alcohol permissiveness; Intergenerational research

INTRODUCTION

Adolescence is the key period for initiation and escalation of alcohol use (Currie et al. 2012; Donovan 2007; Faden 2006; Maggs et al. 2015; Nelson & Wittchen 1998). Similar average initiation ages (Vega et al., 2002) and underage drinking rates (Hingson et al., 2004) are observed in international comparisons despite variation in legal purchase ages and cultural norms regarding alcohol use. Acute and longer-term harms of adolescent drinking (and particularly heavy drinking) are well documented, including academic failure; problem behavior; illicit drug use; motor vehicle accidents; neurocognitive and immune functioning decrements; alcohol dependence; suicide; and premature death (Department of Health and Human Services 2011; Ellickson et al. 2003; Hingson et al. 2008; 2009; Lim et al. 2012; Rehm et al. 2009; Spear 2003; Staff et al. 2016; Zeigler et al. 2005).

Although most countries have minimum purchase age laws and other policies to prevent early drinking (WHO 2018) and risks are well publicized, many parents permit drinking in adolescence (Donovan & Molina 2008; Jackson et al. 1999). Diverse underlying rationales include teaching responsible use; avoiding the appeal of forbidden fruit; and believing teenage drinking is inevitable (Jackson et al. 2012; Jones & Francis 2015; Kaynak et al. 2014; Odgers et al. 2008; Van der Vorst et al. 2006). Intergenerational research suggests that White, college educated, and employed mothers, as well as heavier drinking parents, have more permissive attitudes and behaviors regarding child and adolescent alcohol use (Jackson et al. 2012; Ennett et al. 2016; Maggs & Staff 2018). Child externalizing behavior also predicts parents supplying sips of alcohol (Wadolowski et al. 2016), suggesting that difficult-to-parent children may, over time, kindle parent permissiveness (Clark et al. 2008).

Greater parent permissibility about alcohol is linked to earlier initiation and heavier drinking in adolescence (Kaynak et al. 2014; Pape et al. 2015; Van der Vorst et al. 2006). However, early childhood risk and protective factors may also underlie these observed associations. Evidence for a detrimental impact of early alcohol initiation has been questioned (Kuntsche et al. 2013; Maimaris & McCambridge 2014); indeed some parents and researchers doubt whether delaying initiation is even important (American Medical Association 2005; Rossow & Kuntsche 2013). Determining whether purported harms of parents allowing adolescents to drink represent spurious selection effects (e.g., due to early family or child risk factors) requires either experimental data (Ennett et al. 2016) or prospective studies beginning in early childhood (Masten et al. 2008). Likely parent confounders include parents' heavy drinking, *general* permissiveness, and family sociodemographics (Baumrind 1991; Kaynak et al. 2014; Levitt & Cooper 2015). Likely child confounders include externalizing behaviors, alcohol expectancies, peer drinking, and early alcohol initiation (Maggs & Staff 2018; Wadolowski et al. 2016). That is, parent and child selection effects may underlie both parents' allowing drinking and adolescent alcohol use (Clark et al. 2008; Maggs & Schulenberg 2005; Rothman et al. 2008). In light of potentially large selection effects, prospective data on risk factors are needed to answer key questions about negative sequelae of parents allowing drinking (Chassin et al. 2015; Kaynak et al. 2014).

Using multi-method intergenerational data collected prospectively from parents and children from infancy to age 14 years in the nationally-representative Millennium Cohort Study

(MCS), in a series of logistic regression models, we examined whether parents allowing drinking is associated with heavy drinking, rapid escalation from initiation to heavy drinking, and frequent heavy drinking at age 14, beyond the impact of parent and child selection influences. We then used a coarsened exact matching algorithm (CEM; Iacus et al. 2012) to match “treated”—14-year-olds whose parents allowed them to drink alcohol—with “untreated” 14-year-olds whose parents did not allow them to drink who were similar on the covariates assessing the parent and child risk factors. When treated and untreated teenagers are hypothesized to be very different from each other in terms of pre-existing characteristics (Baumrind 1991; Levitt & Cooper 2015; Kaynak et al. 2014; Maggs & Staff 2018; Wadolowski et al. 2016), and when these prior differences can be captured by a set of observed covariates (Iacus et al. 2012), CEM reduces bias in the associations between adolescent heavy episodic drinking and parental alcohol permissiveness.

