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## Expressive Writing as a Brief Intervention for Reducing Drinking Intentions

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### Abstract

The present study examined the effectiveness of expressive writing in reducing drinking behavior. We expected that students prompted to write about negative drinking experiences would show greater decreases in future drinking intentions compared to the neutral and the positive writing conditions. We also expected that decreases in drinking intentions following the writing prompts might differ based on current drinking and AUDIT scores. Participants included 200 (76% female) undergraduates who completed measures of their current drinking behavior. They were then randomly assigned to either write about: a time when they had a lot to drink that was a good time (Positive); a time when they had a lot to drink that was a bad time (Negative); or their first day of college (Neutral), followed by measures assessing intended drinking over the next three months. Results revealed that participants intended to drink significantly fewer drinks per week and engage in marginally fewer heavy drinking occasions after writing about a negative drinking occasion when compared to control. Interactions provided mixed findings suggesting that writing about a positive event was associated with higher drinking intentions for heavier drinkers. Writing about a negative event was associated with higher intentions among heavier drinkers, but lower intentions among those with higher AUDIT scores. This research builds on previous expressive writing interventions by applying this technique to undergraduate drinkers. Preliminary results provide some support for this innovative strategy but also suggest the need for further refinement, especially with heavier drinkers.

### Keywords

alcohol; narrative; college

## 1. Introduction

### 1.1. College Drinking

Young adults engage in heavy drinking and experience a range of alcohol-related problems, including hangovers, injuries, and fatalities (Hingson, Heeren, Winter, & Wechsler, 2005;

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**Contributors:** Author 1 initially analyzed the results, wrote the introduction and method sections, and wrote pieces of all major sections. Author 2 designed the study, wrote a piece of the introduction, and wrote the majority of the discussion. Author 3 participated in analyses, wrote the results section, and compiled the tables. All authors contributed to and have approved the final manuscript.

**Conflict of Interest:** All three authors have declared no conflict of interest.

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Hingson, 2010). Additional research is needed to understand how to more effectively implement empirically-based alcohol interventions to reduce drinking and related problems (Hingson, 2010). The present research evaluates a novel brief intervention for reducing intentions to drink among college students.

## 1.2. Expressive Writing

Expressive writing (EW) has been shown to lead to improvements in physical and psychological health in both patient (Craft, Davis, & Paulson, 2013; Pennebaker, Kiecolt-Glaser, & Glaser, 1988; Stanton et al., 2002) and healthy college populations (Pennebaker & Beall, 1986). EW has been theorized to promote health and well-being through emotional disclosure and cognitive processing of traumatic events. In the traditional EW paradigm, participants reflect on a traumatic experience and express related thoughts and feelings in narrative form. As such, EW is tied both to emotion regulation (Smyth & Arigo, 2009) and cognitive processes (Smyth & Greenberg, 2000). EW prompts participants to reorganize their memory of these events into a narrative, which may also assist in efforts to better understand and cope with the experience (Smyth & Helm, 2003).

## 1.3. Expressive Writing and Behavior Change

Although EW has been repeatedly linked to improved physical health and psychological functioning, the relationship between EW and behavior change is unclear. EW is ineffective in promoting health through increasing exercise (Pennebaker et al., 1988) and decreasing smoking (Ames et al., 2005; Ames et al., 2007); however, EW is effective in promoting healthy sleep patterns (Harvey & Farrell, 2003), improving student grades (Lumley & Provenzano, 2003), decreasing absenteeism (Francis & Pennebaker, 1992), and reducing time spent searching for a job (Spera, Buhrfeind, & Pennebaker, 1994). Interestingly, participants in the EW condition of the Spera et al. (1994) study reported accepting employment at greater rates *and* decreasing their alcohol consumption compared to the control group at six-week follow-up. This downstream effect of decreased drinking provides promise for the use of EW paradigms as brief interventions to reduce drinking.

## 1.4. Memory and Expectancies

The consequences of an alcohol-related experience and the setting in which those consequences occur provide a basis for expectations and intentions for future similar behavior (Bandura, 1977; Bandura, 1986; Maisto, Carey, & Bradizza, 1999; Wall, Thrussel, & Lalonde, 2003). A large body of literature has found significant associations between expectations of alcohol effects and subsequent drinking (Jones, Corbin, & Fromme, 2001). Alcohol expectancies have been described as a complex network of alcohol-related associations that represent memories (Goldman, Reich, & Darkes, 2006). It is important to recognize the distinction between expectations related to alcohol's effects and subsequent evaluations (Fromme, Stroot, & Kaplan, 1993). What some individuals regard as undesirable effects of alcohol (e.g., cognitive impairment, increased probability of sexual experience), others may regard as desirable. These evaluations of experiences may be important in considering how recalling and writing about prior alcohol experiences influences subsequent drinking intentions.

