A Comparison of Personalized Feedback for College Student Drinkers Delivered with and without a Motivational Interview*

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ABSTRACT. Objective: This study evaluated the relative efficacy of personalized drinking feedback (PDF) delivered with and without a motivational interview (MI) for college student drinkers. **Method:** Heavy-drinking college students (N = 54; 69% female) were identified from a large screening sample and randomly assigned either to receive PDF during a single MI session or to receive PDF without an MI. Of these participants, 51 (94%) completed a 6-month follow-up assessment that included measures of alcohol consumption and alcohol-related problems. **Results:** At 6-months postintervention, participants in both groups showed significant, small to moderate reductions in alcohol consumption, but the groups did not differ. Women showed larger reductions than men. Rates of alcohol-related problems remained relatively unchanged. **Conclusions:** The hypothesis that an MI would enhance the efficacy of PDF was not supported. (*J. Stud. Alcohol* **65:** 200-203, 2004)

NATIONAL SURVEYS indicate that approximately 40% of U.S. college students report at least one heavy-drinking episode in the past 2 weeks (O'Malley and Johnston, 2002) and that large numbers of U.S. college students experience alcohol-related health and social problems, such as having unprotected sex and being physically or sexually assaulted by a student who was drinking, and that these problems have resulted in the death of some students (Hingson et al., 2002).

One of the most promising interventions for student drinkers is personalized drinking feedback (PDF) delivered during a motivational interview (MI; Dimeff et al., 1999). Several studies have shown that a single PDF + MI session can result in drinking reductions that exceed various control conditions (Baer et al., 2001; Larimer et al., 2001; Murphy et al., 2001), and there is some evidence that PDF delivered without a motivational interview can lead to short-term drinking reductions (Collins et al., 2002), but the two PDF formats have not been directly compared.

The current study randomly assigned heavy-drinking college students to either a PDF + MI condition or a PDF-only condition. The primary hypothesis was that drinkers in both feedback conditions would show reductions in alcohol consumption and related harm, but that drinkers who received the MI would show larger reductions. Because a previous study of mailed PDF (Collins et al., 2002) found that male students showed larger drinking reductions than female students, we included gender as a factor in the outcome analyses.

Method

Participants

Potential participants (N = 331) were recruited through an extra credit screening available to undergraduate students enrolled in psychology and communications courses. The majority (77.6%) of screened students were women, which is consistent with enrollment patterns in these courses. Participants who consumed at least 13 drinks per week and who endorsed one or more past month alcohol-related problems on the Rutgers Alcohol Problem Inventory (RAPI; White and Labouvie, 1989) were eligible to participate. Eligible participants (N = 67; 20% of screened sample) were contacted by phone and told that they would receive additional extra course credit for their participation in the intervention. There were 54 students who qualified for the study and agreed to participate (PDF n = 28, PDF + MI n = 26). Randomization was conducted separately by gender and was stratified by drinks per week. The remaining participants (n = 13; PDF n = 6, PDF + MI n = 7) either could not be contacted or missed several intervention appointments. There

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were no significant differences on demographic or drinking variables, including scores on the Readiness to Change Questionnaire (Heather et al., 1993), between eligible participants who completed the intervention phase and those who did not (p's > .15).

The mean (SD) age of the 54 participants who completed an intervention was 19.94 (1.22) years; 69% were female; 94% were white; 74% were sophomores or juniors; and 52% belonged to a fraternity or sorority. Participants averaged 3.85 (1.27) drinking days per week, 2.98 (1.07) heavy-drinking days per week and 24.12 (8.74) total drinks per week on the Daily Drinking Questionnaire (DDQ; Collins et al., 1985). There were no significant group differences on any baseline drinking or demographic variables (p's ≥ .10).

Measures

Alcohol consumption measures were administered at preintervention (i.e., screening) and at 6-month follow-up. Total drinks per week, frequency of drinking and frequency of heavy drinking (i.e., ≥5/4 drinks per occasion for men/women; Wechsler et al., 2002) during a typical week in the past month were assessed with the DDQ. Past month alcohol-related problems were assessed with the RAPI.

Interventions

Interventions in both conditions took 30-50 minutes to complete and were conducted in identical rooms. Five female and two male doctoral students in clinical psychology conducted both intervention conditions. All clinicians received training—including reading a PDF + MI treatment manual (Dimeff et al., 1999), role playing and watching videotaped interventions—from a clinical psychologist with previous experience supervising similar interventions with college student drinkers.

The format of the PDF was identical for both groups and contained the following: (1) a percentile rank that compared the student's weekly drinking to normative drinking rates, (2) personal BAC estimates, (3) the student's frequency of heavy drinking and associated risks, (4) a list of alcohol-related negative consequences reported on the RAPI, (5) risk for problem drinking based on family history of drinking problems, (6) the student's weekly time allocation to drinking/recovering, studying, attending class and exercising and (7) the caloric content of the student's alcohol consumption. Participants also received a harm reduction advice sheet.

