

SOCIAL BOND THEORY AND BINGE DRINKING AMONG COLLEGE STUDENTS: A MULTIVARIATE ANALYSIS

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This paper presents the results of a research project that examined the influence of social bond variables on binge drinking in a sample of college students. A questionnaire containing items which reflected a number of social bond variables and a measure of frequency of binge drinking was administered to a sample (n=247) of college students. The results indicated that nearly all of the social bond measures were inversely related to the frequency of binge drinking. A multivariate model that used these social bond measures explained approximately one-quarter of the variance in the frequency of binge drinking for the students in this sample. Respect for authority, acceptance of conventional beliefs, and G.P.A. were particularly important predictors of binge drinking. Recommendations for ameliorating this problem and suggested directions for future research on binge drinking by college students are also discussed.

Introduction

A great deal of concern has focused on the abuse of alcohol by college students and the problems associated with it. Studies have linked alcohol consumption by college students to a number of negative consequences, ranging from vandalism to sexual assault (Abbey, 1991; Engs & Hanson, 1988; Saltz & Elandt, 1986). Recently, one specific pattern of alcohol consumption, "binge drinking", has drawn a substantial amount of attention from university administrators, counselors, and researchers in the behavioral sciences. Binge drinking has been defined as the consumption of five or more drinks in a row (Haines & Spear, 1996; Nezlek, Pilkington, & Bilbro, 1994; Shulenberg, Wadsworth, O'Malley, Bachman, & John-

ston, 1996; Wechsler & Issac, 1992). Binge drinking has been characterized as the foremost public health hazard for college students (Wechsler, Dowdall, Davenport, & Castillo, 1995). Students who binge drink are more likely than other students to experience a wide variety of alcohol-related problems, including hangovers, blackouts, missing class due to drinking, engaging in unplanned sexual activity, damaging property, and getting into trouble with the police (Wechsler, Davenport, Dowdall, Moeykens, & Castillo, 1994; Wechsler & Issac, 1992). Moreover, it is estimated that more than half of the young adults who binge drink on a weekly basis exhibit indications of alcohol abuse or dependency (Shulenberg et al., 1996).

Research indicates that binge drinking

is relatively prevalent among college students. For instance, a recent survey conducted on a national sample of 17,592 college students found that approximately half (44%) of the respondents indicated that they had binged in the previous two weeks (Wechsler et al., 1994). Similarly, another study found that over half of the males and one-third of the females in a sample of students from Massachusetts colleges reported binge drinking in the two weeks prior to the survey (Wechsler & Issac, 1992). Research has also identified demographic variables associated with binge drinking among college students. These include: males are more likely than females to binge drink (Wechsler & Issac, 1992; Wechsler et al., 1994; Wechsler et al., 1995); fraternity members have a higher rate of binge drinking than other students (Wechsler, Kuh, & Davenport 1996); and Whites are more likely to binge drink than are students from other racial groups (Wechsler et al., 1995).

Despite the prevalence of this phenomenon and the numerous problems which are associated with it, relatively few researchers have attempted to explain binge drinking among college students or other young people as it is currently conceptualized. For example, Shulenberg et al. (1996) examined the influence of personality characteristics and a limited number of "social context" variables on binge drinking in young adults. Wechsler et al. (1995) investigated the relationship between binge drinking among college students and several social factors (i.e., college lifestyle, risky behavior, and time spent participating in various activities). However, research which specifically applies

sociological theories of deviant behavior to binge drinking by college students is conspicuously absent. This is a significant oversight since sociological theories of deviance typically have strong explanatory value (Lanier & Henry, 1998). The purpose of this exploratory study was to examine the relationship between variables derived from one of these sociological theories, social bond theory, and binge drinking in a sample of college students.

