

Differentiating Adjudicated From Nonadjudicated Freshmen Men: The Role of Alcohol Expectancies, Tension, and Concern About Health

Joseph W. LaBrie Summer Tawalbeh Mitch Earleywine

Identifying students at risk for violating alcohol policies could help college administrators minimize many problems. In this study, 154 male college freshmen [mean age 18.01 (SD = .50); 63% (n = 54) Caucasian], 68 of whom had been adjudicated for violating alcohol policies, completed an initial questionnaire assessing demographic characteristics and beliefs about drinking as well as a Timeline Followback of previous drinking behavior. Compared to the 86 nonadjudicated participants, adjudicated men were more likely to be Caucasian, from higher income families, involved in heavy drinking, and higher on positive alcohol expectancies. They reported less concern about their health and less tension. A logistic regression with these variables successfully distinguished between the two groups. Health and tension items alone correctly classified the groups almost as well. Results suggest that simple assessments about tension and concern for health may identify male students in need of prevention efforts.

Alcohol abuse on college campuses creates negative outcomes for individuals and for the entire community. Students who receive sanctions for violating university alcohol policies (adjudicated students) often drink problematically compared to nonadjudicated students (Caldwell, 2002; Flynn & Brown, 1991; Larimer & Cronce, 2002; O'Hare,

1997). Many college students drink heavily and develop problems (Schuckit, Klein, Twitchell, & Springer, 1994; Weschler, Davenport, Dowdall, Moeykens, & Castillo, 1994; Wechsler, Dowdall, Maenner, Hill-Hoyt, & Lee, 1998; Wechsler, Isaac, Grodstein, & Sellers, 1994). Students who binge drink frequently have a greater likelihood of experiencing negative alcohol-related consequences than their peers (Wechsler & Nelson, 2001). Heavy drinkers report that alcohol impairs their academic and personal lives, disrupts their sleep and studies, and leads to property damage as well as verbal, physical, or sexual violence (Engs, Diebold, & Hanson, 1996; Wechsler, Davenport, et al., 1994; Wechsler, Lee, & Kuo, 2000; Wechsler, Moeykens, Davenport, Castillo, & Hansen, 1995). The negative effects of alcohol, including increased recidivism among alcohol-offending students, are an increasing concern among administrators and campus communities across the United States (Walters, Gruenewald, Miller, & Bennett, 2001). Thus, predicting who will violate alcohol policies has practical importance. Although no single cause accounts for excessive drinking in college (Rutledge & Sher, 2001), researchers continue to look for multiple predictors of differences between adjudicated and nonadjudicated students.

Barnett and colleagues (2004) found that

Joseph W. LaBrie is ___ of ___ at Loyola Marymount University. Summer Tawalbeh is ___ of ___ at Loyola Marymount University. Mitch Earleywine is ___ of ___ at the University at Albany, State University of New York. Research for this article was supported by the United States Department of Education Office of Safe and Drug Free Schools Grant Q184H030069.

adjudicated students had significantly more heavy drinking days and alcohol-related consequences compared to nonadjudicated students. These differences persist even when controlling for readiness to change drinking, percentage of drinking days in the past month, and perceived norms for drinking. Fromme and Corbin (2004) looked at both Campus Recruited (CR) and Disciplinary Referral (DR) samples and found Caucasian males were more likely to be part of the DR sample. This finding is consistent with other research that indicated younger Caucasian males experience higher risk for alcohol-related consequences and campus alcohol violations (Engs et al., 1996; Kahler, Read, Wood, & Palfai, 2003; O'Malley & Johnston, 2002). Also, the DR students had heavier weekly consumption rates and significantly more alcohol-related consequences than CR students. Flynn and Brown (1991) found that mandated participants reported greater alcohol consumption than volunteer participants. In addition, their attitudes about their own drinking were significantly less conservative than those of their volunteer peers.

Potential Moderators and Mediators of Adjudication

Mechanisms behind the links between drinking habits and adjudication remain poorly understood. One important potential mediator may be alcohol expectancies (i.e., the beliefs one has about the positive and negative effects of alcohol). Alcohol expectancies relate to both abusive and nonabusive drinking patterns (Brown, Goldman, & Christiansen, 1985; Christiansen, Goldman, & Brown, 1985). Expectancies that alcohol will increase sociability and enhance sexual opportunity predict heavier drinking (Fromme & D'Amico, 2000; Leigh, 1987; Neighbors, Walker, & Larimer, 2003; Noar, LaForge, Maddock, & Wood, 2003; Werner, Walker, & Greene, 1993).

Expectancies are a potential mediator of decision making while consuming alcohol (Brown, Christiansen, & Goldman, 1987; Goldman, Brown, & Christiansen, 1987; Marlatt & Rohsenow, 1980). They also predict behavior while drinking (George & Marlatt, 1986; Rohsenow, 1983) and future drinking patterns (Brown, 1985). The most important contribution of alcohol expectancies may be their ability to predict changes in drinking and the development of alcohol-related consequences (Jones, Corbin, & Fromme, 2001).

Other potentially important contributors to heavy drinking in college students include family income and health outcome expectancies. As income increases, drinking increases and perceptions of drinking as a problem decrease (Crawford, 1995; Glassco, 1975; Mills & Sirgo, 1993). Previous research also shows a positive relation between heavy drinking and expectancies of tension reduction (Orford, Krishnan, Balaam, Everitt, & Van Der Graff, 2004; Rutledge & Sher, 2001). Many theories of alcohol consumption focus on its negatively reinforcing properties, particularly the drug's purported ability to decrease tension (see Armeli et al., 2003). Nevertheless, a recent study suggests that students who are the most tense, particularly the socially anxious, drink little or no alcohol (Ham & Hope, 2005). It is possible that the level of tension experienced by a student may be related to alcohol consumption and thus, adjudication.

