

The Effect of Parental Attitudes and Alcohol Use on College Students' Drinking

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Abstract

Heavy drinking among college students has become an issue of great concern for parents and policy makers alike. In examining the effect of parents' attitudes and behaviors on college students' drinking patterns, two primary theories emerge: 1) social learning theory and 2) family systems theory. This study analyzed data collected by the Harvard School of Public Health for the College Alcohol Study. It tested the hypothesis that students whose parents drink heavily are more likely to drink heavily themselves, in accordance with the social learning theory. An additional research question was addressed in the study that explored how parental attitudes toward alcohol use affect college students' alcohol use. Multiple regression findings supported the hypothesis, revealing a positive relationship between parental drinking and students' drinking. It also indicated a significant relationship between parental attitudes and student alcohol use: students whose parents disapproved of alcohol use were less likely to use alcohol themselves.

Alcohol use and abuse on college campus has become a widespread concern for parents, administrators, and policy makers alike. Parents who accompany their children on campus tours ask about university alcohol policies along with inquiries about academic policies and tuition. New student orientation programs contain material about alcohol safety and consequences of use.^a Campus organizations, such as fraternities and sororities, face stringent requirements for risk management educational programs and many Greek Life websites explicitly address issues of alcohol use and outline clear risk management procedures (Vanderbilt University; University of Florida). These examples point to the perception of alcohol use as a problem on college campuses. However, all of these programs aimed at college students fail to address one important aspect of alcohol use: the role that parental attitudes and behaviors played in shaping patterns of consumption for the students.

Personal anecdotes illustrate the array of lay theories for predicting college students' alcohol use based on the attitudes of parents. Some students may have come from a home environment in which strict curfews and rules regarding time spent with friends prevented initiation into alcohol use in high school, thus leading them to abstain from alcohol use in college. Other students may have reacted to the same family environment by stretching the limits of new freedoms upon arrival at college and beginning to binge drink. In contrast, some students were raised in very permissive family environments and began drinking at a young age, continuing this use in college. Other students drank in high school under lax control from parents but decided to abstain and begin a more disciplined lifestyle in college. The lay theories to explain these

^a These claims are based upon personal observation of campus tours and freshman orientation programs.

individual cases and patterns require testing through empirical research, a primary goal of this paper.

This paper will address the effect that parents' attitudes toward alcohol use and parents' alcohol consumption patterns have on college students' alcohol consumption. The two key predictors used to address this question will be parental attitudes and parental behavior, but several other variables are correlated with alcohol use and will be controlled for. Some of these variables include gender, race/ethnicity, year in school, residential characteristics, and the alcohol policy of the university. I will examine the effect of each of these independent variables on the drinking behavior of college students, as measured by both students' self description and more objective measures of their alcohol consumption. I will explore the relationship between parental influences and college drinking behavior using secondary survey analysis of data from the Harvard Alcohol Study conducted in 2001. The sample was selected randomly, using probability proportionate to size of colleges and universities, from a population of full-time undergraduate students at 119 accredited four-year colleges and universities.

Literature Review

A large body of sociological research has documented the link between parental alcohol-related attitudes and behaviors and children's alcohol use (Tyler et al., 2006; Herd, 1994; Barnes et al., 1986). Most of these studies focus on substance abuse behavior among adolescents under the age of 18, limiting their applicability to other age groups at which relationships to parental authority and influence may have changed. Parental influence on adolescents' behavior weakens in later adolescence as children turn

to peers as models for behavior (Tyler et al., 2006), indicating that studies that focus on younger adolescents may have limited pertinence to an investigation of college drinking behavior. In addition, the physical departure of many college students from their parents' homes may further weaken parental influences on students' behavior. However, these studies do establish the link between parental influence and child behavior, such that high alcohol use of parents is associated with higher alcohol use among children.

The relationship documented in the literature has been explained primarily by reference to related but slightly conflicting theories. The first of these theories is social learning, or modeling, theory and the other is family systems theory. These two theories, either in isolation or in collaboration with one another, have been used to explain most of the patterns and relationships between parental attitudes and behavior and adolescent alcohol use.