Theoretical Overview

Social bond theory was originally formulated by Travis Hirschi. According to Hirschi (1969, p.82), "we are moral beings to the extent we are social beings." The social bond essentially "refers to the connection between the individual and society" (Shoemaker, 1996, p. 164). This theory posits that deviance occurs when the social bond is weak or lacking. According to Hirschi (1969), there are four elements of the social bond—attachment, commitment, involvement, and belief. Social bond theory is one of the dominant perspectives on deviant behavior, and is probably the most frequently tested and discussed of all of the sociological theories of deviance (Akers, 1997). This theory has received considerable empirical support, and its explanatory value is typically described as good or moderate (Gardner & Shoemaker, 1989).

The first element of the social bond is *attachment*. This refers to the ties that an individual has to significant others such as family members. Attachment involves the degree to which the individual has affectional or emotional ties to these people, identifies with them, and cares about their

expectations. According to social bond theory, individuals with strong attachments are less likely to engage in deviant behavior. For young people, attachment to parents is of primary importance (Leonard & Decker, 1994). The quality of communication with parents is a major indicator of parental attachment.

The second component of the social bond, *commitment*, refers to the aggregate investment of time, energy, and resources in conventional activities such as getting an education or a holding a job. These investments represent stakes in conformity (Akers, 1997). Social bond theory posits that individuals with strong commitments will not want to jeopardize them by engaging in deviant behavior. For college students, commitment to higher education is very important. Indicators of this aspect of commitment include an academic orientation and grade point average (G.P.A.). Several recent studies on social bond theory have also considered religious commitment (e.g., Cherry, 1987; Gardner & Shoemaker, 1989; Igra & Moos, 1979). This is typically measured by religiosity or "the degree to which one expresses an earnest regard for religion" (Cochran & Akers, 1989, p.204).

The third element of the social bond is *involvement*. This consists of the amount of time a person spends engaging in conventional activities, such as doing school work or participating in clubs or athletics. According to social bond theory, individuals who spend their time involved in conventional pursuits simply do not have enough time available to engage in deviant behavior. For college students, indicators of this element of the social bond include

time spent studying or working at a part-time job while they are not in class.

The final component of the social bond is *belief*. This is the acceptance of a conventional value system. Social bond theory maintains that any weakening of these conventional beliefs increases the likelihood that an individual will engage in deviant behavior (Shoemaker, 1996). This belief component includes a general acceptance of the rules of society as being morally valid and binding, as well as respect for authority.

To date, there have been a few studies that explicitly examined the relationship between elements of the social bond and drinking among college students. While these studies did not focus on binge drinking as it is currently conceptualized, they nonetheless provide useful insights about the possible relationship between elements of the social bond and binge drinking among college students. Cherry (1987) conducted a study which examined the effects of the social bond variables on the alcohol consumption patterns of students from a college in Maryland. The measures that he used primarily tapped the attachment, commitment, and involvement, components of social bond theory. He found that "students with strong bonds to the college community, religious institutions, and family drank less than students with weakened or broken bonds" (p. 134). Igra and Moos (1979) examined the effects of two components of the social bond (i.e., commitment and involvement) on drinking using a sample of first-year students who resided in the dormitories of two Western universities. They found that commitment to religious and academic values were neg-

atively related to alcohol use. These particular results support the contentions of social bond theory. However, they also found a positive relationship between involvement in conventional activities and frequency of drinking, which is not consistent with social bond theory. Igra and Moos (1979, p.402) attributed this inconsistent finding to their contention that "drinking fits into the mainstream of college life."

In their national study of binge drinking by college students, Wechsler et al. (1995) examined "individual correlates" of binge drinking. Although not specifically conceptualized as such, these researchers employed measures that corresponded with variables from social bond theory. They used logistic regression to calculate odds-ratios based on several social and demographic factors. Students who claimed that religion was not at all important to them were more than three and one-half times more likely than other students to binge drink. They also found that students who claimed academic work was not at all important, had a G.P.A. of "B" or less, studied less than four hours a day, or worked less than two hours a day for wages were more likely to binge drink than other students. These findings are consistent with the predictions of social bond theory regarding the impact of commitment and involvement on deviant behavior.