Further, although research confirms the relation between physical and mental health and alcohol consumption and abuse (Room, Babor, & Rehm, 2005; Weitzman, 2004), few studies examine concern for one's health and alcohol consumption. Concerns about health may also vary with alcohol consumption. Heavy drinkers often report that health concerns motivate their decreased drinking (Cunningham Blomqvist, Koski-Jannes,

Cordingley, & Callaghan, 2004). Health concerns also play an important role in maintaining abstinence (Downey, Rosengren, Donovan, 2001). In addition, undergraduates can report tension and health concerns with simple items that do not suffer from the response bias inherent in assessments of drinking or drinking problems. Although problem drinkers might fail to disclose heavy alcohol consumption or related problems because of the face validity of the questions, most should be willing to respond to simple items on tension or health concerns.

Differentiating Adjudicated and Nonadjudicated Students

Although some research has examined mandated treatments or interventions with college students who have violated campus alcohol policy (Barnett et al., 2004; Flynn & Brown, 1991; Freeman, 2001; Fromme & Corbin, 2004; LaBrie, Lamb, Pedersen, & Quinlan, 2006), little research has examined the differences between adjudicated and nonadjudicated students. In addition, little is known about differential responses of mandated versus nonmandated students to treatment intervention or prevention programs (Fromme & Corbin). Developing and implementing successful intervention programs is predicated on the ability to tailor the approach to the specific population served.

The transition to college is a critical period, which can be stressful and potentially developmentally disruptive to freshmen, particularly in terms of academics and social life (Astin, Korn, Sax, & Mahoney, 1994; National Institute of Alcohol Abuse and Alcoholism, 2002; Schulenberg et al., 2001). This disruption necessitates adaptive responding, and students may turn to maladaptive coping behaviors such as problematic drinking (Berkowitz & Perkins, 1986). Drinking patterns displayed at the start of college appear

to predict patterns throughout the collegiate years, and students who report heavy drinking from the outset of college tend to be less successful in their adjustment to college life (Schulenberg et al.). For some, alcohol abuse may represent a maladaptive response to the developmental challenges that are faced in the transition to college (Berkowitz & Perkins), and this response in turn increases the likelihood of negative alcohol-related consequences, particularly adjudication (Barnett et al., 2004; Wechsler & Nelson, 2001). As such, freshmen males, who tend to consume more alcohol than their female peers (Fromme & Corbin, 2004; Read, Wood, Davidoff, McLacken, & Campbell, 2002), are a subset of college students especially at-risk for adjudication (Engs et al., 1996; Fromme & Corbin; Kahler et al., 2003; O'Malley & Johnston, 2002). Being able to predict which freshmen will experience problems related to alcohol use (and cause problems for campus communities) would assist college administrators in developing and targeting interventions to reduce risk and decrease alcohol consequences.

The current study was an attempt to expand the literature on adjudicated students by defining a predictive model for adjudication among freshmen males using demographic, health perception, and expectancy variables. Consistent with previous research, we expected adjudicated freshmen to display heavier drinking patterns and have higher alcohol expectancies than their nonadjudicated peers. We also expected them to be predominately Caucasian (Kahler et al., 2003; O'Malley & Johnston, 2002) and come from families with higher incomes (Crawford, 1995; Glassco, 1975; Mills & Sirgo, 1993). Further, expanding on the recent Ham and Hope (2005) findings that more tense students drink less alcohol and other health research (Cunningham et al., 2004), we predicted that students

reporting low levels of tension and little concerns about their health would be more likely to be adjudicated.

METHOD

Participants

As part of a larger study examining a group intervention based on Motivational Interviewing (MI) (Miller & Rollnick, 2002), 205 undergraduate students completed an initial assessment questionnaire during the 2003-2004 academic year at a private Western university. After responding to flyers seeking participants for group discussions regarding drinking attitudes and habits, 105 male freshmen volunteered to participate; the Judicial Affairs Office referred an additional 100 male students from all class years, who had been cited for violating campus alcohol policy, to participate in the intervention group. The most typical violation was underage drinking. Typically, a student was cited for an alcohol-related offense by a resident advisor or public safety officer. After being cited, the student's case was referred to a campus judicial officer who offered first-time offenders the option of participating in the study. All students offered the intervention study in lieu of an alternative sanction chose to participate in the study. This judicial process in all cases took at least one month from time of citation to attendance at a group. The nonadjudicated, volunteer freshmen received a nominal stipend of \$20, whereas the adjudicated freshmen received campus judicial credit for their sanction.

Only freshmen drinkers were used in the analyses. Thus, only the 86 nonadjudicated volunteer participants who reported drinking alcohol within the previous month were included. These 86 volunteers averaged 18.01 ($SD = .50$) years of age. Sixty-three percent ($n = 54$) were Caucasian, while the remaining

37% ($n = 32$) were either Hispanic ($n = 16$), African American ($n = 4$), Asian/Pacific Islander ($n = 1$) or mixed/other ($n = 11$). Due to the smaller representation of these ethnicities, these participants were combined and referred to as "non-Caucasian". Among adjudicated participants sanctioned for first-time infractions of campus alcohol policies, 68 were freshmen. These 68 participants averaged 18.11 ($SD = .50$) years of age. Eighty-four percent ($n = 57$) were Caucasian and the remaining 16% ($n = 11$) were Hispanic ($n = 3$), Asian/Pacific Islander ($n = 4$), or mixed ethnicity ($n = 4$) and again were collectively referred to as "non-Caucasian" due to the small representation.