The first of the theories, social learning, is based upon the idea that parents serve as models of behavior for their offspring in terms of alcohol consumption; children imitate the patterns of behavior set by their parents, whether abstinence, moderate drinking or heavy drinking (Barnes et al., 1986; Herd, 1994). Parents are the agents by which adolescents learn appropriate or inappropriate norms and values related to alcohol use (Herd, 1994). This theoretical construct has particular salience for explaining patterns of initiation into alcohol use, where the parent often serves as the first model of drinking behavior. Often, an individual's first experience with alcohol occurs in the family setting, providing parents with the opportunity to moderate the child's interpretation of the meaning of alcohol use (Anderson et al., 1994). Additionally, Tyler et al. (2006) found that patterns of excessive alcohol use in parents influence children to a

greater extent earlier in adolescence, before the influence of peers grows; first experiences with alcohol and initiation into its use are related to models of parental use acquired through social learning.

Several studies have indicated that the effects of social learning and modeling can be modified by communication between parent and child. A commonly shared belief in American society is that communication within families about drugs and alcohol will reduce the likelihood that a child will try drugs or become a habitual substance user. For example, a Philip Morris ad campaign centered on the tagline “Talk. They’ll Listen.” encouraged parents to communicate with their children about tobacco use to prevent teen smoking (PhilipMorrisUSA). The national ad campaign that ran with the tagline “The Anti-Drug” also encourages communication as a preventative measure (The National Youth Anti-Drug Media Campaign). Some studies have found evidence that communication between parents and children about alcohol reduces the risk of adolescent substance use, including alcohol use (Cleveland et al., 2005). Other studies have found mixed effects of communication on adolescent substance use (Ennett et al., 2001). One important explanation for these inconclusive outcomes may be the interaction between parent behavior and the content of parent-child communication. For instance, adolescents could focus on different parts of a communicated message depending on whether parents adhere to the behavior they advocate themselves. Overall, what parents do may be a stronger determinant of adolescent behavior than what they say (Ennett et al., 2001); that is, communication may moderate outcomes in some way, but children essentially model their substance-related behavior on the pattern of their parents.

A second broad theory used to explain the effect of parental attitudes and behaviors on adolescent substance abuse is family systems theory. In this theoretical viewpoint, an individual's behavior is at least partially determined by interactions among family members; adolescent substance use patterns can be understood through the analysis of family interactions (Anderson et al., 1994). Differing parenting styles are one important aspect of family systems that have an impact on adolescent alcohol use, in that certain parenting styles are more likely to negatively affect adolescent behavior than others. For instance both an excessively controlling or punitive parenting style and an unusually weak parenting style lacking control predict negative substance use outcomes for teens; it seems that a moderate parenting style characterized by reasonable limits on behavior and expectations of maturity produces the optimal outcomes (Ennett et al., 2001; Anderson et al., 1994). In analyzing parental support and control, one study found that the most effective socialization process occurs under circumstances of high support and moderate control (Barnes et al., 1986), a finding that supports the previously mentioned research. In the event that a moderate parenting style is the most effective interaction style, it would be valuable to determine what proportion of parents adheres to such a parenting approach. Beck et al. (1995) determined that the majority of parents would hypothetically respond to underage drinking with a discussion of the incident and light discipline, characteristic of a moderate parenting style. Further studies of parental responses to incidents of teen drinking are needed in order to determine the proportions of parents who exhibit each parenting style in real, rather than hypothetical, situations. Parenting styles influence the alcohol use patterns of adolescents and the ways in which they perceive behavioral and verbal messages from their parents.