Moreover, the extant literature on drinking by college students contains additional examples of measures that can be interpreted as reflecting various aspects of the social bond. For instance, several studies have found a negative relationship between religiosity and drinking (e.g., Engs & Han-

son, 1988; Hughes & Dodder, 1983; Moos, Moos, & Kulik, 1976; Wechsler & Rohman, 1981). There have been a number of studies which indicated a negative association between academic achievement and drinking. Most research on this particular relationship has found "that drinkers (especially heavy drinkers) earn lower G.P.A.s than non drinkers" (Maney 1990, p.23). Finally, research has also found that personality traits such as rebelliousness and non-conformity are positively associated with drinking by college students (Brennan, Walfish, & AuBuchon, 1986; Saltz & Elandt, 1986). Although these personality traits are typically considered psychological measures, they can be interpreted as reflecting a lack of conventional beliefs.

Several hypotheses about the binge drinking of college students were derived from social bond theory. First, it was hypothesized that there would be an inverse relationship between attachment to parents and binge drinking. Second, it was predicted that there would be a negative association between commitment to conventional activities and binge drinking. Furthermore, it was also hypothesized that there would be a negative relationship between involvement in conventional activities and binge drinking. Finally, it was predicted that there would be an inverse relationship between the belief component of the social bond and binge drinking.

Methodology

The data reported in this paper were obtained as part of a larger study on the drinking patterns of undergraduate students at one college. Subjects were

recruited from a variety of undergraduate classes at a liberal arts college. The questionnaires were distributed during the last two weeks of the semester. Since this study dealt with patterns of underage drinking, only students who were under twenty-one years of age were asked to complete the questionnaire. The survey contained a cover letter which emphasized that participation in the study was completely voluntary, responses were completely anonymous, and the research was not sponsored by the college administration or any law enforcement agency. A total of 253 questionnaires were returned, but 6 were unusable. Thus the sample included 247 students. Of these 247 respondents, 52.6% were female and 47.4 % were male. The vast majority of subjects (85%) were White.

The self-administered survey contained a number of questions designed to measure the various components of the social bond. Most of these items have been used by other researchers (e.g., Gardner & Shoemaker, 1989; Hirschi, 1969; Leonard & Decker, 1994; Michaels & Miethe, 1989). Attachment to parents was measured by the student's responses to the following items: (a) "my parents want to help me when I have a problem"; (b) "my parents and I talk about future plans"; and (c) "I can share my thoughts and my feelings with my parents." These items had response values which ranged from 1 (disagree strongly) to 6 (agree strongly). These items were then aggregated to form the *parental attachment scale*. Cronbach's alpha for this scale was .87.

Several different indicators were used to gauge the commitment component of

the social bond. First, commitment to higher education was measured by responses to three items on a six-point scale ranging from 1 (disagree strongly) to 6 (agree strongly). These items were: (a) "I try hard in school"; (b) "getting good grades is important to me"; and (c) "class attendance is important to me." The aggregate scale for these items was called the *commitment to higher education scale*. Cronbach's alpha for this scale was .80. G.P.A. was used as an indicator of academic achievement. G.P.A. was measured using a six-point scale with values ranging from 1 (less than 1.5) to 6 (3.6 or above). Religious commitment was measured by the statement "regular church attendance is important to me." Response options ranged from 1 (disagree strongly) to 6 (agree strongly). Finally, general commitment was assessed based on the statement "whatever my goals are, I try hard to achieve them." Again, response options ranged from 1 (disagree strongly) to 6 (agree strongly).

Involvement was measured using a summated index that consisted of two items. Respondents were asked to indicate how many hours a week they spent studying, as well as how many hours a week they spent working at a job. Values for each of these items ranged from 1 (none) to 6 (20 hours or more). These items were then added together to form the *involvement index*. Other research on social bond theory has used a similar strategy (e.g., Michaels & Miethe, 1989; Wiatrowski, Griswold, & Roberts, 1981).