## 1.5. Current Research

The present research examined a brief writing intervention as a strategy to reduce problem drinking among undergraduates. Based on previous research, we hypothesized that writing about a negative alcohol-related event would activate negative associations with alcohol, and would thereby lead to decreased intentions to drink. Furthermore, we evaluated whether writing about a positive alcohol-related event would also lead to lower intentions to drink or

would have an iatrogenic effect and lead to greater drinking intentions. Finally, we were also interested in whether the effect of writing about a past drinking experience on future drinking intentions might vary as a function of typical drinking and/or level of hazardous drinking based on AUDIT scores.

## 2. Method

### 2.1. Participants and Procedure

Participants included 200 undergraduate students (76% female) aged 18-50 ( $M=22.69$ ,  $SD=4.89$ ) from a large and diverse southern university. Procedures were approved by the university's Institutional Review Board. Participants were seated in private individual testing rooms. Procedures took place on a computer that was programmed to administer a baseline survey, the experimental writing task, and a short follow-up assessment. Participants received course credit for their participation.

Participants completed a baseline survey, which included typical drinking behavior. Next, participants were randomly assigned to one of three writing conditions in which they were instructed to write about either: a time when they had a lot to drink that was a good time (Positive); a time when they had a lot to drink that was a bad time (Negative); or their first day of college (Neutral). They were asked to be as descriptive as possible and to provide specific details about their experiences. Upon completion of the writing assignment participants were asked to report their future drinking intentions.

### 2.3. Measures

**2.3.1. Alcohol use**—The Daily Drinking Questionnaire (DDQ; Collins, Parks, & Marlatt, 1985) measured the number of standard drinks consumed on every day of a normal week within the previous three months. The Quantity/Frequency Scale (Baer, 1993; Marlatt, Baer, & Larimer, 1995) consists of five items assessing the number of drinks consumed on a peak drinking occasion in the past month, as well as the number of days of the month that the individual consumed alcohol. The Alcohol Use Disorders Identification Test was used as a measure of problem drinking (AUDIT; Babor, Higgins-Biddle, Saunders, & Monteiro, 2001). The AUDIT consists of 10 questions regarding typical drinking behavior.

**2.3.2. Future drinking intentions**—Drinking intentions were assessed with a modified version of the DDQ. We also included an item assessing the number of drinks intended to consume during a typical drinking event within the next three months (i.e., typical drinking), as well as the number of days out of the month that the individual intended to consume alcohol (i.e., drinking frequency; range identical to the QF item above). Finally, we asked participants how many times they intended to consume 4/5 or more drinks on a single occasion in the upcoming three months.

## 3. Results

### 3.1. Descriptives

Participants reported drinking an average of 6.99 drinks per week ( $SD=8.82$ ), 4.18 drinks per typical occasion ( $SD=4.69$ ), and AUDIT scores of 5.33 ( $SD=5.05$ ).

### 3.2. Effect of Narrative Intervention

Drinking intentions were evaluated as a function of two contrasts representing the distinctions between the positive heavy drinking occasion and the neutral condition and between the negative heavy drinking occasion and the neutral condition. Compared to participants in the control condition, participants who wrote about a negative drinking

experience reported intending to drink significantly fewer drinks per week,  $\beta = -.227$ ,  $t(197) = -2.73$ ,  $p = .007$ . There was also a marginal effect of the negative condition compared to control in reducing the number of intended heavy drinking occasions,  $\beta = -.145$ ,  $t(196) = -1.73$ ,  $p = .086$ . No significant intervention effects were found for intended drinking frequency or intended number of drinks during typical occasions. Further, there were no significant effects of writing about a positive drinking experience on intended future drinking (all  $ps > .15$ ). Thus, overall, without respect to previous drinking, we found some support for writing about a negative alcohol experience as a means of reducing future drinking intentions, but this effect was limited to one outcome.

