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I, Jodi A. Finchum , hereby submit this original work as part of the requirements for the degree of Master of Science in Health Education.

It is entitled:

Parental Factors Associated with Recent Alcohol Use and Binge Drinking among Youth

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Parental Factors Associated with Recent Alcohol Use and Binge Drinking among Youth

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Abstract

The purpose of this study was to examine the impact of parental factors on recent alcohol use and frequent episodic heavy drinking among youth within the Greater Cincinnati area. More specifically, this study investigated whether recent alcohol use and episodic heavy drinking among youth differed based on family structure, parent job status and parental educational status. In addition, the study assessed whether the impact of family structure, parental job status and parental education on youth recent alcohol use and episodic heavy drinking differed based on students' sex and grade level. A total of 54,366 students in 7th through 12th grades in Greater Cincinnati completed surveys. Logistic regression analyses revealed that recent alcohol use and frequent episodic heavy drinking differed significantly based on family structure, parent job status and parent education. Specifically, recent alcohol use and frequent episodic heavy drinking was highest among students who did not live with two biological parents, had fathers who were unemployed and had mothers and fathers with a high school diploma or less. Recommendations for future research and practice are offered.

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Introduction

Alcohol use among youth remains a major US public health issue. Experimentation with alcohol has become normative among adolescents and that a sizeable percentage of youth develop regular drinking patterns (Hibell et al., 2004; Poelen, Scholte, Engels, Boomsma, & Willemsen, 2005; Trimbos, 2004). Research on early onset of drinking has found that more than 40% of individuals who begin drinking before the age of 13 years develop alcohol abuse problems later in life (Habib, Santoro, Kremer, Toumbourou, Leslie, Williams, 2010). According to the 2009 Youth Risk Behavior Survey [YRBS], approximately three in four students (72.5%) had consumed at least one drink of alcohol in their lifetime (Centers for Disease Control & Prevention [CDC], 2009) and one in four (24.2%) had five or more drinks in a row within a couple of hours during the 30 days prior to the survey.

Misuse of alcohol is the major contributor to preventable harm for young people (Toumbourou, Stockwell, Neighbors, Marlatt, Sturge, & Rehm, 2007). Studies have indicated that alcohol misuse contributes to several other problem behaviors, such as low academic performance, alcohol-related violence, injuries and a variety of other problems (Fergusson et al., 1994; Gruber et al., 1996). Also, underage drinking is linked to traffic accidents, trouble with the law, risky sexual behavior, and later alcohol dependence or abuse (Koutakis, Stattin, & Kerr, 2008).

Risk & Protective Factors

Underage alcohol consumption has been linked to a number of risk factors involving family and peers. At the family level, risk factors include parental approval of youth alcohol use, poor parental monitoring, and parental drinking which may increase alcohol use as normative behavior (Barnes, Reifman, Farrell, & Dintcheff, 2000; Beck, Boyle, & Boekeloo, 2003; King,

Vidourek, & Wagner, 2004; Wickrama, Conger, Wallace, & Elder, 1999). Also, drinking patterns of siblings has been shown to have an effect on youth alcohol use. In fact, sibling effects may be similar to peer effects, and stronger than parental effects (Scholte, Poelen, Willemsen, Boomsma, & Engels 2007). In summary, parenting practices and family environment are thought to play a major role in the development of adolescent drinking patterns (Alati, Maloney, Hutchison, Najman, Mattick, Bor & Williams 2009). Family protective factors include strong family connectedness, high levels of parental involvement, supportive parent-child relationships, and clear rules against alcohol use and consistent enforcement of such rules (National Institute on Drug Abuse [NIDA], 2005; Resnick et al., 1997; Search Institute, 2004).

Family Structure

Seventh and eighth grade youth living in single-parent households tend to be more likely to have used alcohol than youth living in two-parent households (Blum et al., 2000). Since greater than one-fourth (28%) of youth live in single-parent households (Child Trends, 2002; U.S. Census Bureau, 2003), there is great need to specifically address this issue and implement effective data-based strategies. Previous research has shown that youth living in single-parent households are more likely to participate in risky behaviors such as alcohol use and other drugs (Blum et al., 2000; Oman et al., 2004; Santelli et al., 2000).