The belief component of the social bond was measured in two ways. First, respect for authority was evaluated by the respons-

es to the following questions: (a) "I have a lot of respect for the local police"; and (b) "I have a lot of respect for the college's public safety officers." The values for each of these items ranged from 1 (disagree strongly) to 6 (agree strongly). These items were aggregated to form the *respect for authority scale*. The Cronbach's alpha for this scale was .83. Finally, acceptance of conventional beliefs was measured by the statement "to get ahead you have to do some things which aren't right." Response options for this item ranged from 1 (agree strongly) to 6 (disagree strongly).

The dependent variable was frequency of binge drinking. This was measured by an item that asked respondents to indicate how often during the last semester they had consumed five or more drinks in a sit-

ting. The questionnaire provided respondents with a definition of a "drink" as a "12 oz. beer or wine cooler, a shot of liquor, or a 6 to 8 oz. glass of wine." This item was measured on a six-point scale with values ranging from 1 (never) to 6 (once a week or more).

Zero-order correlations were used to test the general level of association between each of the independent variables and frequency of binge drinking. Ordinary least squares (OLS) regression was then used to analyze the effects of each of the independent variables on binge drinking. Moreover, the regression equation was used to assess how much of the variance in frequency of binge drinking was explained by these social bond variables.

Table 1

Zero-Order Correlations for the Variables Included in the Study

	BINGE	ATTPAR	COMCH	COMSCL	GENCOM	GPA	INVOLVE	RESPECT	GENBEU
BINGE	1.00								
ATTPAR	-.04	1.00							
COMCH	-.19**	.30**	1.00						
COMSCL	-.26**	.42**	.37**	1.00					
GENCOM	-.15*	.32**	.28**	.49**	1.00				
GPA	-.30**	.21**	.20**	.42**	.30**	1.00			
INVOLVE	-.21**	-.06	.08	.28**	.17*	.19**	1.00		
RESPECT	-.34**	.30**	.34**	.40**	.33**	.20**	.28**	1.00	
GENBEL	-.30**	.20**	.23**	.20**	.06	.24**	.03	.34**	1.00

Note: *p=.05; **p=.01; BINGE=frequency of binge drinking; ATTPAR=parental attachment scale; COMCH=religious commitment; COMSCL=commitment to higher education scale; GENCOM=general commitment; GPA=grade point average; INVOLVE=involvement index; RESPECT=respect for authority scale; GENBEL=conventional beliefs.

Results

The zero-order correlation coefficients for the variables included in this study are shown in Table 1. Several of the bivariate relationships between variables derived from social bond theory and frequency of binge drinking were statistically significant. All four of the measures that reflect the commitment component of the social bond were negatively related to the frequency of binge drinking. These were religious commitment ($r=-.19$), the commitment to higher education scale ($r=-.26$), general commitment ($r=-.15$), and G.P.A. ($r=-.30$). Both of the indicators of the belief

The regression results for the social bond model of binge drinking are reported in Table 2. This model explains nearly one-quarter of the variance in the frequency of binge drinking for the subjects in this sample ($R^2=.22$). The standardized regression coefficients indicated that four of the social bond measures were significant predictors of the frequency of binge drinking. Two of these predictors, the respect for authority scale ($Beta=-.18$) and the acceptance of conventional beliefs ($Beta=-.20$), were derived from the belief component of social bond theory. The standardized regression coefficient for G.P.A. was also

Table 2
Regression Results (Betas) for the Social Bond Model of Binge Drinking

ATTPAR	.16*
COMCH	-.07
COMSCL	-.08
GENCOM	-.04
GPA	-.17*
INVOLVE	-.08
RESPECT	-.18**
GENBEL	-.20**
R ²	.22**

* $p<.05$ ** $p<.01$

component of the social bond were inversely related to frequency of binge drinking. These were the respect for authority scale ($r=-.34$) and the acceptance of conventional beliefs measure ($r=-.30$). Furthermore, there was a significant inverse relationship between the involvement index and frequency of binge drinking ($r=-.21$). However, there was no significant zero-order correlation between the parental attachment scale and frequency of binge drinking.

statistically significant ($Beta=-.17$). Finally, the parental attachment scale was also a significant predictor of the frequency of binge drinking in this regression equation ($Beta=.16$).

