INTEGRATING MAILED PERSONALIZED FEEDBACK AND ALCOHOL SCREENING EVENTS: A FEASIBILITY STUDY

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ABSTRACT
This study characterized a sample of college students attending National Alcohol Screening Day (NASD), and tested the feasibility of using NASD as a platform for initiating the delivery of mailed personalized feedback forms. Participants (N = 153, 65% female) attended NASD and completed the Alcohol Use Disorders Identification Test (AUDIT [1]). A subset of at-risk drinkers completed additional questionnaires about their alcohol use and received personalized feedback through the mail. Thirty-four percent of the participants scored above the recommended clinical cutoff on the AUDIT. Men reported higher levels of alcohol consumption and alcohol-related negative consequences. The subset of at-risk drinkers reported frequent occasions of binge drinking and relatively high blood alcohol concentrations (BAC). NASD is an effective way of identifying college students with clinically significant levels of alcohol use, and provides an efficient mechanism for initiating the delivery of personalized feedback. More research on the combined effects of NASD and personalized feedback is warranted.

Heavy alcohol use among college students has been identified as a major public health concern [2]. National studies estimate that young adults between the ages of 18-24 display the highest rates of alcohol use and alcohol-related problems [3].
Frequently reported alcohol-related problems include unsafe sexual practices, physical injuries, and driving while intoxicated [4].

Multiple studies have demonstrated that the Brief Alcohol Screening and Interventions for College Students (BASICS) program effectively reduces drinking among college students [5-8]. A key component of the BASICS intervention is the use of personalized, written summaries about how an individual’s drinking compares to the drinking behavior of other college students. Feedback forms can also include information about the estimated blood alcohol level achieved on typical and heavy drinking occasions and some of the self-reported negative consequences of drinking.

The BASICS feedback is typically delivered during a face-to-face interview. However, recent studies report that feedback forms delivered through the mail or outside the context of an interview compare favorably to more traditional face-to-face feedback sessions [9, 10] and can effectively reduce drinking among college students [11, 12]. However, more research is needed to test the generality of the effects of mailed feedback forms. Research is also needed to determine the optimal way of efficiently identifying college student drinkers with problematic patterns of alcohol use, and then providing them with appropriate feedback.

For the current study, we evaluated the feasibility of providing personalized mailed feedback to college student drinkers attending National Alcohol Screening Day (NASD). Since 1999, a combination of government, public, and private organizations have been jointly sponsoring National Alcohol Screening Day (NASD). The purpose of NASD is to provide public education, screening for alcohol use disorders, and referral to appropriate treatment services [13, 14]. The NASD program includes an educational video, a written screening questionnaire, and an opportunity for participants to meet with a health professional. We augmented the NASD procedure by giving a sample of at-risk drinkers the opportunity to have detailed written feedback about their drinking mailed to their residence. This initial feasibility study had two primary aims. First, the study was conducted to characterize the drinking behavior of college students who participate in NASD. Second, the study was designed to test the feasibility of using NASD as a platform for initiating the delivery of mailed personalized feedback forms.

METHODS

Participants

Participants were 153 undergraduate college students (54 males, 99 females) who participated in NASD in April 2003 at a large land-grant university in the southeastern United States. Participants were recruited through in-class announcements, announcements made via university-sponsored media, and flyers
posted around campus. The majority of participants were white (81%) and under the age of 21 (64.7%).

**Measures**

Participants were asked to complete the NASD form, which consists primarily of the Alcohol Use Disorders Identification Test (AUDIT [1]). The AUDIT is a self-report questionnaire containing 10 items regarding behaviors consistent with harmful drinking patterns. Additionally, the NASD form includes questions regarding demographic information, medical status and medications, family history of alcohol problems, and current or previous substance abuse treatment. The AUDIT has been shown to be reliable and valid when used with college students [15, 16]. In this study, the AUDIT yielded an internal consistency score of .82.

Participants who scored greater or equal to 8 on the AUDIT were asked to fill out additional questionnaires about their alcohol use. The Daily Drinking Questionnaire (DDQ [17]) required participants to estimate their average alcohol consumption for the past month. The Rutgers Alcohol Problem Inventory (RAPI [18]) assessed the frequency of occurrence of 23 alcohol-related problems over the past month. Both measures have demonstrated acceptable reliability and validity when used in previous studies on college student drinking [7, 8, 19, 20]. More generally, research supports the validity of self-reported alcohol use, especially when confidentiality is assured and the assessment is done in a clinical or research setting [21]. The DDQ and RAPI were used in the creation of personalized feedback forms.