METHOD

Data

The multidisciplinary, national, longitudinal MCS collects multi-method, multi-informant data from UK children and their parents; schools; and health professionals (Centre for Longitudinal Studies 2018). The MCS targeted 9-month-olds born Sept 1, 2000 through Jan 11, 2002 from a random sample of electoral wards (Dex & Joshi 2005; Plewis & Ketende 2006). Based on census data, electoral wards with high child poverty, and (in England) areas with high numbers of Asian and Black families, were over-sampled. In total, 18,552 nine-month-olds participated (91% of target; 52% female, 18% racial/ethnic minority; Plewis 2007). At modal age 3 years, 1,389 new families who met sampling criteria but registered late for universal Child Benefit were added. At modal ages 3, 5, 7, 11, and 14, professional interviewers conducted follow-up in-home interviews with parents and children, and tablets were used in private to complete sensitive questions. The most recent interviews used in this paper were conducted from January 2015 to April 2016, when most (~76%) of the youth were age 14 (about 24% were age 13 and less than 1% were 15). At modal age 14, a total of 11,726 children and parents participated, representing 76% of eligible children who had not emigrated, permanently withdrawn, or died (Fitzsimons 2017). Age 14 attrition was greater among boys, Whites, and more disadvantaged youth (Mostafa & Ploubidis 2017). In 241 families, parental responses could not be matched across waves, reducing our analysis sample to 11,485 parents and children. Ethical approval for the MCS data collected was obtained by the Centre for Longitudinal Studies from the Yorkshire and Humber REC (Ref: 11/YH/0203) for age 11 and the National Research Ethics Service REC London – Central (Ref: 13/LO/1786) for age 14. Approval to conduct analyses on de-identified data was provided by the Pennsylvania State University Institutional Review Board.

Analyses used weights to account for nonrandom sample attrition (based on the inverse of predicted probabilities from logit models predicting retention) and unequal probabilities of sample inclusion in infancy (due to the stratified design and non-response). To account for item missing data (ranging from 0% for gender and age to 15% for parental alcohol use and adolescent positive alcohol expectancies), we used chain regressions to impute 25 datasets (Johnson & Young 2011), and adjusted estimates and standard errors for the imputed data

and complex survey design using the “MI” and “SVY” commands in Stata version 15 (StataCorp 2017).

Measures

To assess heavy alcohol use, at modal ages 11 and 14, the MCS children were asked if they had “ever had an alcoholic drink? That is more than a few sips,” and “Have you ever had five or more alcoholic drinks at a time? A drink is half a pint of lager, beer or cider, one alcopop, a small glass of wine, or a measure of spirits,” followed by questions about their age at the time, in years. Approximately half of MCS youth had previously drank more than a few sips of alcohol by ages 14 to 15 (Staff, Maggs, Mongilio, Bucci, 2019). The frequency of having 5 or more drinks at a time in the prior 12 months was also assessed. Three age 14 binary outcomes were computed, that is, whether children had ever drank 5 or more drinks at one time (*lifetime heavy drinking*), or engaged in heavy drinking 3 or more times in the past year (*frequent heavy drinking*). We also computed a measure indicating whether youth had transitioned rapidly (i.e., 1 year or less) from alcohol initiation to heavy drinking based on their self-reported ages of first drinking and first drinking heavily (*fast escalation*; Kuntsche et al. 2009). Thus, if a 14 year old child self-reported that they had their first drink at 12 and first drank heavily at age 13, they would be classified as a “fast escalator.” Weighted descriptive statistics in Table 1 show that by age 14 approximately 10% had drank heavily, 7% had rapidly transitioned from initiation to heavy drinking, and 3% frequently drank heavily.

Parents allowing drinking was assessed when children were modal age 14 via parent reports of whether they allowed their child to drink alcohol (16% yes; Maggs & Staff 2018).

Family risk factors included sociodemographics, general parent permissiveness, and parent alcohol use. Sociodemographics measured when the child was 14 included child *gender*, *age* when interviewed; and *race/ethnicity*, coded as White versus non-White. In the UK and the US, White adolescents are more likely to initiate alcohol use and heavy drinking than Black and Asian youth (Chen et al. 2015; Fuller 2012; Green & Ross 2010; Miech et al. 2017; Svendsen et al. 2012). We included measures of parent(s’): highest *educational level* (no diploma through postsecondary diploma); *occupational status* (six levels from employment in a semi-routine or routine job through managerial/professional job, or not employed); *vocabulary scores* (based upon investigator assessed cognitive tests of parents’ understanding of word meanings; Fitzsimons 2017), *family structure* (single versus married and cohabiting parents), and whether the *parent survey respondent* was the mother or father.

