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One-Time or Repeat Offenders? An Examination of the Patterns of Alcohol-Related Consequences Experienced by College Students Across the Freshman Year

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Abstract

Recent studies have examined alcohol-related consequences in college students as an independent outcome variable, rather than as a result of heavy drinking. The present study examined the patterns of consequences experienced by first-year college students ($n = 169$). Specifically, the number of distinct consequences and the frequency of repeated consequences were evaluated as well as the combination of the two. Results revealed that 80% of participants reported experiencing multiple consequences, with over 34% of students reporting 6 or more unique consequences over the course of their freshmen year. In addition, nearly 50% of the sample reported experiencing 3 or more consequences repeatedly. Further, 23% of the sample reported experiencing 5 or more repeated consequences and 6 or more multiple consequences. These individuals experienced 38% of the multiple consequences and 54% of the repeated consequences reported by the entire sample, suggesting individuals who endorsed experiencing multiple consequences repeatedly also experienced a disproportionate number of the total consequences reported by the sample. The findings suggest there are specific high-risk patterns of alcohol-related consequences and demonstrate a need for further examination of additional variables that predict consequences.

Keywords

alcohol; college students; alcohol-related consequences

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1. Introduction

College student drinking has been a public health problem for decades (NIAAA, 2002; Strauss & Bacon, 1953). Despite this, a substantial number of students engage in high-risk drinking and experience consequences (Perkins, 2002). As a result, interventions have been developed to reduce student drinking by addressing: 1) education and awareness; 2) cognitive-behavioral skills; and 3) motivational and feedback. Among these, brief motivational interventions (Category 3), particularly those incorporating personalized feedback, have received the most consistent support in the literature for reducing high-risk drinking (Larimer & Cronce, 2002; 2007).

The goal of these interventions is to reduce high-risk drinking with a secondary goal of reducing consequences. The relationship between drinking and consequences is not one-to-one (Larimer, Turner, Mallett & Geisner, 2004; Turner, Larimer & Sarason, 2000), and interventions have had mixed success with reducing consequences. Some have argued this may be due to a variety of issues including short-term follow-up assessments (Carey, Henson, Carey & Maisto, 2007). However, other studies have found reductions in drinking, but not in consequences despite using long-term outcomes (Larimer et al., 2001; Turrisi et al., 2009).

In an attempt to understand the prevalence of alcohol consequences, studies have begun to examine them as outcomes rather than secondary effects of drinking (Mallett, Varvil-Weld, Turrisi & Read, 2010). The literature shows drinking accounts for approximately 30% of the variance in consequences (Larimer et al., 2001; Turner et al., 2000); therefore, identifying other predictors of consequences in addition to drinking is essential. Specifically, research has shown a variety of constructs such as peer and parent approval, negative expectancies, coping motives, attitudes, descriptive norms, and protective behaviors to significantly predict consequences when controlling for drinking (Delva et al., 2004; LaBrie, Hummer, Neighbors & Larimer, 2010; Martens et al., 2004; Neighbors, Lee, Lewis, Fossos & Larimer, 2007; Ray, Turrisi, Abar & Peters, 2009). Studies have also explored individuals' motivations to avoid consequences (Mallett, Bachrach & Turrisi, 2008), willingness to experience consequences (Mallett, Varvil-Weld et al., 2010), past history of experiencing consequences (Mallett, Marzell, & Turrisi, 2010) positive expectancies and positive consequences (Schulenberg et al., 2001) as predictors of future consequences. Finally, studies have shown that personality disorders and self-regulation predict consequences independent of drinking (Hustad, Carey, Carey & Maisto, 2009; Tragesser, Sher, Trull & Park 2007). Taken together, these findings demonstrate the need to better understand variables that contribute to experiencing consequences and to identify individuals who may be more prone to experience alcohol related problems.

From a prevention standpoint, certain questions regarding consequences remain unanswered. One important issue for prevention is the pattern in which students experience consequences. For example, students could experience the same consequences repeatedly, or they might experience a variety of consequences only once, or they might experience a combination of the two (several consequences repeatedly). For instance, if students tend to experience consequences repeatedly it would be appropriate to target efforts toward reducing those specific consequences. On the other hand, if a variety of different consequences are experienced, targeting risky drinking may be more appropriate since the pattern of consequences is less predictable. If multiple consequences are experienced repeatedly, targeting both a reduction in consumption and specific consequences may be warranted. A second issue for prevention is the prevalence of students in each category. Identifying the percentage of students who fall into these categories will guide intervention efforts to target the specific consequence patterns. These percentages can serve as a

benchmark by which to measure the success of environmental and individual-based interventions.