Family systems theory has been used to explain racial and ethnic differences in adolescent substance use. Basic differences between whites and blacks in family structure and socialization have been reported, with evidence that African American youth have stronger familial ties than their white peers, leading to stronger parental monitoring and control (Cleveland et al., 2005). These differences in family structures and socialization processes often result in different normative patterns regarding drinking and alcohol use; whites report greater approval of drinking and more frequent drinking behavior among their parents than ethnic or racial minorities (Herd, 1994). This can lead to interacting effects of race and modeling. One study reported an interaction between parental models of alcohol abuse and race, such that parental models had little effect on adolescent alcohol abuse for non-whites (Tyler et al., 2006). The authors explained this finding with the possibility that normative expectations regarding alcohol use differ by racial or ethnic groups; that is, minority groups associate drinking with negative outcomes, making them less likely to model their parents' unhealthy behavior. The relationship between race and adolescent alcohol abuse can be at least partially explained by family systems theory.

The most important difference between the two theories is that family systems theory offers an alternative to the direct causal relationship assumed in social learning theory. Social learning theory posits that children's alcohol use will directly imitate patterns of parental alcohol use, such that children who drink heavily have parents who drink heavily and children who abstain have abstaining parents. Family systems theory offers an alternative to this directly determined relationship by placing primary importance not on parental behavior, but on styles of interaction between parents and

children; there are independent effects of modeling and other socialization factors on adolescent substance use (Barnes et al., 1986). Thus, through family systems theory it is possible for an abstaining mother to raise a child who drinks heavily, offering explanations for a broader range of observed behavior.

Research Questions and Hypotheses

The body of research concerning parental influences on adolescents' drinking patterns indicates that children's alcohol use habits are closely modeled on the parents', with the understanding that family interaction styles may moderate the effects of modeling. To examine this relationship, I have used the 2001 data set of the Harvard Alcohol Study to conduct a cross sectional-analysis. I have chosen to use this year because it is the most recent data set available. In reviewing the literature, some trends emerge regarding the relationship between alcohol use patterns for parents and their adolescent children. Although the majority of research focuses on adolescents' drinking behavior in relation to their parents, I have extended this relationship to college students with the expectation that the relationships may be slightly weaker due to greater peer influences and physical distance from parents. Therefore, I hypothesize that college students whose parents used alcohol heavily are more likely to be heavy alcohol users themselves, while college students whose parents abstained are less likely to be heavy alcohol users. The literature has been less definitive in terms of the way in which parents' attitudes toward alcohol use affects their children's alcohol use. Therefore I will use this paper to explore the relationship between these two variables by examining the

research question: Among college students, how do parents' attitudes toward alcohol consumption affect children's alcohol use?

Methods

The Harvard School of Public Health College Alcohol Study is a multi-round survey that has been administered four times: 1993, 1997, 1999, and 2001. In order to reach the sample used in the 2001 survey, the creators of the study began with a sampling frame of all four-year colleges and universities accredited by the American Council on Education (Wechsler et al., 2004). From this list of schools, 119 were selected according to probability proportionate to size sampling, such that more large schools were selected to be included in the sample than small schools (Wechsler, 2001). After the sample of colleges was selected, administrators at each school were asked to provide a list of 215 randomly selected undergraduate students (Wechsler et al., 2002). The researchers mailed each of the selected students a survey, followed by two reminder mailings in an attempt to increase response rate. The sample size for the 2001 Harvard Alcohol Study is 10,904 individuals, representing a response rate of approximately 52%, after excluding students who were no longer in school due to withdrawal or leave of absence and those with incorrect mailing addresses (Kuo et al., 2003; Wechsler et al., 2003). The results from this sample can be generalized to undergraduate students at four-year colleges and universities in the United States. The study excludes graduate students and students attending non-accredited colleges or universities.

Measures

Patterns of alcohol use in college students are measured through the use of several survey items. Self-described alcohol use is measured by a single item: “How would you best describe yourself in terms of your current alcohol use?” The answer categories for this question ranged from “abstainer” (coded 1) to “problem drinker” (coded 7). A more objective measure of alcohol use can be determined through a combination of questions addressing binge drinking and gender. The composite measure, created by the Harvard Alcohol Study is primarily based on one survey question: “Think back over the last two weeks. How many times have you had five [or four] or more drinks in a row?” The number of drinks that qualifies as binge drinking is specific to the gender, five for males and four for females. The answer categories for the composite measure range from “abstainer” (coded 0) to “binged 3 or more times” (coded 3).