Parent Education and Job Status

To date, a paucity of studies has investigated the influence of parent education on youth alcohol use. Research has shown that alcohol use among teens is often influenced by antisociality and depression (Olds & Thombs, 2001). Parental involvement with older youth has

less of an influence than peer influence or close friends' drinking habits on younger youth drinking patterns. Concerning parents' attitudes, studies have shown that the more lenient parents' attitudes toward drinking, the more children tend to drink (Koutakis, Stattin & Kerr, 2008). Data indicates that higher level of adolescent alcohol use is closely associated with perceptions that alcohol is frequently used by close friends.

The following research questions were examined:

1. Do recent alcohol use and episodic heavy drinking among youth differ based on family structure, parent job status, and parent educational status?
2. Do the impact of family structure, parental job status and parental education on recent alcohol use and episodic heavy drinking among youth differ between male and female students as well as between junior high and high school students?

Methods

Participants

Participants in the present study were 54,366 students in 7th through 12th grades in Greater Cincinnati public and private schools ($n = 133$). Schools were recruited by the Coalition for a Drug Free Greater Cincinnati to participate in the study. Parental permission was sought for voluntary student participation in the study. If parents refused permission for their child to participate, the student was then excluded from the survey. All student responses were kept anonymous and confidential.

Instrument

The PRIDE Questionnaire was used to survey students. This survey has been used for several years in the US to determine youth substance use rates. In the present study, students were requested to report how often they engaged in pro-social behaviors and risky behaviors by using a 5-point scale (1 = never, 5 = a lot). Students also used this scale to rate how often their parents, teachers, and schools talked to them about the dangers of alcohol and other drug use and how often they set/enforced rules regarding use. Stability reliability was determined by delivering the survey to 931 students on two occasions seven days apart, yielding Pearson correlation coefficients of .814-.851 (Metze, 2000). Adams (1994) compared PRIDE results to those of the National Institute of Drug Abuse Monitoring the Future study and found alcohol use rates in each survey to be comparable. Psychometric characteristics of this survey have been shown to be valid and reliable (Craig & Emshoff, 1987).

Procedures

Surveys were completed by students during their regularly scheduled hours. Before distributing the surveys, survey administrators informed students of the study purpose, voluntary nature of the study, and anonymity of all responses. All survey administrators were instructed to remain at the front of the room during survey completion. Students placed completed questionnaires in a designated envelope which was subsequently sent out for data entry and analysis.

Data Analysis

All data was entered and analyzed via the SPSS statistical software package. Frequency distributions were used to describe students' demographic and background characteristics. A series of chi-square analyses were conducted to determine whether recent involvement in alcohol use differed significantly based on sex, grade and job status. Logistic regression was conducted to answer research questions three through six. The alpha level of significance was established at .05.

Results

A total of 54,366 students completed surveys (77.4% response rate). Half of the students were female (50.6%) and half were male (49.4%) (Table 1). Data showed that students in 7th and 8th grade accounted for 33.7% of the sample and students in 9th through 12th represented 66.3% of the sample. Three-fourths (75%) of students were Caucasian, 14.4% African American, 2.4% Asian/Pacific Islander, 1.8% Hispanic/Latino and 6.3% self-reported as "Other." A total of 62.4% of students lived with mother and father, 16.2% lived with mother only, 2.9% lived with father only, 9.9% lived with mother and stepfather, 2.5% lived with father and stepmother and 6.2% identified with living with a category marked "Other." A total of 34.7% students noted that their father had a high school diploma or less. 65.3% of father's of students had some college education. A total of 31.1% students noted that their father had a high school diploma or less. 68.9% of student's mothers had some college. Regarding parental employment, 92.9% of fathers were employed and 81.2% of mothers were employed.

Impact of Family Structure on Recent Alcohol Use and Episodic Heavy Drinking Among Youth

Recent alcohol use and episodic heavy drinking differed based on family structure. Students who lived with both biological parents (18.4%) were significantly less likely to use alcohol in the past month than students who did not live with both biological parents (23.4%) (Table 2). Similarly, students who lived with both biological parents (9.6%) were also less likely to participate in frequent episodic heavy drinking than students who did not live with both biological parents (12.5%).