Measures

Drinking Behavior. The initial questionnaire included demographic information as well as a self-report quantity and frequency index to assess alcohol use. Using this measure, participants indicated how many days they drank alcohol within the previous week, how many days they drank alcohol in the previous month, the average number of drinks consumed on each drinking occasion, and the maximum number of drinks consumed at one time. In addition, participants indicated their intended drinking behavior for the same drinking variables over the next month.

Alcohol-Related Consequences. The Rutgers Alcohol Problem Index (RAPI) (White & Labouvie, 1989) assesses consequences encountered during the prior month either during or as a result of drinking. For each item, participants indicate, over the previous month, the approximate number of times each event happened either due to drinking behavior or during drinking activity. Sample items include "Not able to do your homework," "Noticed a change in your personality," and "Got into fights, acted badly or did mean things." Summing the scores of all 23 items on the scale

produced a RAPI composite score that displayed adequate reliability ($\alpha = .77$).

Alcohol Expectancies. Two subscales of the Alcohol Effects Questionnaire (AEQ-3) (George et al., 1995), social enhancement (SE) and social and physical pleasure (SPP), assess expectancies regarding the social aspects of alcohol use. Both factors contain five items ranked on a 7-point Likert-type scale, ranging from *strongly disagree* to *strongly agree*. Each factor score is derived from the average of its five items. SPP consists of items assessing anticipations with respect to the physical sensation of alcohol consumption (i.e., "Drinking makes me feel good"), as well as its enhancement of social interactions (i.e., "Drinking adds a certain warmth and friendliness to social occasions for me"). Higher scores indicate more positive expectancies regarding the impact of alcohol on physical and social pleasure. SE consists of items assessing anticipations of alcohol's effect in enhancing social situations (i.e., "A few drinks make me feel less shy"). Higher scores indicate greater alcohol expectations of social confidence and ease of self-disclosure. The two subscales used from this alcohol expectancy measure showed acceptable reliability; $\alpha = .84$ for SE and $\alpha = .77$ for SPP.

A questionnaire developed by Dermen and Cooper (1994) assesses sex-related alcohol expectancies (SRAE), which are ranked on a 7-point Likert-type scale from *strongly disagree* to *strongly agree*. This questionnaire includes 13 items that assess expectancies for sexual enhancement, sexual risk taking, and disinhibition of sexual behavior. Sample items include: "I feel close to a sexual partner after drinking," "When drinking I am more sexually responsive," "I am less likely to take precautions before sex when I am drinking," and "I am more likely to do sexual things I wouldn't do when sober." The composite score reflects the average of all items. Higher scores indicate

greater expectations for drinking to enhance sexual feelings and disinhibit sexual behavior. This measure had adequate reliability ($\alpha = .91$).

General Well-Being. Two rulers from the General Well-Being Schedule (Dupuy, 1978) measured subjective levels of concern for health (general health ruler) and tension (tension ruler). Participants rated themselves on each ruler from 0 to 10 indicating how they had generally felt during the previous month. A lower score on the general health ruler indicates less concern with health, whereas a lower score on the tension ruler indicates more relaxation and less tension.

Retrospective Drinking Behavior. Finally, in the group setting, participants completed a TLFB of drinking behavior for the 3 months prior to the intervention. To increase memory for drinking events over the period, the facilitator encouraged each participant to identify personal "marker" days, such as vacations, sporting events, visitors, parties, and birthdays. Using marker days and drinking patterns to aid in recall, participants were led back, day-by-day, through the calendar. They reported the number of drinks consumed each day they drank. Participants also marked those days in which they consumed five or more standard alcoholic drinks in one drinking occasion.

Design and Procedure

For both the volunteers and adjudicated participants, the study was conducted in groups of 10 to 15 students. The volunteer groups took place during their second month on campus, whereas the adjudicated groups occurred throughout the academic year contingent upon sanctioning. The groups were facilitated by a doctoral-level professional trained in MI (Miller & Rollnick, 2002). Upon arrival, participants signed a consent form approved by the local Internal Review

TABLE 1.

Means and Standard Deviations and Effect Sizes for Drinking and Other Variables of Interest for Adjudicated and Nonadjudicated Male Freshmen

Variables	Nonadjudicated		Adjudicated		Cohen's <i>d</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	
Self-report days/week	1.53	1.32	2.94	1.63***	0.95
Self-report days/month	6.27	5.25	12.35	7.35***	0.95
Self-report average drinks/drinking occasion	6.12	4.14	7.82	3.70**	0.43
Self-report maximum drinks drank at one time	11.33	7.15	16.23	6.73***	0.71
Self-report total drinks/month	52.36	69.67	105.01	98.46***	0.62
Intended days/week	1.34	1.13	2.66	2.03***	0.80
Intended days/month	5.69	4.45	10.42	6.79***	0.82
Intended average drinks/drinking occasion	5.49	3.82	7.96	4.11***	0.62
Percent of sexual events that involved prior drinking	15.56	26.11	29.94	31.27*	0.50
Composite RAPI ^a scores	11.76	18.85	19.33	18.29*	0.41
Health ruler	7.00	2.76	3.50	2.18***	1.41
Tension ruler	6.37	2.03	4.41	2.07***	0.96
AE ^b social enhancement score	3.50	1.31	3.92	1.09*	0.35
AE social and physical pleasure score	3.83	1.14	4.39	0.80**	0.57
Sex-related AE sexual enhancement score	3.01	1.36	3.25	1.14	0.19
Sex-related AE disinhibition score	3.21	1.54	3.31	1.30	0.07
TLFB # binge episodes last 2 weeks	1.56	2.18	3.88	3.01***	0.88
TLFB total binge episodes, last 3 months	10.51	11.77	20.38	16.44***	0.69

Notes. * Values represent significant differences between adjudicated and nonadjudicated participants

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

^a Rutgers Alcohol Problem Index.

^b Alcohol Expectancies.