The two key independent variables I have assessed are parental attitudes toward alcohol use and parental alcohol consumption behaviors. Parental attitudes are measured by a single survey item: “How did your family feel about drinking alcohol when you were growing up?” Answer categories ranged from disapproval (coded 1) to approval of heavy drinking, but also included a category for disagreement within the family. This measure was recoded so that “disagreement in the family” (coded 3) fell in an intermediate category between “accepted light drinking” (coded 2) and “accepted heavy drinking” (coded 4). This measure is limited because it does not specifically address parents’ attitudes, but instead covers the attitudes of the entire family. Parental behavior has been measured by a composite of two survey items asking respondents to “describe your father’s [or mother’s] use of alcohol during most of the time that you were growing

up.” These responses ranged from “abstainer” (coded 2) to “problem drinker” (coded 7) in the same categories offered to students asked to describe their own drinking. I added the responses to these two survey items in order to compute a composite measure of parental drinking patterns. Measures of both parents’ attitudes and parents’ behaviors are limited because they are provided by the children instead of the parents themselves. The ordinal level of these measurements might limit the ability of statistical tests to find significant correlations and relationships because ordinal measures have less precision than interval-ratio measures, but interval-ratio level measures are not possible using the Harvard Alcohol Study.

I have controlled for school alcohol policy, since the stated policy of the school in regards to alcohol use will most likely have a strong effect on the drinking behaviors of students. This variable was recoded so that students who did not know their school’s alcohol policy were included in the median category (alcohol prohibited for students under the age of 21). It was then coded into dummy categories of alcohol prohibited for everybody at the college, alcohol prohibited for individuals younger than 21, and no school alcohol policy. Greek membership is also likely to affect students’ drinking patterns, so I have included this variable as another control in my analyses. Missing cases for this variable were recoded into the median category (not a member of a Greek organization). I have also controlled for residence, both location (i.e., university housing, Greek housing, or off-campus housing) and living companions (i.e., alone, with roommates, with spouse, or with parents), as students with different living arrangements are likely to exhibit different alcohol consumption patterns. Control variables will also include demographic information such as year in school (excluding graduate students),

race/ethnicity (i.e., white, black, or other), and gender. (See Appendix A for frequency distributions and descriptive statistics.)

Results and Discussion

My primary dependent variable in this study is the alcohol use of undergraduate college students. In looking at students' alcohol consumption I decided to look at two separate measures: self-described alcohol use and more objective assessments based on medical definitions of binge drinking. This second measure was not truly objective because it was based on a self-report by the student, but the survey item asked for the quantitative number of drinks the student had consumed rather than a qualitative description of the level of drinking. There can be a large disparity between how individuals interpret their own behavior and how an objective observer might classify that behavior. For this reason I wanted to run analyses on both measures of drinking patterns, to see if any divergent results appeared. Before looking at the effect any of the independent variables has on college students' reported alcohol use, I examined the descriptive statistics associated with all variables included in the analysis. A table of the descriptive statistics for all dependent and independent variables included in the analysis can be found in Table 1.