Impact of Parent Job Status on Recent Alcohol Use and Episodic Heavy Drinking Among Youth

Results indicated that recent alcohol use and episodic heavy drinking were significantly associated with parent job status (Table 2). Of participants, 19.9% with a father working reported to have used alcohol in the past 30 days, compared to 26.8% of participants with a father not working. Similarly, students were more likely to engage in episodic heavy drinking if they had a father who did not work compared to students who had a father who did work. Regarding mother job status, data was not significant when comparing recent alcohol use or episodic heavy drinking and mother being employed versus unemployed. Further research is needed.

Impact of Parent Education on Recent Alcohol Use and Episodic Heavy Drinking Among Youth

Students whose fathers had some college education or more were five times less likely than students whose fathers had a high school diploma or less to have used alcohol in the past 30 days, compared to students whose fathers had some college or more. Similarly, students whose fathers had a high school diploma or less were almost eight times more likely than students whose fathers had some college education or more to have participated in episodic heavy

drinking (Table 4). Mothers' job status had no significant impact on students' involvement in recent alcohol use or binge drinking.

Impact of Parent Factors on Recent Alcohol Use and Episodic Heavy Drinking among Male, Female, Junior High and High School Youth

Both junior high and high school students who did not live with both biological parents were more likely than their counterparts to have used alcohol in the past 30 days and to frequently binge drink (Table 5-6). Regarding father job status, junior high and high school students whose fathers did not have a job were more likely to have used alcohol in the past month and frequently binge drink than students whose fathers did have a job. Mother job status had no significant impact on recent alcohol use or binge drinking among both junior high and high school students. Regarding parent education, junior high and high school students whose fathers had a high school diploma or less were more likely to have used alcohol in the past month and to frequently binge drink than students whose fathers had some college or more. Junior high and high school students whose mothers had some college or more were less likely to have used alcohol in the past month and to frequently binge drink than their counterparts.

Discussion

The present study found that recent alcohol use and frequent episodic heavy drinking rates were higher among high school students (9th- 12th grades) than junior high students (7th and 8th grade). These results are similar to previous studies which have documented negative associations between age at first drink (AFD) and a variety of negative outcomes, including heavy drinking in adolescence and adulthood (DeWit et al., 2000, Fergusson et al., 1994; Grant

& Dawson, 1997; Gruber et al., 1996; Hawkins et al., 1997, Hingson et al., 2006, Muthen & Muthen, 2000, Pitkanen et al., 2005,) and the use of other psychoactive substances, such as nicotine, cannabis, inhalants, amphetamines, or cocaine (Gruber et al., 1996; McGue et al., 2001b). Results of the current study indicated that students who lived with both biological parents were significantly less likely to have used alcohol in the past month or to participate in frequent episodic heavy drinking. Other studies have shown dual-parent homes serve as a protective effect against youth alcohol use. Research indicates that youth living in single-mother or single-father households tend to have higher rates of smoking tobacco, drinking alcohol, and smoking marijuana (approximately 2%, 12%, and 7% higher, respectively) compared with youth living in two-parent households (Flewelling & Bauman, 1990). A possible explanation for the increase in alcohol use in single-parent households could be that there is less parental monitoring, thus resulting in youth from these families having more free time and availability to experiment with alcohol and other drugs. Adolescents from dual-parent homes may also be receiving more steady interaction with parents, compared to single-parent homes, which may serve as a protective factor against recent alcohol use and binge drinking. Dual-parent homes may also provide the availability to divide duties, share working and parenting responsibilities, thus providing an environment that is more conducive to provide consistent supervision and interaction with adolescents.