Discussion

The main purpose of this exploratory study was to examine the influence of variables derived from social bond theory on binge drinking in a sample of college students. Before discussing the results of this

research, it is important to acknowledge a basic limitation of this study. Since this survey was only administered to students at one college, further investigation is required before any definitive statements can be made about the relationship between social bond variables and binge drinking in the general population of college students. However, because of the lack of research which utilizes sociological theories of deviant behavior in the binge drinking literature, the findings of this exploratory study provide important information which will be relevant to future research endeavors. The results of the current undertaking suggest that social bond theory helps to explain a modest amount of the binge drinking behavior of the college students in this sample. The social bond model accounted for nearly one-quarter of the variance in the frequency of binge drinking for these students.

In this study, the belief component of the social bond was the best predictor of binge drinking. Respect for authority and acceptance of conventional beliefs were both inversely related to the frequency of binge drinking. This means that students who have a relatively low regard for authority and conventional beliefs tend to be more frequent binge drinkers than other students. This finding is consistent with previous observations that personality traits such as non-conformity and rebelliousness are positively associated with drinking by college students (Brennan et al., 1986; Saltz & Elandt, 1986).

Several variables were included in this study to measure the commitment component of the social bond. These included G.P.A., commitment to higher education,

religious commitment, and general commitment. It was hypothesized that there would be a negative relationship between this aspect of the social bond and frequency of binge drinking. The results of this research were generally supportive of this hypothesis. There was a significant negative relationship between G.P.A. and frequency of binge drinking at the bivariate level. This is consistent with previous studies which found a negative association between drinking, particularly heavy drinking, and the academic performance of college students (see Maney, 1990; Wechsler et al., 1995). There was also a significant negative correlation between commitment to higher education and binge drinking, indicating that frequent binge drinkers tend to be less committed to their education than other students. Similar findings have been reported by other researchers (e.g., Igra & Moos, 1979; Wechsler et al., 1995). There was also a significant negative relationship between religious commitment and frequency of binge drinking at the bivariate level. This is consistent with the large number of studies that indicate religiosity is inversely associated with drinking by college students (e.g., Cherry, 1987; Engs & Hanson, 1988; Hughes & Dodder, 1983; Igra & Moos, 1979; Moos et al., 1976; Wechsler & Rohman, 1981; Wechsler et al., 1995). Finally, there was a small, but statistically significant, negative correlation between the general commitment measure and binge drinking. Although all of the measures of the commitment component of the social bond were significantly related to binge drinking at the bivariate level, only G.P.A. had a significant standardized regression

coefficient in the multivariate model. Therefore, when the various indicators of commitment were considered simultaneously, only G.P.A. was a significant predictor of the frequency of binge drinking.

The involvement component of the social bond was measured by a summated index consisting of time spent studying and time spent working at a job while not in class. There was a significant negative correlation between the involvement index and frequency of binge drinking. Students who spend more time involved in these conventional activities tend to be less frequent binge drinkers than other students. Similarly, Wechsler et al. (1995) found that students who report studying less than four hours a day or work less than two hours a day for wages were more likely than other students to binge drink. Additionally, Chery (1987) found a negative correlation between homework involvement and alcohol use by college students. On the other hand, Igra & Moos (1979) found a positive relationship between involvement in conventional activities and drinking by college students. While the bivariate relationship between the involvement index and frequency of binge drinking was statistically significant in the present study, involvement was not a significant predictor in the multivariate model. This suggests that while involvement may be inversely related to binge drinking, other social bond variables are superior predictors of this behavior.