### 3.3. Narrative Intervention Effects Contingent upon Baseline Drinking

Baseline typical drinking was created as a composite of drinks per week, drinking frequency, and number of drinks on a typical occasion. We also operationalized baseline hazardous drinking with AUDIT scores. We conducted hierarchical regression analyses, with separate models for typical drinking and hazardous drinking. Main effects of condition (i.e., positive versus control and negative versus control) and baseline drinking were entered into a regression equation at Step 1, with the interaction between condition and baseline drinking added at Step 2. The results are presented in the Table. Significant positive condition  $\times$  typical baseline drinking interactions emerged in two of the four outcomes: intended drinking frequency and intended number of drinks during a typical occasion. There was also a marginal positive condition  $\times$  typical hazardous drinking interaction predicting intended number of drinks during a typical occasion. Further, a significant negative condition  $\times$  typical baseline drinking interaction emerged in predicting intended drinking frequency, and a significant negative interaction  $\times$  hazardous baseline drinking emerged in predicting number of intended heavy drinking occasions. Interactions were graphed using procedures described by Aiken and colleagues (Aiken & West, 1991; Cohen, Cohen, West, & Aiken, 2003). Predicted values for drinking frequency intentions were derived from regression parameter estimates for positive and neutral conditions at high and low values of baseline drinking. Figure 1 graphs each of the significant interactions and presents respective simple slopes.

## 4. Discussion

The present study evaluated the effectiveness of three types of writing prompts on future drinking intentions among college students. Consistent with expectations, participants who were instructed to write about a negative drinking experience reported intending to drink fewer drinks per week and to engage in marginally fewer heavy drinking episodes compared to those in the control condition. No significant overall differences were found in intentions to drink among those in the positive writing condition and those in the control group. Further examination of the data looking at light versus heavy drinkers revealed mixed evidence, suggesting that writing about positive drinking events was associated with greater intentions to drink among heavier drinkers. This is unlikely to be problematic in considering further evaluation of the EW approach.

With respect to the negative condition, intervention effects were mixed. Based on the drinking composite, writing about a negative event was associated with lower drinking frequency intentions for lighter drinkers and higher drinking frequency intentions for heavier drinkers. In contrast, based on AUDIT scores, writing about a negative event was associated with lower intentions to engage in heavy drinking episodes among more hazardous drinkers and did not differ from control among less hazardous drinkers. Based on these results, screening criteria for this approach should be based on AUDIT scores rather than an index of consumption.

Results should be considered in light of some important limitations. We conceived this study as a first step in examining the potential for the EW narrative approach. As such, we did not evaluate actual drinking at follow-up. Second, the instructions for the writing task were very simple and did not reflect much direction. Previous research that has found positive effects for EW interventions have typically included more detailed instructions regarding content, therefore revised instructions might result in a more effective approach. For example, it might be more effective to ask individuals to write about a time they had a lot to drink and did something they were ashamed of or felt guilty about. The approach might also be more effective if multiple samples of negative events were written about and if they were distributed over time.

While the present results provide some encouragement for pursuing this approach, qualitative examination of the narratives suggest avenues for improvement. We noted in reviewing narratives that individuals instructed to write about negative events sometimes wrote about events that did not seem to have very negative outcomes. In contrast, some of the positive narratives did not seem very positive and/or were accompanied by justification of behavior.

Based on the present empirical findings as well as informal review of narrative content, there is support for continuing refinement of the approach. Informal review of the narratives revealed evidence of “change thought” and statements that were similar to Barnett and colleagues' (2006) ideas related to teachable moments. Future work could more thoroughly evaluate narrative content and examine “change thought” as a potential mediator of intervention effects. In addition, more specific instructions could be constructed to better facilitate change statements. In sum, the present research provided some preliminary support for the approach and identified important constraints, which will need to be taken into account in subsequent adaptations of this approach.