Regarding parental job status, the present study found that students with parents who had part-time or full-time employment were significantly less likely to have used alcohol in the past month or to have participated in frequent episodic heavy drinking. Males and females were more likely to have used alcohol in the past month when their fathers were not working, compared to male and female adolescents whose mothers were not working. When examining frequent

episodic heavy drinking for males and females, both sexes were less likely to have participated in episodic heavy drinking when their fathers were employed. However, data was not statistically significant when comparing frequent episodic heavy drinking for males and females and mother job status. Reasons for this difference are currently unknown. Additional research to explain such findings are clearly warranted.

Regarding parental education, students with parents who had some college education were significantly less likely to have participated in recent alcohol use and frequent episodic heavy drinking. These findings are similar with other studies that have indicated that low parental education is a risk factor for adolescent recent alcohol use and binge drinking (Barnes, Reifman, Farrell, & Dintcheff, 2000; Beck, Boyle, & Boekeloo, 2003; King, Vidourek, & Wagner, 2004; Wickrama, Conger, Wallace, & Elder, 1999). It appears that parent education serves as a protective effect against youth alcohol use. This may be due to the intrinsic value of education, continued motivation from the parents to youth to focus on academic achievement while refraining from distractions or harmful behaviors such as alcohol use, parental encouragement to youth to develop and achieve career goals, and increased awareness of the dangers of youth alcohol use. More research is needed.

Overall, this study found that family structure, parent job status and parent education affect recent alcohol use and frequent episodic heavy drinking among males, females, and junior high and high school students. More specifically, recent alcohol use and frequent episodic heavy drinking was significantly impacted by family structure, specifically higher levels of use among adolescents not living with their biological parents. Adolescents not living with their biological parents may have more risk factors than adolescents living with biological parents. Risk factors noted in similar studies include poor parental monitoring and parental drinking which may

increase alcohol use as a normative behavior (Alati, Maloney, Hutchison, Najman, Mattick, Bor & Williams 2009). Findings demonstrate that father job status plays a significant role for males, females, junior high and high school students in recent alcohol use and frequent episodic heavy drinking. Mother job status was not statistically significant. A key factor impacting recent alcohol use and frequent episodic heavy drinking among youth is parental education. Students with parents who had some college education or more were significantly less like to have recently used alcohol or participated in frequent episodic heavy drinking. Youth growing up in homes with parents with some college education or more may have increased opportunities available to them, including more educational and financial resources, which, in turn, may increase protective factors and reduce the risk of alcohol use. Parental educational level is an important predictor of children's educational and behavioral outcomes (Davis-Kean, 2005).

Study Limitations

The following study limitations should be noted. First, participants in this study were junior high and high school students residing in the Greater Cincinnati area, thus, the results may not necessarily generalize to students in other grades or geographic locations. In addition, the data was collected via self-report surveys, which may have resulted in some students responding to questions in socially desirable ways. The self-report nature of the survey was also limited to the honesty and accuracy of students' recall.

Future Recommendations

Future recommendations include more research related to parental factors effects on recent alcohol use and episodic heavy drinking among youth, especially mother job status. Also, further recommendations to professionals in the prevention field include targeting youth. Also,

further research about family structure and alcohol use related to differences in single-parent homes, dual-parent homes and step-families is needed.

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Table 1. Demographic and Background Characteristics of Students

Item	<i>n</i>	%
Sex		
Male	24,062	49.4
Female	24,677	50.6
Grade		
7 th	157	17.0
8 th	154	16.7
9 th	167	18.1
10 th	166	18.0
11 th	139	15.1
12 th	139	15.1

Race		
White	38,972	75.0
African American	7,488	14.4
Hispanic/Latino	946	1.8
Asian/Pacific Islander	1,237	2.4
Native American	366	0.7
Multiracial	2,134	4.1
Other	795	1.5
Living Situation		
Live with Mother and Father	32,400	62.4
Live with Mother only	8,386	16.2
Live with Father only	1,494	2.9
Live with Mother and Stepfather	5,116	9.9
Live with Father and Stepmother	1,285	2.5
Other	3,205	6.2
Educational Level of Father		
High School Diploma or less	15,572	34.7
Some College or more	29,343	65.3
Educational Level of Mother		
High School Diploma or less	14,632	31.1
Some College or more	32,486	68.9
Father Job Status		
Unemployed	3,393	7.1
Employed	44,251	92.9
Mother Job Status		
Unemployed	9,342	18.8
Employed	40,413	81.2

Notes: N = 54,366; Percents denote valid percents; Missing values excluded.