The current study aimed to identify the patterns of consequences of students during their first year of college. Specifically we examined: 1) The number of unique consequences experienced by students over their freshman year, and 2) the frequency of consequences that were experienced repeatedly. In addition, the study examined the association between the two patterns as well as the association with alcohol consumption. We hypothesized that individuals endorsing greater numbers of consequences and higher numbers of repeated consequences consumed more alcohol. However, we hypothesized that these correlations would be moderate based on previous work (Larimer et al., 2004; Mallett, Varvil-Weld et al., 2010). Further, we hypothesized that individuals who experienced multiple consequences on multiple occasions experienced a proportionately greater number of consequences than the rest of the sample.

2. Method

2.1 Participants

The sample consisted of 169 college students at a large, public, northeastern university who consumed at least one alcoholic drink per week. Participants completed the survey during the fall of their second year of college. Respondents were 54.7% ($n = 93$) female and “traditional” college students with an average age of 19.18 ($SD = 0.49$). With respect to race, the sample was 91.8% ($n = 156$) white, 1.7% ($n = 3$) Asian, 1.2% ($n = 2$) African American, 2.4% ($n = 4$) multi-racial, and 2.4% ($n = 4$) other.

2.2 Procedure

Participants were randomly selected from the university registrar’s database. Invitation letters explaining the procedures and containing a URL and Personal Identification Number (PIN) for accessing the survey were both mailed and emailed to all participants. A 66% response rate was observed, which is consistent with others web-based studies (Larimer et al., 2007; McCabe, Hughes, Bostwick & Boyd, 2005; Thombs, Ray-Tomasek, Osborn & Olds, 2005). Participants received \$35 for completing the survey.

2.3 Measures

2.3.1 Alcohol-related consequences—The Young Adult Alcohol Problems Screening Test (YAAPST, Hurlbut & Sher, 1992) measured consequences. Respondents indicated the frequency of occurrence for each consequence listed on the YAAPST (blacking out, receiving a lower grade on an exam, etc.) in the past year. Response options ranged from “never” to “40 or more.”

2.3.2 Alcohol use—As a measure of *peak drinking*, participants reported the number of drinks they consumed during the occasion on which they drank the most during the past 30 days (Marlatt et al., 1998).

2.3.3 Typical weekly drinking—was measured as the sum of drinks participants indicated they consumed on each day of a typical week within the past 30 days using the Daily Drinking Questionnaire (DDQ; Collins, Parks, & Marlatt, 1985). A standard drink definition was included (i.e., 12 oz. beer, 10 oz. wine cooler, 4 oz. wine, 1 oz. 100 proof {1 ¼ oz. 80 proof} liquor).

2.3.4 Demographics—Participants were asked to provide their age, gender, year in school, and ethnicity.

3. Results

3.1 Descriptives

Respondents reported an average of 13.24 ($SD = 9.47$) drinks during a typical week and 7.74 ($SD = 4.42$) drinks during their peak drinking occasion. Only those consequences experienced by at least 5% of the sample were included in the analyses. There were 17 such consequences: hangover (81.1%), vomited (71.6%), blacked out (55.6%), became rude or obnoxious (41.4%), arrived late for work or school (32.5%), skipped an evening meal (30.8%), had regretted sex (29.0%), felt guilty about drinking (25.4%), had sex with someone with whom wouldn't ordinarily (16.0%), received a lower grade on a test (13.6%), drove after drinking (12.4%), had sex when didn't want to (11.8%), damaged property (10.1%), got into a physical fight (8.3%), got into trouble at work (8.9%), forgot to use birth control (5.9%), and had the "shakes" after stopping drinking (5.3%).

3.2 Multiple Consequences

First, each YAAPST item was recoded to indicate whether or not the respondent had experienced that consequence in the past year. Scores were then summed to create a "multiple consequence" variable reflecting the total number of unique consequences experienced (see Table 1). The mean for multiple consequences was 4.68 ($SD = 3.42$). While over 80% of the sample reported experiencing multiple consequences, 34% endorsed experiencing 6 or more consequences. Finally, results indicated reports of multiple consequences were related to higher weekly ($r = .49, p < .01$) and peak drinking ($r = .47, p < .01$).