Board and received assurances of confidentiality. Next, all participants individually completed an initial assessment questionnaire that included demographic and drinking items, as well as several established measures assessing alcohol-related consequences, beliefs about the effects of alcohol use, and motivation

to change drinking behavior. Then, led by the facilitator in the group setting, students completed individual Timeline Followbacks (TLFB) (Sobell & Sobell, 1992) of their drinking behavior. The data from the initial questionnaire and TLFB, which occurred prior to the group intervention, are used in the

current study's analyses. Total time to complete the initial questionnaire and TLFB was approximately 25 to 35 minutes.

RESULTS

Means and standard deviations of drinking and related variables for adjudicated and nonadjudicated student participants, along with effect sizes, are contained in Table 1.

Drinking Variables

Drinking and Intended Drinking. Independent samples *t* tests of self-report data showed that adjudicated participants exhibited significantly higher drinking behavior and intended drinking behavior than their nonadjudicated counterparts. Compared to the nonadjudicated freshmen, adjudicated participants reported drinking more days per month (12.35 vs. 6.27), $t(152) = 5.99, p < .001, d = .95$, more average drinks per drinking occasion (7.82 vs. 6.12), $t(149) = 2.69, p < .01, d = .43$, greater maximum drinks at one time (16.23 vs. 11.33), $t(141) = 4.28, p < .001, d = .71$, and greater total drinks per month (105.01 vs. 52.36), $t(151) = -3.87, p < .001, d = .62$. Further, compared to nonadjudicated participants, adjudicated participants reported higher intended drinking days per month (10.42 vs. 5.69), $t(150) = 5.17, p < .001, d = .82$, as well as higher numbers of intended drinks per drinking occasion (7.96 vs. 5.49), $t(151) = 3.83, p < .001, d = .62$ even though they were filling out the survey as part of a mandatory intervention. This change is actually not okay, because it now seems that adjudicated participants were required to attend, but were not; ultimately adjudicated participants chose to participate in the intervention in lieu of an alternate sanction; this should actually read as it was in the original version of the paper "even though they were filling out the survey as part of an

intervention to which they had been sanctioned" if it is even necessary to include.

Binge Drinking. Adjudicated students also reported more episodes of binge drinking than nonadjudicated students did during the 2 weeks prior to entering the study (3.88 vs. 1.56), $t(150) = -5.51, p < .001, d = .88$, as well as more binge episodes over the three months prior to the study (20.38 vs. 10.51), $t(150) = -4.31, p < .001, d = .69$.

RAPI Consequences. Adjudicated students reported more negative consequences related to drinking, as measured by the RAPI, in the previous 30 days than their nonadjudicated peers (19.34 vs. 11.76), $t(140) = 2.49, p < .05, d = .41$.

Drinker Type. Based on TLFB data and classifications by Wechsler and his colleagues (Wechsler et al., 2002; Wechsler & Nelson, 2001) participants were classified as non-binge drinkers (never consumed more than five drinks at one time in prior 2-week period), binge drinkers (drank more than five drinks on at least one occasion but less than three occasions in the last 2 weeks), and frequent binge drinkers (drank more than five drinks three or more times in the previous 2 weeks). Fifty-nine percent of the adjudicated participants were classified as frequent binge drinkers (with 32% binge drinkers, 9% non-binge drinkers), whereas only 21% of non-adjudicated participants were frequent binge drinkers (with 35% binge drinkers, 44% non-binge drinkers). A chi-square test revealed a significant difference between adjudicated and nonadjudicated participants for drinker type, $\chi^2(2, N = 154) = 31.17, p < .001, f = .45$.

Alcohol Expectancies

Based on independent samples *t* test analyses, adjudicated participants reported greater positive expectations of alcohol's social enhancing (SE) (3.92 vs. 3.50) $t(149) = 2.07, p < .05, d = .35$ and social and physical

pleasurable effects than nonadjudicated participants (SPP) (4.39 vs. 3.83), $t(149) = 3.42$, $p < .01$, $d = .57$. There were no differences between groups on sex-related alcohol expectancies, although adjudicated students consumed alcohol before sexual intercourse significantly more often than nonadjudicated students.

General Health Rulers

Compared with nonadjudicated participants, adjudicated participants were significantly less concerned about their health (3.50 vs. 7.00), $t(152) = 8.56$, $p < .001$, $d = 1.41$, and significantly more relaxed (4.41 vs. 6.37), $t(152) = 5.89$, $p < .001$, $d = .96$.

Demographic Differences

Fifty-seven of the 68 adjudicated students (84%) were Caucasian and 54 of the 86 nonadjudicated students (63%) were Caucasian. A chi-square revealed a significant difference in race between adjudicated participants and nonadjudicated participants, $\chi^2(1, N = 154) = 8.35$, $p < .01$, $f = .23$, indicating a higher percentage of Caucasians in the adjudicated group. Further, to ensure that this finding was not an effect of volunteer bias, we compared adjudicated freshmen to the ethnic makeup of all freshmen males at the university. The freshmen men were 53% Caucasian and 47% non-Caucasian, again indicating that adjudicated freshmen were more likely to be Caucasian than typical freshmen.

Based on a median split, total family income was split into two groups—those from families with an estimated total income of less than \$75,000 and those from families with an estimated total income of more than \$75,000. Thirty-eight of the 68 adjudicated participants (56%) were from families with a total household income of \$75,000 or more and 32 of the 86 nonadjudicated participants (37%)

were from families with a total income of \$75,000 or more. Total family income differed significantly between adjudicated participants and nonadjudicated participants, $\chi^2(1, N = 149) = 6.10$, $p < .05$, $f = .20$. The adjudicated group contained a larger percentage of participants with family incomes over \$75,000.