Table 2. Odds Ratios for Recent Alcohol Use and Episodic Heavy Drinking by Family Structure, Parent Job Status and Parent Education

PARENT FACTOR	RECENT ALCOHOL USE					EPISODIC HEAVY DRINKING				
	Did Not Use in Past Month <i>n</i> (%)	Used in Past Month <i>n</i> (%)	<i>OR</i>	(95% CI)	<i>p</i>	Infrequent (Never/Rarely) <i>n</i> (%)	Frequent (A lot/Often) <i>n</i> (%)	<i>OR</i>	(95% CI)	<i>p</i>
Family Structure										
Do not live with both parents ^a	14,501 (76.6)	4,429 (23.4)	1.000			14,970 (87.5)	2,148 (12.5)	1.000		
Live with both parents	25,987 (81.6)	5,841 (18.4)	.736	(.704, .769)	< .001	26,126 (90.4)	2,785 (9.6)	.743	(.700, .789)	< .001
Father Job Status										
Unemployed ^a	2,146 (73.2)	883 (26.8)	1.000			2,471 (82.5)	523 (17.5)	1.000		
Employed	34,771 (80.1)	8,642 (19.9)	.680	(.627, .737)	< .001	35,307 (89.6)	4,084 (10.4)	.547	(.495, .604)	< .001
Mother Job Status										
Unemployed ^a	7,301 (80.0)	1,828 (20.0)	1.000			7,394 (88.5)	958 (11.5)	1.000		
Employed	31,600 (79.7)	8,059 (20.3)	1.019	(.962, 1.078)	.525	32,177 (89.4)	3,804 (10.6)	.912	(.846, .984)	.017
Father Education Level										
HS Diploma or less ^a	11,551 (75.8)	3,696 (24.2)	1.000			11,820 (86.7)	1,818 (13.3)	1.000		
Some college or more	23,404 (81.2)	5,414 (18.8)	.723	(.690, .758)	< .001	23,705 (90.2)	2,579 (9.8)	.707	(.664, .704)	< .001
Mother Education Level										
Unemployed ^a	10,909 (76.3)	3,396 (23.7)	1.000			11,157 (86.9)	1,684 (13.1)	1.000		
Employed	25,828 (81.0)	6,063 (19.0)	.754	(.719, .791)	< .001	26,195 (90.2)	2,860 (9.8)	.723	(.678, .771)	< .001

Notes: ^a Referent; N = 54,366; Missing values excluded

Table

3. Odds Ratios for Recent Alcohol Use among Males and Females by Family Structure, Parent Job Status and Parent Education

PARENT FACTOR	MALE					FEMALE				
	RECENT ALCOHOL USE					RECENT ALCOHOL USE				
	Did Not Use in Past Month <i>n</i> (%)	Used in Past Month <i>n</i> (%)	<i>OR</i>	(95% CI)	<i>p</i>	Did Not Use in Past Month <i>n</i> (%)	Used in Past Month <i>n</i> (%)	<i>OR</i>	(95% CI)	<i>p</i>
Family Structure										
Do not live with both parents ^a	6,265 (76.5)	1,905 (23.3)	1.000			7,037 (77.4)	2,050 (22.6)	1.000		
Live with both parents	11,973 (80.3)	2,936 (19.7)	.806	(.756, .861)	< .001	12,475 (83.8)	2,407 (16.2)	.662	(.620, .707)	< .001
Father Job Status										
Unemployed ^a	985 (72.9)	367 (27.1)	1.000			1,214 (74.4)	417 (25.6)	1.000		
Employed	15,864 (79.3)	4,144 (20.7)	.701	(.619, .794)	< .001	16,702 (81.9)	3,702 (18.1)	.645	(.574, .725)	< .001
Mother Job Status										
Unemployed ^a	3,283 (79.3)	856 (20.7)	1.000			3,592 (82.0)	786 (18.0)	1.000		
Employed	14,171 (79.1)	3,754 (20.9)	1.016	(.935, 1.104)	.709	15,256 (81.1)	3,556 (18.9)	1.065	(.978, 1.160)	.147
Father Education Level										
HS Diploma or less ^a	5,076 (75.4)	1,659 (24.6)	1.000			5,599 (77.0)	1,671 (23.0)	1.000		
Some college or more	10,878 (80.2)	2,680 (19.8)	.754	(.703, .808)	< .001	11,187 (83.1)	2,275 (16.9)	.681	(.635, .731)	< .001