To capture general parent permissiveness, we included a measure of *parent allowing unstructured socializing*, which was based on parent reports when the child was 11 of how often, if at all, the child spent time “hanging out” with friends, but without adults or older children. Responses about after school and weekend unstructured socializing ranged on a four-point scale from “never” to “most” days or weekends, and were averaged ($r = .74$).

Parent alcohol use was assessed with self-reports about drinking when the child was an infant to age 11, coded into six dummy variables distinguishing a range of patterns: 1) consistently abstained from when the child was an infant to age 11; 2) abstained when the

child was age 11 but drank alcohol at prior waves; 3) infrequently drank *under* current UK recommended alcohol use limits (i.e., no more than 14 units of alcohol per week; UK Department of Health 2016); 4) infrequently drank *over* UK limits; 5) drank weekly and under UK limits; and 6) drank weekly and over UK limits (reference category; Maggs & Staff 2018).

Child risk factors for early drinking were based on age 11 self reports. *Delinquency* was a dummy variable based on three items indicating whether the child ever reported trespassing, vandalism, or theft (Staff et al. 2015). *Child alcohol expectancies* were the average of four items about positive effects of alcohol (Guo et al. 2001; Maggs et al. 2015). *Friends' alcohol use* indicated how many of the child's friends drank alcohol with responses recoded into dummy variables (coded none [reference category], at least some of them, or not sure).

RESULTS

Table 1 displays weighted descriptive statistics of the confounding parent and child risk factors for the overall analysis sample, and separately for parents allowing and not allowing their 14 year old to drink (under the columns labeled "Parents allow 14 year old to drink"). The percentage of children who had initiated drinking and who had friends who drank by age 11 was higher among those whose parents allowed drinking. Children in more alcohol-permissive households reported more positive alcohol expectancies. Regarding parent confounders, parents who allowed drinking had reported permitting more child unstructured socializing at age 11, and a higher percentage were classified as weekly drinking over recommended limits. As reported previously (Maggs & Staff 2018), parent alcohol permissiveness was associated with parent-level predictors generally predictive of children's social, academic, and economic advantage (Bornstein 2015; Duncan et al. 2015), such as higher education, cognitive scores, and occupational status. The percentage of married or cohabiting parents was also higher among those parents who allowed drinking. Interestingly, parents were not more or less likely to forbid their delinquent children from drinking alcohol, nor did we observe notable differences in parental alcohol permissiveness by child gender.

To examine associations between parents allowing early adolescents to drink and indicators of early heavy drinking, Table 2 displays odds ratios (OR) and 95% confidence intervals (CI) from logistic regression models predicting age 14 heavy drinking (Model 1), rapid escalation to heavy drinking (Model 2), and frequent heavy drinking (Model 3). Each model includes the full set of confounders. Odds of adolescent heavy alcohol use were higher in homes where parents allowed adolescents to drink: Odds of heavy drinking were 140% higher (OR=2.40; CI=1.96 to 2.94), of rapid escalation from initiation to heavy drinking 94% higher (OR=1.94; 95% CI=1.52 to 2.49), and of frequent heavy drinking 132% higher (OR=2.32; 1.73 to 3.09), beyond links with child and family risk factors. Regarding child-level predictors, the odds of adolescent heavy drinking were higher among children who were previously delinquent or drank alcohol, as well as among girls and youth who were relatively older in the birth cohort when interviewed. The odds of heavy drinking were also higher among parents who allowed more unstructured socializing when the child was age 11.

To test the robustness of the associations we also employed an alternate analytic approach, coarsened exact matching (CEM; Iacus et al. 2012) to create an analysis sample contrasting “treated” adolescents (i.e., those whose parents allowed them to drink) with “untreated” youth (i.e., those who had the same values on the risk factors but were not allowed to drink). More specifically, using CEM in Stata 15 (Blackwell et al. 2009), observed values for the continuous covariates measuring child and parent risk factors were first temporarily coarsened (via recoding) so that treated youth could be exactly matched to untreated teens who had the same values on the child and parent covariates. More specifically, the child’s positive alcohol expectancies and measures of parental drinking, cognitive scores, occupational status, and permitting unstructured socializing, were recoded to binary measures to allow for matching. As with other matching strategies, finding exact matches between treated and untreated youth becomes less likely with the addition of existing covariates, so we limited our matching procedure to eight key risk factors that distinguished alcohol permissive homes (as highlighted in Table 1).