Logistic Regression

Given the potential covariance among all these correlates of adjudication, we used a regression approach to see which predictors accounted for unique variance in the dependent variable. Logistic regression successfully predicted adjudication among freshmen males. Variables that showed group differences, including demographic, rulers, and expectancy variables were entered into a step-wise regression. Family income (income above \$75,000 vs. income below \$75,000) and ethnic identity (Caucasian vs. non-Caucasian) were dichotomous; the general health ruler, the tension ruler, SE, SPP, and sex-related alcohol expectancies, were continuous with approximately normal distributions and stable variances. Four variables (family income, general health ruler, tension ruler, and SPP) emerged as significant predictors. With just the four significant predictors, the model was significant, Nagelkerke pseudo $R^2 = .54$, $\chi^2(4, N = 146) = 74.7$, $p < .001$, $f = .72$. (A few missing values decreased the sample size for these analyses.) The model correctly classified 83% (68 of 82) of the nonadjudicated students and 80% (52 out of 68) of the adjudicated students, with an overall success rate of 81%. Table 2 shows the Wald test, logistic regression coefficient and standard error, and odds ratio for each of the predictors. Using an alpha level of .05, general health ruler, tension ruler, SPP, and income all had significant partial effects. Adjudicated participants tended to be less concerned about their health and were less tense, from families with

incomes above \$75,000, and had higher alcohol expectancy for SPP than those who were nonadjudicated.

A simpler model with only the single-item indicators of health concerns and tension also accounted for significant variance in adjudication, Nagelkerke pseudo $R^2 = .45$, $\chi^2(4, N = 146) = 59.5, p < .001, f = .64$. Each individual predictor was significant at $p < .01$ or less. Table 2 shows the relevant statistics. These two rulers correctly identified 81% (66 of 82) of the nonadjudicated students, and 77% (49 of 68) of the adjudicated students, for an overall accuracy of 79%. Note that these two single-item indicators misclassified only three more adjudicated students than the full model, but did so without any reference to alcohol or demographics. These questions appear to have considerable potential for screening potential problems of numerous types. They could identify anxious students with health concerns, who might be at risk for stress-related and somatic complaints. They could also identify relaxed students with little concern about health, who might be at risk for adjudication due to alcohol problems.

DISCUSSION

The current study sought to differentiate between adjudicated and nonadjudicated college male freshmen. Adjudicated and nonadjudicated students differed on many variables including: self-reported drinking behavior, intended drinking behavior, alcohol expectancies, perceptions of health and tension, and demographic variables, such as family income level and ethnic identity. Logistic regression revealed that concern about health, level of tension, alcohol expectancies for social and physical pleasure (SPP), and family income significantly predicted adjudication status with an overall accuracy of 81%. The model indicates that higher family incomes, more positive SPP alcohol expectancies, less concern about one's health, and less tension were predictive of students who violated campus alcohol policies. Although the thought of targeting wealthy Caucasian men for special prevention programs sounds odd, those with specific expectancies for alcohol, little tension, and little concern about health problems are particularly at risk for adjudication.

TABLE 2.
Logistic Regressions Predicting Adjudication: All Predictors

Predictor	df	Wald χ^2	B	SE (B)	Odds Ratio
<i>Model 1</i>					
Health Ruler	1	26.25***	-5.13	.089	0.63***
Tension Ruler	1	4.02*	-2.01	.109	0.83*
AE Social And Physical Pleasure	1	8.44**	2.90	.246	2.04**
Family Income (Dichotomous)	1	5.65*	-2.39	.468	3.04*
<i>Model 2</i>					
Health Ruler	1	26.70***	-5.13	.089	0.66***
Tension Ruler	1	7.70*	-2.01	.109	0.75**

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

cation. A simpler model that focused only on tension and health concerns performed comparably at identifying adjudicated students. Note that these results suggest that campus personnel have a chance to identify freshmen males at risk for adjudication without actually asking them directly about their drinking habits. Given the demand characteristics inherent in questions about alcohol, as well as the brief amount of time required to complete items assessing levels of tension and perceptions of personal health, this approach appears to have considerable potential.

The most novel findings herein involve ratings of general health concerns and tension. Logistic regression revealed that those participants least concerned with their health were most likely to be adjudicated. Further, participants reporting experiencing less tension were also more likely to be sanctioned for alcohol violations. Although previous findings suggested that those who are tense would drink to alleviate tension, perhaps because of alcohol expectancies of tension reduction, these results suggest a less tense drinker may actually be the one more at risk for adjudication and are consistent with Ham and Hope's (2005) findings that students reporting greater tension drink less. Noel (1997) found that students' alcohol use reduced during final exams, rather than increasing as one would expect based on the simple tension reduction hypothesis. Perhaps those who are not adjudicated feel more tense about school and more concern about their health and therefore refrain from heavy drinking. In contrast, adjudicated participants may feel content with their performance in school, or they may be careless in this respect, and therefore feel that partying is an acceptable behavior. This raises several questions about the role of college students' health and tension level in alcohol consumption. This combination of a low level of tension and little concern for one's health

may reflect an antisocial disposition or disinhibited personality. Nevertheless, the simple assessment with these two items seems a quick and efficient way to identify students at risk for adjudication.

Further, as predicted, adjudicated participants were more likely to be Caucasian and from families with an income above \$75,000. These findings are consistent with previous research, which has found that Caucasian males tend to be at higher risk for alcohol-related consequences and campus alcohol violations (Engs et al., 1996; Fromme & Corbin, 2004; Kahler et al., 2003; O'Malley & Johnston, 2002) and that family income is associated with heavier drinking (Crawford, 1995; Glassco, 1975). Interventions aimed specifically toward Caucasian males from wealthier families may be helpful in reducing alcohol-related consequences. The idea might contradict many stereotypes about problem drinking, but these data support targeting this group.