Table

Mother Education Level										
Unemployed ^a	4,719 (75.7)	1,515 (24.3)	1.000			5,360 (78.1)	1,503 (21.9)	1.000		
Employed	11,902 (80.1)	2,955 (19.9)	.773	(.721, .830)	< .001	12,395 (82.5)	2,626 (17.5)	.756	(.704, .811)	< .001

 Notes: ^a Referent; N = 54,366; Missing values excluded

4. Odds Ratios for Episodic Heavy Drinking among Males and Females by Family Structure, Parent Job Status and Parent Education

PARENT FACTOR	MALES					FEMALES				
	EPISODIC HEAVY DRINKING					EPISODIC HEAVY DRINKING				
	Infrequent (Never/Seldom) <i>n</i> (%)	Frequent (A lot/Often) <i>n</i> (%)	<i>OR</i>	(95% CI)	<i>p</i>	Infrequent (Never/Seldom) <i>n</i> (%)	Frequent (A lot/Often) <i>n</i> (%)	<i>OR</i>	(95% CI)	<i>p</i>
Family Structure										
Do not live with both parents ^a	6,355(86.4)	998 (13.6)	1.000			7,359 (88.9)	923 (11.1)	1.000		
Live with both parents	11,888 (88.6)	1,536 (11.4)	.823	(.755, .896)	< .001	12,664 (92.6)	1,007 (7.4)	.634	(.463, .629)	< .001
Father Job Status										
Unemployed ^a	977 (79.6)	250 (20.4)	1.000			1,267 (85.4)	216 (14.6)	1.000		
Employed	15,895 (88.2)	2,130 (11.8)	.524	(.453, .606)	< .001	17,137 (91.6)	1,576 (8.4)	.539	(.463, .629)	< .001

Table

Mother Job Status										
Unemployed ^a	3,290 (87.4)	473 (12.6)	1.000				3,657 (90.5)	382 (9.5)	1.000	
Employed	14,205 (87.9)	1,949 (12.1)	.954	(.857, 1.063)	.394		15,721 (91.3)	1,506 (8.7)	.917	(.815, 1.032) < .001
Father Education Level										
HS Diploma or less ^a	5,079 (85.0)	473 (12.6)	1.000				5,830 (88.7)	740 (11.3)	1.000	
Some college or more	10,892 (88.7)	1,393 (11.3)	.725	(.662, .793)	< .001		11,436 (92.2)	964 (7.8)	.664	(600, .735) < .001
Mother Education Level										
Unemployed ^a	4,739 (85.1)	827 (14.9)	1.000				5,552 (89.1)	681 (10.9)	1.000	
Employed	11,918 (88.7)	1,518 (11.3)	.730	(.666, .800)	< .001		12,693 (92.0)	1,106 (8.0)	.710	(.642, .786) < .001

 Notes: ^a Referent; N = 54,366; Missing values excluded

5. Odds Ratios for Recent Alcohol Use among Junior High School and High School Students by Family Structure, Parent Job Status and Parent Education.