After coarsening, we successfully matched 1,336 treated teens to 5,482 untreated teens on the key child-level risk factors (i.e., age 11 drinking, positive alcohol expectancies), parent-level risk factors (i.e., parental drinking, cognitive scores, occupational status, and permitting unstructured socializing), and sociodemographics (child age, white vs. non-white). Importantly, we found no differences in the child and parent risk factors between the treated and control group in the matched sample (based on a series of unlisted t-tests). For instance, whereas in the unmatched sample 25% of treated youth had drunk alcohol by age 11 (versus 11% of untreated youth), in the matched sample this percentage was equal between the two groups (at about 22%). Thus, the matched sample balanced the existing differences on these key risk factors between children in more and less alcohol-permissive households.

We then used the matched sample to estimate logistic regression models comparing the age 14 outcomes among treated and untreated teens. Untreated observations were weighted, and any remaining imbalances between the treated and untreated teens were accounted for by including the full set of uncoarsened (i.e., not recoded) child and parent risk factors as controls in our regression analyses (Blackwell et al. 2009). Table 3 displays odds ratios (OR) and 95% confidence intervals (CI) from logistic regression models predicting the three indicators of heavy alcohol use in the matched sample. Similar to the prior analyses, parents allowing drinking predicted increased odds of adolescent heavy drinking by 177% (OR=2.77; CI=2.33 to 3.30), rapid escalation from initiation to heavy drinking by 130% (OR=2.30; 95% CI=1.87 to 2.83), and frequent heavy drinking by 167% (OR=2.67; 2.03 to 3.09). Importantly, the pattern of findings shown in Table 3 were substantially similar when we matched on additional covariates (e.g., child gender, child delinquency, etc).

DISCUSSION

Should parents allow children to drink alcohol? Parents hold diverse views on this issue (Jackson et al. 2012), and a sizeable number permit children and young adolescents to sip or to drink (Donovan & Molina 2008; Jackson et al. 1999; Maggs & Staff 2018). To address limitations of past work on correlates and outcomes of these practices, authoritative reviews

have called for nationally-representative samples with prospective prediction of the causes of heavy alcohol use from childhood to adolescence (Chassin et al. 2015; Donovan 2007; Zucker et al. 2008). Such high-quality longitudinal data on the particular role that parent permissibility plays in early adolescent drinking and transitions to heavy drinking furnish essential fundamental knowledge on which to target prevention and screening efforts to reduce underage alcohol use (Kaynak et al. 2014).

The MCS is a unique large, contemporary, nationally-representative study with mother, father, and child data from infancy through age 14. Strong measurement of child and early adolescent alcohol use facilitates tracking intergenerational and developmental origins and sequelae of parents allowing drinking, accounting for selection effects. At age 14, over 1,700 (16%) of MCS parents allowed their child to drink. Children permitted to drink alcohol had more than twice the odds of engaging in heavy episodic drinking by age 14 and frequent heavy drinking in the past year. They also experienced nearly double the risk of transitioning from their first drink to drinking 5 or more drinks at a time within 12 months or less. Rapid acceleration is viewed as a problematic milestone even among researchers questioning the evidence for a detrimental impact of underage drinking *per se* (Kuntsche et al. 2009). Given well-documented harms of early drinking, the present results do not support the idea that parents allowing children to drink alcohol inoculates them against alcohol misuse (Donovan & Molina 2008; Jackson et al. 2012). This conclusion is similar to emerging research based in numerous social contexts (Kaynak et al. 2014).

Major strengths include the strong public health impact of underage alcohol use; large, nationally-representative, multi-source data; and a prospective design beginning in infancy with repeated measurement of early life individual and family risk factors and numerous alcohol measures from age 11 through 14. Limitations are also present. First, although a wide range of prospective risk factors were controlled and findings were robust across three measures of heavy episodic drinking, observed relationships may be confounded by unmeasured or uncontrolled genetic, developmental, or social factors. Second, we relied solely on self-reports of alcohol use. Alcohol use self-reports have demonstrated reliability and validity (Del Boca & Darkes 2003; Simons et al. 2015), and concerns regarding social desirability bias are reduced by the confidential surveys self-completed privately. Third, attrition is present, as in all longitudinal studies, but analyses utilized weights and adjusted for missing data and attrition. Third, parents were only asked whether they allowed their 14-year-old child to drink; more nuanced contextual questions about who provided the alcohol, how much children could consume, or social settings of use, as well as whether parents allowed child drinking prior to age 14, await further study (Mattick et al. 2017). Finally, it is important to note that adolescent heavy drinking and parental permissiveness about alcohol were assessed in the same survey wave (i.e., at modal age 14). Thus, our findings represent associations as we are unable to establish whether parental permissiveness leads to adolescent heavy drinking and/or whether adolescent drinking over time leads parents to be more permissive in their attitudes about teenage drinking.