**Procedure**

Participants who attended NASD watched an educational video regarding the dangers of binge drinking among college students and were instructed to complete the NASD questionnaire. After watching the video in a group setting, participants met individually with a graduate clinician enrolled in a clinical psychology doctoral program. Clinicians scored the AUDIT and provided the participant with appropriate feedback and referral sources. All participants received one hour of extra credit.

Clinicians were instructed to invite individuals scoring greater than or equal to 8 on the AUDIT to fill out an additional set of questionnaires. Thirty participants met the criteria and agreed to fill out the additional questionnaires in order to receive personalized feedback regarding their drinking patterns. The feedback forms, which were modeled after the BASICS program, included information about normative drinking, blood alcohol levels during peak and typical drinking occasions, and a summary of the participants’ reported negative consequences. The feedback forms were mailed to the 30 at-risk drinkers.
RESULTS

Responses to individual AUDIT items and total AUDIT scores for all 153 NASD participants are presented in Table 1. Males scored higher on all of the AUDIT frequency questions (items 1-3), were more likely to have a drink first thing in the morning or experience a blackout, and obtained higher total scores. Forty-six percent of the sample reported episodes of binge drinking (five or more drinks for a male, four or more for a female) at least once per month, and 21.9% reported binge drinking at least once per week. Thirty-four percent of participants scored an 8 or above on the AUDIT. Males were significantly more likely to score an 8 or above on the AUDIT than females (54% vs. 23%, \( \chi^2 (1, 155 \text{ subjects}) = 15.10, p < .001 \)). Only one participant, a male, reported a personal history of treatment for alcohol problems.

Additional data for the 30 at-risk drinkers (i.e., scored an 8 or above on the AUDIT; 15 males, 15 females) who received mailed personalized feedback are presented in Table 2. Males and females in the at-risk group did not significantly differ on any of these alcohol-related variables. Students receiving personalized mailed feedback were frequent binge drinkers (\( M = 7.62 \) occasions during the last month) and achieved peak blood alcohol levels well above the legal cutoff for intoxication (\( M = .18 \)).

DISCUSSION

The current study was conducted to characterize NASD participants at a large southeastern campus, and to test the feasibility of using NASD as a platform for delivering personalized feedback forms. Our data show that our NASD screening site did attract a number of college students engaging in risky alcohol-related behaviors. Nearly half the sample engaged in binge drinking at least once per month, and 34% met the clinical cutoff on the AUDIT. Males reported higher levels of alcohol use and were more likely to report alcohol-related negative consequences. A more detailed survey of drinking behavior among a subset of students scoring an 8 or above on the AUDIT revealed frequent heavy episodic drinking and high maximum blood alcohol concentration (BAC) levels. Similar results have been reported in other NASD reports. A study using a random selection of student participants from 367 registered college sites revealed that nearly 40% scored above an 8 on the AUDIT [13].

Despite the fact that 34% of our sample scored above the clinical cutoff on the AUDIT, only one person reported having undergone any type of treatment for alcohol abuse. These results are consistent with previous research on treatment utilization among college students. For example, a recent study found that 31% of college students meet criteria for alcohol abuse, and that 6% meet dependence criteria [22]. However, the majority of those with abuse or dependence did not
**Table 1. AUDIT Scores for Full National Alcohol Screening Day Sample (N = 153) and by Gender**