PARENT FACTOR	JUNIOR HIGH SCHOOL STUDENTS						HIGH SCHOOL STUDENTS RECENT				
	RECENT ALCOHOL USE						ALCOHOL USE				
	Did Not Use in Past Month (%)	Used in Past Month	OR	(95% CI)	n (%)	n	Did Not Use in Past Month n	Used in Past Month OR	(95% CI)	n (%)	p

Table

Family Structure

Do not live with both parents ^a	6,083 (90.0)	679 (10.0)	1.000			8,256 (69.4)	3,640 (30.6)	1.000		
Live with both parents	9,709 (95.6)	445 (4.4)	.411	(.363, .465)	< .001	16,111 (75.1)	5,333 (24.9)	.751	(.714, .789)	< .001

Father Job Status

Unemployed ^a	982 (89.4)	116 (10.6)	1.000			1,404 (66.6)	705 (33.4)	1.000		
Employed	13,409 (93.8)	880 (6.2)	.556	(.453, .681)	< .001	21,113 (73.4)	7,670 (26.6)	.723	(.658, .795)	< .001

Mother Job Status

Unemployed ^a	2,871 (92.9)	219 (7.1)	1.000			4,381 (74.1)	1,532 (25.9)	1.000		
Employed	12,189 (93.6)	835 (6.4)	.898	(.770, 1.048)	< .001	19,149 (72.9)	7,132 (27.1)	1.065	(.999, 1.136)	.054

Father Education Level

HS Diploma or less ^a	4540 (90.0)	506 (10.0)	1.000			6,899 (69.0)	3,097 (31.0)	1.000		
Some college or more	8,652 (95.3)	423 (4.7)	.439	(.384, .502)	< .001	14,609 (74.8)	4,931 (25.2)	.752	(.713, .793)	< .001

Mother Education Level

Unemployed ^a	4,228 (90.5)	446 (9.5)	1.000			6,586 (69.7)	2,868 (30.3)	1.000		
Employed	9,281 (94.7)	549 (5.3)	.530	(.465, .604)	< .001	15,810 (74.4)	5,443 (25.6)	.791	(.749, .834)	< .001

Notes: ^a Referent; N = 54,366; Missing values excluded

6. Odds Ratios for Episodic Heavy Drinking among Junior High School and High School Students by Family Structure, Parent Job Status and Parent Education.

Table

PARENT FACTOR	JUNIOR HIGH SCHOOL STUDENTS					HIGH SCHOOL STUDENTS				
	EPISODIC HEAVY DRINKING					EPISODIC HEAVY DRINKING				
	Infrequent (Never/Seldom)	Frequent (A lot/Often)	OR (95% CI)	p		Infrequent (Never/Seldom)	Frequent (A lot/Often)	OR (95% CI)	p	
	n (%)	n (%)				n (%)	n (%)			
Family Structure										
Do not live with both parents ^a	6,111 (96.2)	244 (3.8)	1.000			8,683 (82.6)	1,834 (17.4)	1.000		
Live with both parents	9,509 (98.4)	159 (1.6)	.419	(.342, .513)	< .001	16,546 (86.4)	2,592 (13.6)	.746	(.699, .796)	< .001
Father Job Status										
Unemployed ^a	969 (94.6)	55 (5.4)	1.000			1,467 (77.9)	417 (22.1)	1.000		
Employed	13,291 (97.8)	297 (2.2)	.394	(.292, .529)	< .001	21,764 (85.3)	3,740 (14.7)	.605	(.539, .678)	< .001
Mother Job Status										
Unemployed ^a	2,845 (97.4)	77 (2.6)	1.000			4,493 (84.5)	824 (15.5)	1.000		
Employed	12,084 (97.6)	299 (2.4)	.914	(.709, 1.178)	.488	19,829 (85.1)	3,459 (14.9)	.951	(.876, 1.033)	.235
Father Education Level										
HS Diploma or less ^a	4,527 (95.9)	192 (4.1)	1.000			7,178 (82.1)	1,562 (17.9)	1.000		
Some college or more	8,564 (98.5)	128 (1.5)	.352	(.281, .442)	< .001	14,998 (86.1)	2,423 (13.9)	.742	(.693, .796)	< .001
Mother Education Level										
Unemployed ^a	4,198 (96.1)	172 (3.9)	1.000			6,864 (82.5)	1,453 (17.5)	1.000		
Employed	9,719 (98.2)	182 (1.8)	.457	(.370, .565)	< .001	16,279 (86.0)	2,642 (14.0)	.767	(.715, .822)	< .001

 Notes: ^a Referent; N = 54,366; Missing values excluded