Table 1 *Descriptive statistics for variables in analysis*

Variable	Valid Cases	Min.	Max.	Mean	Median	Mode	Std. Deviation
<i>Dependent Variables:</i>							
Self-described alcohol use	10847	1	7	3.35	3	3	1.48
Frequency of bingeing	10788	0	3	1.46	1	1	1.04
<i>Independent Variables:</i>							
Parental alcohol use	10808	1	11	4.43	5	5	2.09
Parental attitudes toward alcohol use	10830	1	4	1.81	2	2	0.73
<i>Control Variables - School Attributes:</i>							
Greek membership ^a	10904	0	1	0.358	-	-	-
School alcohol policy	10862	1	5	2.72	3	3	1.08
School policy - permitted for all ^a	10862	0	1	0.27	-	-	-
School policy - permitted over 21 ^a	10862	0	1	0.72	-	-	-
School policy - no policy ^a	10862	0	1	0	-	-	-
<i>Control Variables - Residential Attributes</i>							
Residential location (resloc)	10804	1	5	3.71	5	5	1.6
Residential location - university ^a	10804	0	1	0.39	-	-	-
Residential location - Greek ^a	10804	0	1	0.02	-	-	-
Residential location - off-campus ^a	10804	0	1	0.58	-	-	-
Residential companion							
Residential companion - alone ^a	10664	0	1	0.13	-	-	-
Residential companion - roommate ^a	10664	0	1	0.59	-	-	-
Residential companion - spouse ^a	10664	0	1	0.09	-	-	-
Residential companion - parent ^a	10664	0	1	0.19	-	-	-
<i>Control Variables – Demographics</i>							
Year in school	10804	1	4	2.62	3	4	1.14
Gender ^a	10884	0	1	0.36	-	-	-
Race/ethnicity							
Race/ethnicity - white ^a	10904	0	1	0.75	-	-	-
Race/ethnicity - black ^a	10904	0	1	0.07	-	-	-
Race/ethnicity - other ^a	10904	0	1	0.16	-	-	-

^a Coded 0=No, 1=Yes.

I next ran frequency tables on both measures of the dependent variable in order to compare the two measures. Approximately one fifth of the sample reported abstaining from alcohol use entirely, according to both dependent variables. In a crosstabulation of the two dependent variables, 81.9% of the students who described themselves as abstainers also claimed to abstain in the more objective measure of bingeing frequency. This indicates that the majority of students were consistent in their responses to both dependent measures. Interestingly, only 3% of the respondents described themselves as being heavy or problem drinkers but 21.9% of respondents reported binge drinking three or more times in the past two weeks; this discrepancy is an interesting illustration of how individuals often interpret their own behavior in a different way than an objective observer would. Medically, binge drinking multiple times in a two week period would be classified as heavy drinking, but far more college students exhibit these heavy drinking patterns than are willing to describe themselves as heavy or problem drinkers.

Following this bivariate analysis, I ran crosstabulations and measures of association to see if my primary independent variables (parental attitudes toward alcohol use and parental patterns of alcohol use) were related to my dependent variables (self-described alcohol use and frequency of binge drinking). I found that there is a statistically significant and moderately positive association between both dependent measures of student alcohol use and both independent measures of parental characteristics. The gamma values and chi squared values for these crosstabulations and measures of association can be found in Table 2. Substantively, these results mean that students whose parents drink heavily and/or approve of drinking are more likely to drink

Table 2: *Measures of Association for Dependent Variables and Key Predictors*

	Self-described alcohol use	Frequency of bingeing
Parental attitudes toward alcohol use	Gamma = .235 X ² = 658.6 Sig = .000	Gamma = .211 X ² = 529.0 Sig = .000
Parental alcohol use patterns	Gamma = .262 X ² = 1180.6 Sig = .000	Gamma = .236 X ² = 972.4 Sig = .000

heavily in college than students whose parents abstain from drinking and/or disapprove of drinking.

For both self-described alcohol use and frequency of bingeing, I performed multiple regressions by building a series of four regression models: 1) only key predictors (parental attitudes and parental alcohol use), 2) key predictors + school attributes (Greek membership and school alcohol policy), 3) key predictors + school attributes + residential attributes (residential location and residential companion), and 4) key predictors + school attributes + residential attributes + demographics (year in school, gender, and race/ethnicity). The results of these multiple regressions can be seen in Table 3 (for self-described alcohol use) and Table 4 (for frequency of bingeing).