Consistent with previous findings, adjudicated freshmen were the heaviest drinkers, with the majority of this group being frequent binge drinkers (Caldwell, 2002; Flynn & Brown, 1991; Larimer & Cronce, 2002; O'Hare, 1997). The adjudicated freshmen drank more days per month, reported higher average drinks per month, reported higher maximum drinks per month, and reported a higher total drinks per month than their nonadjudicated peers. They also reported significantly greater numbers of binge episodes over the previous 2 weeks, as well as the previous 3 months. Additionally, the adjudicated students reported intending to drink more days per month and more drinks per occasion. In addition to exhibiting heavier current and intended drinking behavior, the adjudicated freshmen had more negative alcohol-related consequences in the last 30 days, which again is consistent with previous

research (Caldwell; Flynn & Brown; Larimer & Cronce; O'Hare, 1997). It is apparent that those who drink greater amounts of alcohol and drink more frequently are more likely to be adjudicated. Surprisingly, these drinking differences occurred even after the adjudicated students had been written up for violating campus alcohol policy and received sanctions. For each adjudicated freshman, the assessment occurred at least one month after initial citation so there was at least one month of postcitation drinking behavior assessed. Thus, being cited and being involved in the judicial system did not appear to change problematic drinking patterns for the adjudicated students; they continued to drink and intended to drink at significantly higher levels than their nonadjudicated peers.

Alcohol expectancies, both social and physical pleasure (SPP) and social enhancement (SE), seemed likely to predict adjudication. As expected, adjudicated students held more positive alcohol expectancies for social enhancement (SE) and social and physical pleasure (SPP) than nonadjudicated peers. This finding is also consistent with previous research (Brown et al, 1985; Christiansen et al., 1985; Jones et al., 2001). People who believe that alcohol will affect their behavior and define outcomes in a positive way drink alcohol more frequently and are more likely to be adjudicated.

There were several methodological limitations in this study that need to be addressed. First, in the current study we looked at the adjudication of only male students, and although this may be beneficial for statistical control, gender differences in regard to adjudication could not be reviewed. Future studies reviewing the differences between adjudicated and nonadjudicated participants should take into account the possible effects of gender and differences between males and females. Another limitation of the current

study is that the adjudicated students arrived in the study after they were sanctioned for an alcohol-related violation whereas the non-adjudicated students were recruited volunteers. This difference may have resulted in differential response patterns between adjudicated and nonadjudicated students. There is a possibility that demand characteristics to report lower levels of drinking behaviors might have impacted adjudicated students responses and thus, the relationships among the variables. The adjudicated students were encouraged to give accurate answers and received assurances of confidentiality and that no further penalties would result from their responses. In fact, if adjudicated students underreported their alcohol involvement, then the group differences here may be underestimates of the population differences. Babor, Stephens, and Marlatt (1987) found that participants accurately report alcohol use when they are assured that no penalties will ensue, and that the TLFB is a highly valid and reliable measure of drinking behavior among college students (O'Hare, 1991; Searles, Helzer, Rose, & Badger, 2002; Searles, Helzer, & Walter, 2000; Sobell & Sobell, 1992). Further, even though the adjudicated students participated after being sanctioned for violations of alcohol policy, they still continued to drink at significantly higher levels than their non-adjudicated peers diminishing the possibility that demand characteristics to look good biased their reporting. Nonetheless, future researchers looking at differences between adjudicated and nonadjudicated students might choose a longitudinal design and collect baseline measures on students as they arrive on campus and before they receive alcohol sanctions.

Finally, it appears that simple measures of concern for health and level of tension may efficiently predict adjudication in freshmen males. The role of health concern and tension

level in problematic drinking among students needs further examination. Campus personnel might consider these items both in identifying potentially high-risk drinkers and in designing preventative interventions.

Correspondence concerning this article should be addressed to Joseph LaBrie, S. J., Department of Psychology, Loyola Marymount University, 1 LMU Dr., Los Angeles, CA 90045; Telephone: 310-338-5238; Fax: 310-338-7726; E-mail: jlabrie@lmu.edu.