CONCLUSION

Parents desire to do their best for their children, but face the challenge of providing warm, consistent discipline and age-appropriate structure while renegotiating the autonomy-power balance during early adolescence (Steinberg 2001). Notably, parents differ greatly in approaches to adolescent drinking (Jackson et al. 2012). Emerging evidence suggests low permissiveness appears to be protective against early drinking in numerous policy environments and countries (Mares et al. 2012; McMorris et al. 2011; Yap et al. 2017). Recent work demonstrates the effectiveness of targeting parents' alcohol-specific rules and practices (Ennett et al. 2016). Moreover, developmentally-informed, strategy-based guidance for parents of young adolescents is being developed and disseminated (e.g., Alcohol Change UK, 2019; DHHS, 2009). Although alcohol use prevalence has been declining in the US and UK, as in Western countries generally (de Looze et al. 2015; Miech et al. 2017), 14 year olds are well under legal drinking ages in most countries worldwide. Due to known risks of early and heavy drinking, parents should consider not condoning or facilitating children and younger adolescents to consume alcohol.

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Table 1.

Descriptive Statistics for Sample and by Whether Parents Allow 14 Year Old to Drink

Age 14 Heavy Alcohol Use Outcomes	Mean or %	SE		
Lifetime heavy drinking (Ever 5+ at one time)	10%			
Fast escalation to heavy drinking	7%			
Frequent heavy drinking 3+ times in past year	3%			
Predictors			Parents allow 14 year old to drink?	
Parents allow 14 year old to drink	16%		<i>yes</i>	<i>no</i>
Child Risk Factors				
Drank alcohol by age 11	13%		25%	11%
Delinquent by age 11	9%		9%	9%
Positive alcohol expectancies at age 11	.80	.01	.91	.78
Friend(s) drank alcohol at age 11				
None	78%		71%	79%
Yes, at least some of them	8%		11%	8%
Not sure	14%		18%	13%
Parent Risk Factors				
Allow unstructured socializing when child age 11	2.70	.03	2.78	2.68
Alcohol use				
Consistent abstainer across childhood	12%		2%	14%
Abstainer when child age 11	12%		9%	13%
Infrequent drinker, under UK drinking limits	15%		21%	14%
Infrequent drinker, over limits	23%		26%	22%
Weekly drinker, under limits	24%		24%	24%
Weekly drinker, over limits	14%		18%	13%
Occupational status				
Semi-routine and routine	22%		19%	22%
Low supervisory and technical	3%		4%	3%
Small employer and self-employed	6%		9%	6%
Intermediate	15%		19%	14%
Managerial and professional	25%		34%	23%
Not employed	29%		16%	32%
Education level	2.60	.03	3.04	2.51
Single (vs. married, cohabiting)	30%		27%	30%
Vocabulary score	10.36	.10	12.03	10.02
Father survey respondent (vs. mother)	6%		5%	7%
Demographic Background				
Age 14+ yrs at interview (vs. younger)	77%		82%	76%
Female gender (vs. male)	48%		49%	47%
White British ethnicity (vs. non-White British)	81%		93%	78%
Sample size	11,485		1,833	9,652

Table 2.

Odds Ratios and 95% Confidence Intervals from Logistic Regressions Predicting Age 14 Heavy Drinking From Parents Allowing Drinking and Child and Parent Risk Factors (n=11,485)