The effects of both parental attitudes and parental behaviors in regard to alcohol use on college students' alcohol use remain significant for all four models. Parental attitudes and behaviors alone explained 7.5% of the variability in self-described alcohol use; after including additional variables related to characteristics of the school, residential characteristics, and demographic characteristics, the regression could explain 16.9% of the variability in self-described alcohol use. Only 5.1% of the variability in respondents'

bingeing was explained by parental attitudes and behavior alone, but after adding in the same control variables (school, residential, and demographic characteristics) 16.2% of the variability in respondents' bingeing was explained by the regression. The models show that, all else equal, students whose parents consume alcohol heavily and accept alcohol consumption are more likely to drink heavily themselves than students whose parents abstain from drinking alcohol and disapprove of drinking. In addition, parental behaviors had stronger effects on students' alcohol use than parental attitudes did; for both self-described alcohol use and frequency of binge drinking, parental behaviors had roughly four times the effect that parental attitudes did.

Residential characteristics also had significant effects on both self-described alcohol use and frequency of binge drinking. With a comparison group of students who live in university housing, there is a weak positive association between living in Greek housing or off-campus housing and both dependent measures. These models show that, all else equal, students who live in Greek or off-campus housing are likely to drink more heavily than students who live in university housing. In comparison to students living alone, there is a weak positive association between living with a roommate and both measures of students' alcohol use. There are weak negative associations between living with a spouse and living with a parent and both dependent measures. Students who live with a roommate are likely to drink more heavily than students who live alone, all else equal. Additionally, students who live with a spouse or parent are likely to drink less heavily than students who live alone. These results make intuitive sense because students who live independently with peers likely drink socially in comparison to students who live alone, are settled into a marriage, or are still dependent on a parent by living at home.

Table 3: Regression coefficients for the effect of parental drinking and attitudes on self-described alcohol use

Dependent variable: self-described alcohol use (selfalc)

Predictors	Model 1		Model 2		Model 3		Model 4	
	b	β	b	β	b	β	b	β
Parental attitudes	.10***	.05***	.10***	.05***	.11***	.05***	.10***	.05***
Parental behavior	.17***	.25***	.17***	.24***	.16***	.23***	.16***	.22***
Greek membership ^a			.58***	.13***	.41***	.09***	.38***	.09***
School policy prohibit everyone ^b			-.62**	-.19**	-.60**	-.18**	-.59**	-.18**
School policy prohibit under 21 ^b			-.44*	-.13*	-.39	-.12	-.39	-.12
Live in Greek housing ^c					.53***	.06***	.39***	.04***
Live off campus ^c					.45***	.15***	.28***	.10***
Live with roommate ^d					.28***	.09***	.27***	.09***
Live with spouse ^d					-.51***	-.10***	-.52***	-.10***
Live with parent ^d					-.49***	-.13***	-.37***	-.10***
Black ^e							-.59***	-.10***
Other race/ethnicity ^e							-.41***	-.10***
Year in school							.13***	.10***
Gender ^f							.21***	.07***
Constant	2.39***		2.84***		2.54***		2.36***	
R ²	.075***		.095***		.139***		.169***	
N	10336		10336		10336		10336	

*p ≤ .05 ; **p ≤ .01 ; ***p ≤ .001

^a Coded 0=No, 1=Yes

^b Coded 0=No, 1=Yes; comparison group is no school alcohol policy

^c Coded 0=No, 1=Yes; comparison group is live in university housing

^d Coded 0=No, 1=Yes; comparison group is live alone

^e Coded 0=No, 1=Yes; comparison group is white

^f Coded 0=Female, 1=Male

Table 4: Regression coefficients for the effect of parental drinking and attitudes on frequency of bingeing

Dependent variable: frequency of bingeing (drinkcat)

Predictors	Model 1		Model 2		Model 3		Model 4	
	b	β	b	β	b	β	b	β
Parental attitudes	.05***	.04***	.05***	.04***	.06***	.04***	.06***	.04***
Parental behavior	.10***	.21***	.10***	.19***	.09***	.18***	.09***	.17***
Greek membership ^a			.47***	.15***	.34***	.11***	.32***	.10***
School policy prohibit everyone ^b			-.29	-.12	-.25	-.11	-.24	-.11
School policy prohibit under 21 ^b			-.17	-.07	-.12	-.05	-.12	-.05
Live in Greek housing ^c					.35***	.05***	.28***	.04***
Live off campus ^c					.28***	.13***	.21***	.10***
Live with roommate ^d					.29***	.14***	.26***	.12***
Live with spouse ^d					-.39***	-.11***	-.41***	-.12***
Live with parent ^d					-.30***	-.11***	-.26***	-.10***
Black ^e							-.53***	-.13***
Other race/ethnicity ^e							-.35***	-.13***
Year in school							.04***	.05***
Gender ^f							.07***	.03***
Constant	.92***		1.09***		.82***		.86***	
R ²	.051***		.075***		.131***		.162***	
N	10300		10300		10300		10300	