<table>
<thead>
<tr>
<th>AUDIT item</th>
<th>Total sample</th>
<th>Males (n = 54)</th>
<th>Females (n = 99)</th>
</tr>
</thead>
<tbody>
<tr>
<td>How often do you have a drink containing alcohol?</td>
<td>1.81 (1.19)</td>
<td>2.21 (1.21)</td>
<td>1.59 (1.13)</td>
</tr>
<tr>
<td>How many drinks containing alcohol do you have on a typical day when you are drinking?</td>
<td>1.26 (1.22)</td>
<td>1.87 (1.47)</td>
<td>.93 (.91)</td>
</tr>
<tr>
<td>How often do you have four (women)/five (men) or more drinks a day?</td>
<td>1.39 (1.16)</td>
<td>1.78 (1.22)</td>
<td>1.18 (1.08)</td>
</tr>
<tr>
<td>How often during the last year have you found that you were not able to stop drinking once you started?</td>
<td>.16 (.53)</td>
<td>.30 (.77)</td>
<td>.09 (.32)</td>
</tr>
<tr>
<td>How often during the last year have you failed to do what was normally expected from you because of drinking?</td>
<td>.50 (.61)</td>
<td>.37 (.71)</td>
<td>.28 (.55)</td>
</tr>
<tr>
<td>How often during the last year have you needed a first drink in the morning to get yourself going after a heavy drinking session?</td>
<td>.06 (.23)</td>
<td>.13 (.34)</td>
<td>.02 (.14)</td>
</tr>
<tr>
<td>How often during the last year have you had a feeling of guilt or remorse after drinking?</td>
<td>.35 (.57)</td>
<td>.46 (.64)</td>
<td>.30 (.54)</td>
</tr>
<tr>
<td>How often during the last year have you been unable to remember what happened the night before because you had been drinking?</td>
<td>.49 (.71)</td>
<td>.76 (.93)</td>
<td>.35 (.50)</td>
</tr>
<tr>
<td>Have you or someone else been injured as a result of your drinking?</td>
<td>.26 (.90)</td>
<td>.41 (1.06)</td>
<td>.18 (.80)</td>
</tr>
<tr>
<td>Has a relative or a friend or a doctor or other health worker been concerned about your drinking or suggested you cut down?</td>
<td>.12 (.61)</td>
<td>.15 (.76)</td>
<td>.10 (.52)</td>
</tr>
<tr>
<td>Total AUDIT Score</td>
<td>6.10 (5.20)</td>
<td>8.13 (5.93)</td>
<td>5.01 (4.42)</td>
</tr>
<tr>
<td>Family history of alcohol problems?</td>
<td>17%</td>
<td>17%</td>
<td>18%</td>
</tr>
<tr>
<td>Personal treatment history for alcohol problems?</td>
<td>&lt;1%</td>
<td>2%</td>
<td>0%</td>
</tr>
</tbody>
</table>

*Percentages are presented when mean scores do not apply; **bolded** values indicate significant difference between males and females, p < .05.*
view themselves as problem drinkers, and only 6% of the students meeting criteria for alcohol dependence reported current or previous treatment.

One feature of NASD is the provision of treatment recommendations for problematic drinkers, which may include suggestions to reduce alcohol use or to seek professional help. Previous research has shown that only 20% of college student NASD participants comply with the recommendations [13]. Given the high rates of problematic drinking among college students and their low level of treatment utilization, further research is needed to determine effective methods of transitioning heavy drinking college students from screening events to intervention. The current study was able to provide personalized feedback to 30 students with clinically significant levels of alcohol use and related negative consequences. The feedback forms were designed to increase the student’s awareness of their high level of alcohol use and to increase their motivation to make appropriate behavioral changes. The forms were easy to create and they were time- and cost-efficient for both the researchers and the participants.

The current study is limited by the fact that the sample was small, self-selected, and homogenous; NASD student-participants from other regions of the United States may differ from the current sample, both in terms of demographics and patterns of alcohol use. Our decision to offer extra-credit to NASD participants may also affect the generalizability of our results. In addition, the current study is limited by a lack of outcome or follow-up data, and so the effects of the personalized feedback forms remain unknown. Research is needed to determine if the provision of feedback forms effectively raises levels of motivation to alter patterns of alcohol use, increases rates of compliance with treatment recommendation delivered during NASD or other screening events, or leads directly to reductions in alcohol use. As an initial feasibility study, the current study was successful in demonstrating that college students with potentially

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>SD</th>
</tr>
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<tbody>
<tr>
<td>Number of drinking days</td>
<td>10.30</td>
<td>5.57</td>
</tr>
<tr>
<td>Average number of drinks per week</td>
<td>17.67</td>
<td>10.91</td>
</tr>
<tr>
<td>Number of occasions of heavy alcohol use&lt;sup&gt;a&lt;/sup&gt;</td>
<td>7.62</td>
<td>4.90</td>
</tr>
<tr>
<td>Maximum number of standard drinks in one night</td>
<td>9.87</td>
<td>4.70</td>
</tr>
<tr>
<td>Peak blood alcohol level on heaviest drinking occasion</td>
<td>0.18</td>
<td>0.11</td>
</tr>
</tbody>
</table>

<sup>a</sup>Heavy alcohol use was defined as five or more drinks on an occasion for males, and four or more drinks on an occasion for females.
problematic patterns of alcohol use can be recruited to attend NASD. The study also demonstrated that NASD can be an efficient platform for delivering a variety of prevention and intervention tools, including education videos, treatment recommendations for at-risk drinkers, and personalized feedback forms. Given these initial findings, research on the effectiveness of providing personalized feedback forms to NASD participants is clearly warranted.

REFERENCES


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