A three-item parental attachment scale was used as an indicator of the attachment component of the social bond. The relationship between parental attachment and

frequency of binge drinking was particularly complex in this study. On the one hand, the parental attachment scale was not significantly correlated with binge drinking at the bivariate level. On the other hand, parental attachment was a significant predictor of the frequency of binge drinking in the multivariate model. Moreover, unlike the other significant predictors of binge drinking, this relationship was in a positive direction. This means that controlling for all of the other independent variables in the model, those students who have a stronger attachment to parents tend to be more frequent binge drinkers. This was an unexpected finding since it is contrary to the assertions of social bond theory. A possible explanation is that some of the students in this sample may have a strong attachment to parents *who approve of heavy drinking*. There is some evidence in the literature which supports this assertion. For instance, Wechsler et al. (1995) found that having a parent who is not an abstainer, as well as having a family who approve of alcohol use, significantly elevated the risk of binge drinking for college students. Furthermore, a family history of alcohol abuse has been linked with problem drinking by college students (Luza, 1990; Pullen, 1994). However, it is important to remember that on the basis of the magnitude of the standardized regression coefficients, the other statistically significant variables in the multivariate model (i.e., respect for authority, acceptance of conventional beliefs, and G.P.A.) were all stronger predictors of binge drinking than parental attachment.

Before concluding this discussion, it is important to consider how the results of

this research can be applied to efforts to deal with the problem of binge drinking on campus. Social bond theory typically recommends common sense policies to inhibit deviant behavior such as keeping young people involved in conventional activities and committed to conventional lines of action (Williams & McShane, 1999). This theory would suggest the development of prevention and education programs to control alcohol-related problems through facilitating student bonds to the college community (Cherry, 1987). The results of this current undertaking seem to indicate two important foci for these programs. First, it is essential that these programs foster students' commitment to higher education, particularly academic pursuits. Second, these programs should promote the acceptance of conventional values and a healthy regard for authority. Moreover, it is important that these programs target first-year students to ensure the development of bonds to the college community. Haines and Spear (1996) reported on a successful campaign that reduced binge drinking on campus by changing students' perceptions of the norms regarding this behavior. This strategy could be incorporated into a social bond program by promoting the acceptance of conventional norms about drinking (i.e., drinking in moderation).

Conclusion

Alcohol abuse has been widely recognized as a major problem on college campuses. Recently, one particular pattern of alcohol consumption, binge drinking, has generated a great deal of concern. Binge drinking is associated with a vast

array of negative consequences for college students, ranging from missing class to getting into trouble with the police. Recent studies indicate that binge drinking is a prevalent behavior among college students. Although binge drinking is a widespread and problematic behavior on college campuses, there is a notable lack of theory-driven research on this topic. Studies that utilize any of the sociological theories of deviant behavior to examine binge drinking by college students are conspicuously absent.

The purpose of this exploratory research was to investigate the relationship between variables derived from social bond theory (Hirschi, 1969) and binge drinking in a sample of college students. As expected, significant negative correlations were found between nearly all of the social bond measures and the frequency of binge drinking. Additionally, a regression equation was calculated using all of the social bond measures. This model explained approximately one-quarter of the variance in the frequency of binge drinking. Respect for authority, acceptance of conventional values, and G.P.A. were found to be particularly important predictors of binge drinking. Therefore, social bond theory appears to be an especially useful framework from which to examine this problem. However, more research on other populations of college students is needed before more definitive statements can be made regarding the generalizability of the present findings.

Although a great deal is known about the prevalence and consequences of binge drinking by college students, relatively little is known about the factors that

contribute to this behavior. Over a decade ago, based on a literature review of college drinking studies, Saltz and Elandt (1986) characterized that body of research as atheoretical. Although there is a growing tendency for theory-based studies of drinking by college students (e.g., Cherry, 1987; Pullen 1994), this has certainly not been the case with binge drinking. Future investigations of binge drinking by college students should consider applying social bond theory or other sociological theories of deviance to this behavior. Regardless of which theories are used, it is imperative that theory-driven research is conducted on this topic. Until a more adequate understanding of binge drinking by college students can be achieved, amelioration of this endemic problem will be difficult if not impossible.

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