Participants assigned to the PDF condition did not discuss their drinking with a clinician, but were instructed to carefully review the feedback and advice sheet for at least 30 minutes. Participants assigned to the PDF + MI condition discussed the PDF sheet during a 30-50 minute MI session (Miller and Rollnick, 2002). Clinicians adopted an empathic and nonjudgmental stance and used the objective feedback elements as stimuli to highlight the risks associated with the student's current drinking behavior and to accentuate the impact of drinking on other life areas. Clinicians structured the discussion to accommodate the participants' motivation to change and idiosyncratic reasons for changing. The clinician also reviewed the harm reduction advice sheet and encouraged participants to commit to harm reduction strategies or goals.

Follow-up assessment

Of the treated participants, 51 (94%) completed the 6-month follow-up. Participants received $15 for completing the self-administered measures.

Results

Three participants (two from the PDF + MI group) did not complete the 6-month follow-up and were excluded from the outcome analyses. Because the distributions for drinks per week and RAPI scores were significantly skewed, we used a square root transformation to normalize these distributions prior to data analysis. Repeated measures ANOVAs revealed a significant effect for time on reported drinks per week (F = 9.91, 1/47, p < .01), frequency of drinking (F = 4.59, 1/47 df, p < .04) and frequency of heavy drinking (F = 7.33, 1/47 df, p < .01). The main effect for time on drinks per week was qualified by a significant Time × Gender interaction (F = 4.37, 1/47 df, p < .04). Contrast analyses indicated that women lowered their weekly drinking from baseline to follow-up (F = 30.86, 1/34 df, p < .01) but men did not (p > .5). In general, participants in both groups showed moderate drinking reductions; the mean within-group effect size (d_w) across the three drinking measures was 0.42 for PDF participants and 0.48 for PDF + MI participants. Across both groups, female participants showed greater reductions than male participants (mean d_w = .63 and .18, respectively). The ANOVA on reports of alcohol-related problems showed no significant effect for time and no significant Time × Group interaction (p's > .5).

Discussion

This study found that college student drinkers who received PDF, delivered with or without an MI, showed small to moderate mean reductions in reported drinks per week (5.19 drinks), frequency of drinking per week (0.45 episodes) and frequency of heavy drinking per week (0.55 episodes) at 6-months postintervention. These results replicate previous findings that drinking feedback delivered during a motivational interview is associated with drinking reductions (Larimer and Cronce, 2002) and suggest that

PDF delivered without a counseling session can be equally effective. Given the minimal cost and the potential for reaching a large population, stand-alone PDF is a promising intervention that merits continued study with both college students and adults (e.g., Sobell et al., 2002).

It is possible that features of this study may have limited the potential benefits of MI. For example, clinicians did not have the benefit of an in-person assessment during which they could develop rapport and collect more detailed information about the student's drinking. Also, although clinicians had previous experience conducting PDF + MI interventions with college students, they were not formally trained in MI. However, since another study with college drinkers that did use clinicians formally trained in MI failed to find an additive effect for the combination of PDF + MI (Juarez, 2001), it is unlikely that our results are due to inadequate MI training. A recent analysis of "commitment language" during PDF + MI sessions in a sample of adult illicit drug users provides a possible explanation for the lack of additive effects for feedback and MI (Amrhein et al., 2003). The authors found that a key segment of the MI was the point at which clinicians reviewed the PDF: The statements of individuals who ultimately had positive outcomes expressed stable or increased commitment at this point, whereas individuals who were initially ambivalent about changing their drug use, and who had poor outcomes, increased their statements in support of the status quo (i.e., drug use) following the presentation of feedback. Amrhein and associates caution against the premature presentation of feedback during an MI with highly ambivalent clients. It is also possible that the presence of a clinician during PDF increases resistance among ambivalent substance users, who might respond better to PDF without an MI.

The present study is the first to find that brief PDF interventions are more efficacious among female college students. However, because of the small number of male participants and the fact that previous PDF studies have not found larger treatment gains for women, the observed gender interaction should be interpreted cautiously. It is possible that the difference in efficacy across gender is related to the feedback elements. The present study included feedback on alcohol-related caloric intake and weight gain, information that likely resonates with women more than with men.

The persistence of alcohol-related problems was somewhat surprising. Several other studies have also failed to find substantial reductions in alcohol-related problems despite significant drinking reductions (Borsari and Carey, 2000; Larimer et al., 2001; but see Baer et al., 2001). One possible explanation is that alcohol-related problems might diminish only after drinking reductions have been maintained for some time. Also, variables such as sensation seeking, comorbid psychopathology and academic ability appear to exert independent influence on levels of impairment associated with alcohol consumption (Bukstein, 1995; Paschall and Freisthler, 2003) and are unlikely to change following a brief intervention. Future research should examine individual difference characteristics associated with outcome following brief interventions.

The results of this study should be interpreted cautiously because of the small sample size and the absence of a control group. The latter concern is attenuated by the fact that at least seven studies with college students have demonstrated that similar brief interventions are superior to various control conditions (Larimer and Cronce, 2002). However, studies with larger samples are needed to clarify potential interactions between drinker characteristics (e.g., gender, readiness to change) and intervention features (e.g., modality, content)

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