REFERENCES

- Armeli, S., Tennen, H., Todd, M., Carney, M. A., Mohr, C., Affleck, G., et al. (2003). A daily process examination of the stress-response dampening effects of alcohol consumption. *Psychology of Addictive Behaviors, 17*(4), 266-276.
- Astin, A. W., Korn, W. S., Sax, L. J., & Mahoney, K. M. (1994). National norms for Fall: The American freshman, 1994. Los Angeles: University of California, Higher Education Research Institute.
- Babor, T. F., Stephens, R. S., & Marlatt, G. A. (1987). Verbal report methods in clinical research on alcoholism: Response bias and its minimization. *Journal of Studies on Alcohol, 48*, 410-424.
- Barnett, N. P., Trevyaw-O'Leary, T., Fromme, K., Borsari, B., Carey, K. B., Corbin, W. R., et al. (2004). Brief alcohol interventions with mandated or adjudicated college students. *Alcoholism: Clinical and Experimental Research, 28*(6), 966-975.
- Berkowitz, A. D., & Perkins, W. H. (1986). Problem drinking among college students: A review of recent research. *Journal of American College Health, 35*(1), 21-28.
- Brown, S. A. (1985). Reinforcement expectancies and alcoholism treatment outcome after a one-year follow-up. *Journal of Studies on Alcohol, 46*, 304-308.
- Brown, S. A., Christiansen, B. A., & Goldman, M. S. (1987). The Alcohol Expectancy Questionnaire: An instrument for the assessment of adolescent and adult alcohol expectancies. *Journal of Studies on Alcohol, 48*, 483-491.
- Brown, S. A., Goldman, M. S., & Christiansen, B. A. (1985). Do alcohol expectancies mediate drinking patterns of adults? *Journal of Consulting and Clinical Psychology, 53*, 512-519.
- Caldwell, P. E. (2002). Drinking levels, related problems, and readiness to change in a college sample. *Alcoholism Treatment Quarterly, 20*(2), 1-15.
- Christiansen, B. A., Goldman, M. S., & Brown, S. A. (1985). The differential development of adolescent alcohol expectancies may predict adult alcoholism. *Addictive Behaviors, 10*, 299-306.
- Crawford, C. M. (1995). Alcohol consumption patterns among undergraduates: The impact of family income. *Journal of Alcohol and Drug Education, 40*(3), 1-9.
- Cunningham, J. A., Blomqvist, J., Koski-Jannes, A., Cordingley, J., & Callaghan, R. (2004). Characteristics of former heavy drinkers: Results from a natural history of drinking general population survey. *Contemporary Drug Problems, 31*(2), 357-369.
- Dermen, K. H., & Cooper, M. L. (1994). Sex-related alcohol expectancies among adolescents: I. Scale development. *Psychology of Addictive Behaviors, 8*(3), 152-160.
- Downey, L., Rosengren, D. B., & Donovan, D. M. (2001). Sources of motivation for abstinence: A replication analysis of the Reasons for Quitting Questionnaire. *Addictive Behaviors, 26*(1), 79-89.
- Dupuy, H. J. (1978, October). *Self-representations of general psychological well-being of American adults*. Paper presented at the meeting of the American Public Health Association, Los Angeles, CA.
- Engs, R. C., Diebold, B. A., & Hanson, D. J. (1996). The drinking patterns and problems of a national sample of college students, 1994. *Journal of Alcohol & Drug Education, 41*, 13-33.
- Flynn, C. A., & Brown, W. E. (1991). The effects of a mandatory alcohol education program on college student problem drinkers. *Journal of Alcohol and Drug Education, 37*(1), 15-24.
- Freeman, M. S. (2001). Innovative alcohol education program for college and university judicial sanctions. *Journal of College Counseling, 4*, 179-185.
- Fromme, K., & Corbin, W. (2004). Prevention of heavy drinking and associated negative consequences among mandated and voluntary college students. *Journal of Consulting and Clinical Psychology, 72*(6), 1038-1049.
- Fromme, K., & D'Amico, E. J. (2000). Measuring adolescent alcohol outcome expectancies. *Psychology of Addictive Behaviors, 14*, 206-212.
- George, W. H., Frone, M. R., Cooper, L. M., Russell, M., Skinner, J. B., & Windle, M. (1995). A revised Alcohol Expectancy Questionnaire: Factor structure confirmation and invariance in a general population sample. *Journal of Studies on Alcohol, 56*(2), 177-185.
- George, W. H., & Marlatt, G. A. (1986). The effects of alcohol and anger on interest in violence, erotica, and deviance. *Journal of Abnormal Psychology, 95*, 150-158.
- Glassco, K. (1975). Drinking habits of seniors in a Southern university. *Journal of Alcohol & Drug Education, 21*(1), 25-29.
- Goldman, M. S., Brown, S. A., & Christiansen, B. A. (1987). Expectancy theory: Thinking about drinking. In H. T. Blane & K. E. Leonard (Eds.), *Psychological Theories of Drinking and Alcoholism* (pp. 181-226). New York: Guilford Press.