*p ≤ .05 ; **p ≤ .01 ; ***p ≤ .001

^a Coded 0=No, 1=Yes

^b Coded 0=No, 1=Yes; comparison group is no school alcohol policy

^c Coded 0=No, 1=Yes; comparison group is live in university housing

^d Coded 0=No, 1=Yes; comparison group is live alone

^e Coded 0=No, 1=Yes; comparison group is white

^f Coded 0=Female, 1=Male

Further Explanation

Examination of the regression models prompted me to explore whether there were any differences in the relationships between any of the independent variables and the two dependent variables; that is, whether students provide accurate self-descriptions of their alcohol use in comparison to their actual bingeing, as measured by the number of times they have binged in the past two weeks. In general, the independent variables are more strongly correlated with students' self-described alcohol use than with their frequency of binge drinking. This might indicate that students perceive their drinking behavior as falling more in line with the example of their parents than it actually does. Males are also more likely to describe themselves as drinking more than females than they are to actually binge drink more than females. This relationship might emerge from social norms in which male drinking is more acceptable; males might perceive themselves as being heavier drinkers than females, even if there is not actually a strong difference between binge drinking patterns, because there is more social pressure for females to limit their drinking and for males to drink heavily.

Of all of the variables included in the regression, the school's alcohol policy was the only one lacking a significant effect. School policies that prohibit all students from consuming alcohol or all students under 21 from consuming alcohol are strongly negatively correlated with students' alcohol consumption; however, these effects are not significant at the $p=.05$ level for respondents' alcohol use. One reason these correlations could lack significance is the small number of respondents in the comparison category, those who attend schools with no stated alcohol policy. There were only 45 respondents

in this category, so there may not have been a sufficiently large sample to produce significant relationships.

Conclusion

The literature indicates that the drinking behavior of adolescents can be explained by a combination of social learning theory and family systems theory. The results of this secondary survey analysis indicate support for the social learning theory. I hypothesized that college students whose parents drink heavily are more likely to be heavy drinkers themselves, and my analyses supported this relationship. I also used this study to address the research question of how parental attitudes affect college students' alcohol use. In general, the results indicated that students whose parents disapproved of drinking were more likely to abstain from alcohol use than students whose parents approved of drinking.

These results seem to be consistent with the current body of literature and to extend it to apply to college students as well as adolescents. While the study advanced the body of knowledge to apply to further age groups, it also was restricted by several limitations. First, in choosing an existing set of data, I was limited to using only the survey items that were included in the Harvard College Alcohol Study. Therefore, I was not able to ask the precise question I was interested in and instead relied on manipulating the questions that had already been asked. The study was also limited because it asked college students to report on their parents' behavior and attitudes, which can introduce a source of bias. Children may be unaware or unsure of their parents' attitudes and behavior or they may misinterpret the way their parents feel about alcohol. They may

also introduce bias into responses about their own drinking behavior, either deliberately misrepresenting their alcohol consumption or remembering inaccurately.

It would be beneficial for future studies to continue to extend the body of literature to address college students' alcohol use. One direction for future research would be a study of the effect of parents' drinking behavior on their college students' drinking, collecting data from parents as well as students; this may give a more accurate picture of parental behaviors and attitudes. It would also be interesting to see more research on how different family structures affect college students' drinking. For instance, single-parent homes, homes with stepparents and traditional homes with two biological parents most likely have different effects on the children's drinking habits and it would be interesting to examine how different family structures transmit messages about alcohol.

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