3.3 Repeated Consequences

For repeated consequences, the original YAAPST items were recoded where a score of 1 reflected consequences that were experienced two or more times in the past year; otherwise, the item was scored '0'. Scores were summed to create the "repeated consequence" variable reflecting repeated consequences over the past year. The mean for repeated consequences was 2.80 ($SD = 2.55$). According to Table 1, 80% of the sample reported repeated consequences; where 23% of the sample reported 5 or more repeated consequences. The most common repeated consequences were hangover (71%), vomit (53.5%), blacking out (37.6%), and being rude (28%). Finally, results indicated reports of repeated consequences were correlated with weekly ($r = .56, p < .01$) and peak drinking ($r = .49, p < .01$).

3.4 Multiple and Repeated Consequences

Experiencing multiple consequences was significantly correlated with repeatedly experiencing consequences (Spearman's $r = .861, p < .001$). Examination of Table 2 revealed of the 34% of the sample who experienced 6 or more (multiple) consequences, 67% reported 5 or more repeated consequences and 29% reported 3 to 4 repeated consequences. Further, while 86% of the sample reported experiencing either multiple or repeated consequences, 23% were in the highest risk group (5 or more repeated and 6 or more multiple). These individuals accounted for 38% of the multiple consequences and 54% of the repeated consequences reported by the entire sample. Finally, 13% of participants did not experience either multiple or repeated consequences.

4. Discussion

The study examined patterns of consequences by college students during their first year. The first pattern consisted of multiple consequences. This suggests students are experiencing a variety of unique consequences with varying degrees of risk (e.g., 34% experiencing 6 or more consequences). The second pattern consisted of those individuals that experienced the

same consequences repeatedly. Nearly 50% of the sample reported experiencing 3 or more consequences repeatedly. The most commonly repeated consequences were physical in nature.

Based upon our findings recommendations for tailoring interventions can be considered. First, an intervention targeting a reduction in drinking may be most useful for individuals prone to experiencing multiple unique consequences. This is the typical intervention approach used most frequently on college campuses (Turrisi et al., 2009). Second, for individuals who experience the same consequences repeatedly, a novel approach may be to target specific consequences. It may be most useful to keep the focus of the intervention on avoiding consequences. Our findings revealed quantity of drinking was only moderately associated with the repeated consequences, indicating the importance of identifying additional variables, aside from drinking. For example, consequence-specific attitudes, beliefs, and normative perceptions have shown unique relationships with consequences independent of drinking and warrant further examination (Mallett, Varvil-Weld et al., 2010).

Our data also revealed that a small percentage of the sample accounted for a disproportionate number of experienced consequences, both multiple and repeated. First, it is imperative to identify these students as they transition to college to intervene early. Second, research is needed to examine variables that may both provide screening information (e.g. age of drinking onset) and become targeted by interventions (e.g. motivation to avoid consequences).

4.1 Limitations & Future Directions

Although this study highlights examining patterns of consequences, it should be noted the data were retrospective. Future studies would benefit from prospective, diary approaches to examine the time between experiencing consequences, the immediate impact on drinking, and the perceptions of the consequences. In addition, participants were all freshmen, limiting generalizability. Future research could examine students in upper-class years to provide information regarding maturing out, which may enhance prevention by revealing an optimal intervention time. Overall, the findings suggest a need for prospective studies to elucidate the specific nature of consequences experienced by college students and subsequent drinking behavior. Further, studies that examine specific high-risk drinking behaviors (e.g. combined alcohol and energy drink use) and background characteristics (e.g. parent and peer factors) that may be protective or risky are needed considering they may provide information for prevention targeting high-risk individuals.

4.2 Conclusion

In conclusion, the study identified patterns of consequences experienced by college students and highlighted the need for examining unique predictors of consequences. Results identified a high-risk subgroup of students who may benefit from intervention efforts that focus on reducing drinking and increasing motivation to avoid drinking consequences.

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Table 1

Frequency distribution of consequences.

Number of multiple consequences	N (%)	Number of repeated consequences	N (%)
0–1	30 (17.8%)	0	32 (18.9%)
2–3	44 (26.0%)	1–2	57 (33.7%)
4–5	37 (21.9%)	3–4	41 (24.3%)
6 or more	58 (34.3%)	5 or more	39 (23.1%)

Table 2

Conditional distribution of multiple and repeated consequences.

Multiple consequences	Repeated consequences			
	0	1–2	3–4	5 or more
0–1	23 (13.6%)	7 (4.1%)	0 (0%)	0 (0%)
2–3	7 (4.1%)	33 (19.5%)	4 (2.4%)	0 (0%)
4–5	2 (1.2%)	15 (8.9%)	20 (11.8%)	0 (0%)
6 or more	0 (0%)	2 (1.2%)	17 (10.1%)	39 (23.1%)

Note. Percentages reflect the total number of participants in the sample