- Ham, L. S., & Hope, D. A. (2005). Incorporating social anxiety into a model of college student problematic drinking. *Addictive Behaviors, 30*, 127-150.
- Jones, B. T., Corbin, W., & Fromme, K. (2001). A review of expectancy theory and alcohol consumption. *Addiction, 96*, 57-72.
- Kahler, C. W., Read, J. P., Wood, M. D., & Palfai, T. P. (2003). Social environmental selection as a mediator of gender, ethnic, and personality effects on college student drinking. *Psychology of Addictive Behaviors, 17*(3), 226-234.
- LaBrie, J. W., Lamb, T., Pedersen, E. R., & Quinlan, T. (2006). A group motivational interviewing intervention reduces drinking and alcohol-related consequences in adjudicated college students. *Journal of College Student Development, 47*, 267-280.
- Larimer, M. E., & Cronce, J. M. (2002). Identification, prevention, and treatment: A review of individual-focused strategies to reduce problematic alcohol consumption by college students. *Journal of Studies on Alcohol* (Suppl. 14), 148-163.
- Leigh, B. C. (1987). Evaluations of alcohol expectancies: Do they add to prediction of drinking patterns? *Psychology of Addictive Behaviors, 1*, 135-139.
- Marlatt, G., & Rohsenow, D. (1980). Cognitive processes in alcohol use: Expectancy and the balanced placebo design. *Advances in Substance Abuse, 1*, 159-199.
- Miller, W. R., & Rollnick, S. (2002). *Motivational Interviewing: Preparing people for change* (2nd ed.). New York: Guilford Press.
- Mills, J. K., & Sirgo, V. I. (1993). Perceptions of excessive alcohol consumption in stressful and nonstressful situations among undergraduates. *Journal of Psychology, 127*(5), 543-547.
- National Institute on Alcohol Abuse and Alcoholism. (2002). A call to action: Changing the culture of drinking at U.S. colleges (NIH Publication No. 02-5010). Rockville, MD: Author.
- Neighbors, C., Walker, D. D., & Larimer, M. E. (2003). Expectancies and evaluations of alcohol effects among college students: Self-determination as a moderator. *Journal of Studies on Alcohol, 64*(2), 292-299.
- Noar, S. M., LaForge, R. G., Maddock, J. E., & Wood, M. D. (2003). Rethinking positive and negative aspects of alcohol use: Suggestions from a comparison of alcohol expectancies and decisional balance. *Journal of Studies on Alcohol, 64*(1), 60-69.
- Noel, N. E. (1997). Changes in substance use during times of stress: College students the week before exams. *Journal of Drug Education, 27*(4), 363-372.
- O'Hare, T. (1991). Measuring alcohol consumption: A comparison of the retrospective diary and the quantity frequency methods in a college drinking survey. *Journal of Studies on Alcohol, 52*, 500-502.
- O'Hare, T. (1997). Measuring excessive alcohol use in college drinking contexts: The drinking context scale. *Addictive Behaviors, 22*(4), 469-477.
- O'Malley, P. M., & Johnston, L. D. (2002). Epidemiology of alcohol and other drug use among American college students. *Journal of Studies on Alcohol, 14*, 23-39.
- Orford, J., Krishnan, M., Balaam, M., Everitt, M., & Van Der Graff, K. (2004). University student drinking: The role of motivational and social factors. *Drugs: Education, Prevention & Policy, 11*(5), 407-421.
- Read, J., Wood, M., Davidoff, O., McLacken, J., & Campbell, J. (2002). Making the transition from high school to college: The role of alcohol-related social influence factors in students' drinking. *Substance Abuse, 23*, 53-65.
- Rohsenow, D. J. (1983). Drinking habits and expectancies about alcohol's effects for self versus others. *Journal of Consulting and Clinical Psychology, 51*, 752-756.
- Room, R., Babor, T., & Rehm, J. (2005). Alcohol and public health. *Lancet, 365*, 519-530.
- Rutledge, P. C., & Sher, K. J. (2001). Heavy drinking from the freshman year into early young adulthood: The roles of stress, tension-reduction drinking motives, gender and personality. *Journal of Studies on Alcohol, 62*(4), 457-466.
- Schuckit, M. A., Klein, J. L., Twitchell, G. R., & Springer, L. M. (1994). Increases in alcohol-related problems for men on a college campus between 1980 and 1992. *Journal of Studies on Alcohol, 55*, 739-742.
- Schulenberg, J., Maggs, J. L., Long, S. W., Sher, K. J., Gotham, H. J., Baer, J. S., et al. (2001). The problem of college drinking: Insights from a developmental perspective. *Alcoholism: Clinical and Experimental Research, 25*, 473-477.
- Searles, J. S., Helzer, J. E., Rose, G. L., & Badger, G. J. (2002). Concurrent and retrospective reports of alcohol consumption across 30, 90, and 366 days: Interactive voice response compared with the timeline follow back. *Journal of Studies on Alcohol, 63*, 352-362.
- Searles, J. S., Helzer, J. E., & Walter, D. E. (2000). Comparison of drinking patterns measured by daily reports and timeline follow back. *Psychology of Addictive Behavior, 14*, 277-286.
- Sobell, L. C., & Sobell, B. (1992). Timeline Follow-back: A technique for assessing self-reported alcohol consumption. In R. Z. Litten & J. P. Allen (Eds.), *Measuring alcohol consumption: Psychosocial and biochemical methods* (pp. 41-72). Totowa, NJ: Humana Press.
- Walters, S. T., Gruenewald, D. A., Miller, J. H., & Bennett, M. E. (2001). Early findings from a disciplinary program to reduce problem drinking by college students. *Journal of Substance Abuse Treatment, 20*(1), 89-91.
- Wechsler, H., Davenport, A., Dowdall, G. W., Moeykens, B., & Castillo, S. (1994). Health and behavioral consequences of binge drinking in college: A national survey of students at 140 campuses. *Journal of American Medical Association, 272*, 1672-1677.
- Wechsler, H., Dowdall, G. W., Maenner, G., Hill-Hoyt, J. G., & Lee, H. (1998). Changes in binge drinking and related problems among American college students between 1993 and 1997: Results of the Harvard School and Public Health College Alcohol Study. *Journal of American College Health, 47*(2), 57-68.
- Wechsler, H., Isaac, N. E., Grodstein, F., & Sellers, D. E. (1994). Continuation and initiation of alcohol use from the first and second year of college. *Journal of Studies on Alcohol, 55*, 41-45.

- Wechsler, H., Lee, J. E., & Kuo, M. (2000). College binge drinking in the 1990s: A continuing problem: Results of the Harvard School of Public Health 1999 College Alcohol Study. *Journal of American College Health, 48*(5), 199-210.
- Wechsler, H., Lee, J. E., Kuo, M., Seibring, M., Nelson, T. F., & Lee, H. (2002). Trends in college binge drinking during a period of increased prevention efforts: Findings from four Harvard School of Public Health College Alcohol Study surveys: 1993-2001. *Journal of American College Health, 50*(5), 203-217.
- Wechsler, H., Moeyskens, B., Davenport, A., Castillo, S., & Hansen, J. (1995). The adverse impact of heavy episodic drinkers on other college students. *Journal of Studies on Alcohol, 56*(6), 628-634.
- Wechsler, H., & Nelson, T. F. (2001). Binge drinking and the American college students: What's five drinks? *Psychology of Addictive Behaviors, 15*(4), 287-291.
- Weitzman, E. (2004). Poor mental health, depression, and associations with alcohol consumption, harm, and abuse in a national sample of young adults in college. *Journal of Nervous and Mental Disease, 192*(4), 269-277.
- Werner, M. J., Walker, L. S., & Greene, J. W. (1993). Alcohol expectancies, problem drinking, and adverse health consequences. *Journal of Adolescent Health, 14*, 446-452.
- White, H. R., & Labouvie, E. W. (1989). Towards the assessment of adolescent problem drinking. *Journal of Studies on Alcohol, 50*(1), 30-37.