	Model 1. Heavy drinker (Ever 5+ at one time)		Model 2. Fast escalation to heavy drinking		Model 3. Heavy drinking 3+ past year	
	OR	95% CI	OR	95% CI	OR	95% CI
Parents Allow 14 Year Old to Drink (vs Not)	2.40***	[1.96, 2.94]	1.94***	[1.52, 2.49]	2.32***	[1.73, 3.09]
Child Risk Factors (age 11)						
Delinquent behavior	1.90***	[1.40, 2.57]	1.56**	[1.11, 2.18]	1.99**	[1.27, 3.11]
Positive alcohol expectancies	1.15*	[1.01, 1.32]	1.21*	[1.03, 1.41]	1.19	[.92, 1.54]
Drank alcohol by age 11	1.83***	[1.46, 2.29]	1.37*	[1.02, 1.84]	1.91**	[1.27, 2.86]
Friend(s) drank alcohol (vs none)	1.34*	[1.02, 1.77]	1.52*	[1.09, 2.11]	1.10	[.69, 1.74]
Not sure if friend(s) drank alcohol (vs none)	.90	[.71, 1.15]	.91	[.66, 1.24]	.72	[.47, 1.09]
Parent Risk Factors						
Allow unstructured socializing when child age 11	1.35***	[1.23, 1.47]	1.36***	[1.22, 1.51]	1.35***	[1.16, 1.58]
Alcohol use (vs weekly and over drinking limits)						
Consistent abstainer across childhood	.64	[.34, 1.21]	.79	[.38, 1.61]	.67	[.24, 1.83]
Abstainer when child 11 yrs	.81	[.55, 1.17]	.93	[.59, 1.46]	.96	[.52, 1.78]
Infrequently and under drinking limits	.72*	[.54, .97]	.75	[.53, 1.07]	.85	[.54, 1.35]
Infrequently and over drinking limits	.64***	[.50, .82]	.68*	[.50, .93]	.78	[.52, 1.17]
Weekly and under drinking limits	.96	[.72, 1.26]	1.13	[.82, 1.54]	1.22	[.77, 1.94]
Occupational status (vs not employed)						
Semi-routine and routine	1.31	[.98, 1.75]	1.40*	[1.01, 1.96]	1.26	[.85, 1.87]
Low supervisory and technical	1.20	[.71, 2.02]	1.15	[.60, 2.19]	.85	[.32, 2.24]
Small employer and self-employed	1.32	[.88, 2.00]	1.41	[.90, 2.23]	1.05	[.55, 1.99]
Intermediate	1.21	[.90, 1.63]	1.28	[.91, 1.81]	1.13	[.72, 1.77]
Managerial and professional	1.27	[.96, 1.68]	1.35	[.97, 1.87]	1.22	[.78, 1.89]
Education level	1.01	[.93, 1.10]	1.04	[.95, 1.14]	1.00	[.87, 1.16]
Single (vs. married, cohabiting)	1.41***	[1.17, 1.70]	1.31*	[1.06, 1.61]	1.19	[.84, 1.69]
Vocabulary score	.99	[.96, 1.01]	.97*	[.94, .99]	.99	[.95, 1.04]

	Model 1. Heavy drinker (Ever 5+ at one time)		Model 2. Fast escalation to heavy drinking		Model 3. Heavy drinking 3+ past year	
	OR	95% CI	OR	95% CI	OR	95% CI
Father survey respondent (vs. mother)	.78	[.53, 1.17]	.96	[.62, 1.50]	.62	[.31, 1.23]
Demographic Background of Child						
Age 14+ yrs at interview (vs. younger)	1.55***	[1.26, 1.91]	1.33*	[1.04, 1.70]	1.53*	[1.03, 2.28]
Female gender (vs. male)	1.29**	[1.08, 1.53]	1.45***	[1.18, 1.78]	1.53***	[1.13, 2.07]
White British ethnicity (vs. non-White British)	1.43	[.98, 2.08]	1.43	[.90, 2.27]	1.90	[.98, 3.68]

Note. OR=Odds ratio; CI=Confidence intervals; Models include fixed effects for stratum (omitted from table);

* $p < .05$;

** $p < .01$,

*** $p < .001$

Table 3.

Odds Ratios and 95% Confidence Intervals from Logistic Regressions Predicting Age 14 Heavy Drinking By Parents Allowing Drinking Among Youth in the Matched Samples (n=6,818)

	Heavy drinker: Ever 5+ drinks at one time		Fast escalation to heavy drinking		Freq heavy drinking: 3+ times, past year	
	OR	95% CI	OR	95% CI	OR	95% CI
Parents allow 14 year old to drink (vs not)	2.77 ***	[2.33, 3.30]	2.30 ***	[1.87, 2.83]	2.67 ***	[2.03, 3.51]

Note. OR=Odds ratio; CI=Confidence intervals; Models include all covariates assessing parent and child risk factors, and sociodemographic background, as well as fixed effects for stratum (omitted from Table);

* $p < .05$;
** $p < .01$,
*** $p < .001$