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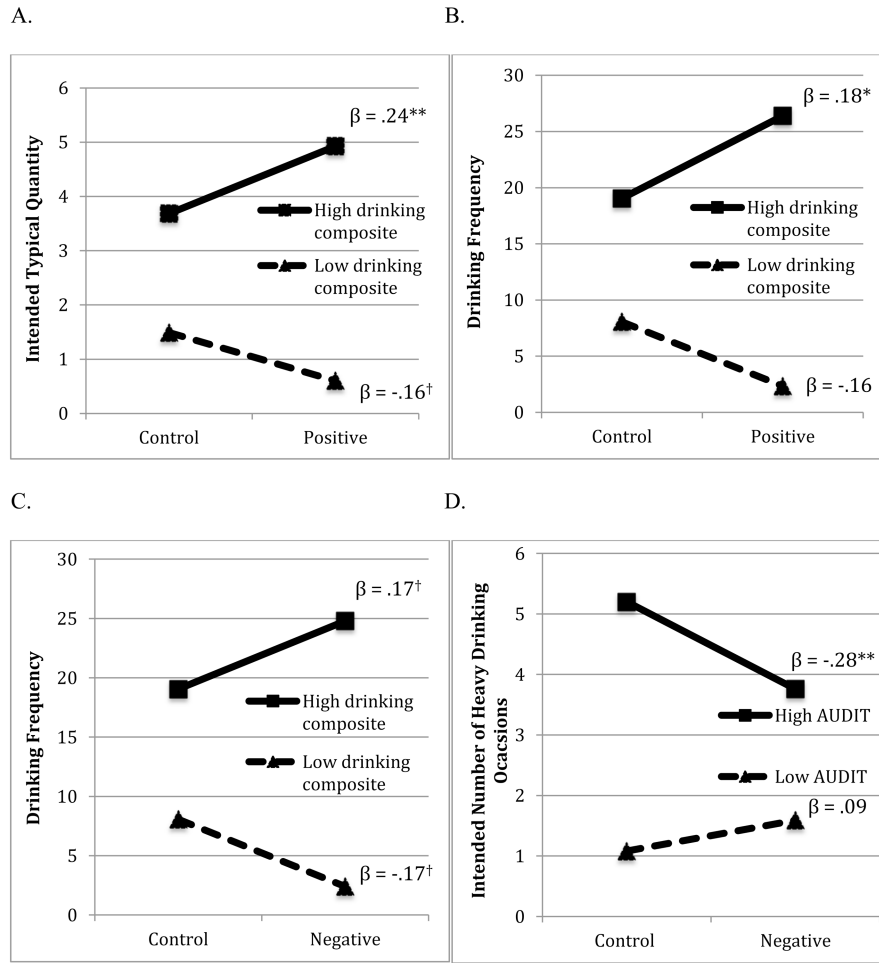
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### Highlights

- An expressive writing intervention was used to reduce future drinking intentions.
- Participants were given either a positive, negative, or neutral narrative prompt.
- Writing about a negative drinking event led to decreased intended drinks per week.
- This decrease in drinking intentions was found for those with high AUDIT scores.



**Figure 1.** A The effect of writing about a positive heavy drinking experience on intended drinking frequency over the next three months as a function of baseline typical drinking. *Figure 1.B.* The effect of writing about a positive heavy drinking experience on intended quantity during a typical occasion as a function of baseline typical drinking. *Figure 1.C.* The effect of writing about a negative heavy drinking experience on intended drinking frequency as a function of baseline typical drinking. *Figure 1D.* The effect of writing about a negative heavy drinking experience on intended number of heavy drinking episodes as a function of baseline hazardous drinking (i.e., AUDIT scores). \*  $p < .05$ . \*\*  $p < .01$ .  $\dagger p < .10$ .

Hierarchical regression models including intervention  $\times$  typical drinking (baseline and hazardous) predicting intended future alcohol use.

Table 1

Criterion	Step	Predictor	Typical Baseline Drinking			Typical Hazardous Drinking		
			t	$\beta$	p	t	$\beta$	p
Intended Drinks per Week	1	Positive condition	-1.61	-.134	.108	-1.61	-.134	.108
		Negative condition	-2.73	-.227	.007	-2.73	-.227	.007
	2	Positive condition	-1.36	-.083	.177	-.76	-.076	.450
		Negative condition	-1.87	-.114	.063	-.50	-.052	.620
		Typical drinking	8.05	.732	<.001	6.09	.730	<.001
Intended Drinking Frequency	1	Positive $\times$ typical drinking	-.32	-.024	.750	-.46	-.056	.643
		Negative $\times$ typical drinking	-.63	-.046	.529	-1.50	-.173	.135
	2	Positive condition	-.08	.007	.938	.08	.007	.938
		Negative condition	-.83	-.070	.408	-.83	-.070	.408
		Typical drinking	.34	.023	.735	-.79	-.087	.428
Intended Number of Drinks during Typical Occasion	1	Positive condition	.02	.001	.986	-.40	-.046	.692
		Negative condition	3.29	.336	.001	3.35	.442	.001
	2	Typical drinking	2.84	.235	.005	1.32	.176	.187
		Positive $\times$ typical drinking	2.44	.200	.016	.10	.012	.924
		Negative $\times$ typical drinking	.14	.012	.892	.14	.012	.892
Intended Number of Heavy Drinking Occasions	1	Positive condition	-.32	-.027	.751	-.32	-.027	.751
		Negative condition	.48	.02	.632	-1.03	-.107	.304
	2	Positive condition	.84	.056	.402	-.28	-.030	.784
		Negative condition	4.26	.424	<.001	3.74	.454	<.001
		Typical drinking	2.99	.242	.003	1.71	.214	.090
Intended Number of Heavy Drinking Occasions	1	Positive $\times$ typical drinking	1.11	.089	.268	.62	.074	.536
		Negative $\times$ typical drinking	-1.48	-.125	.140	-1.48	-.125	.140
	2	Positive condition	-1.73	-.145	.086	-1.73	-.145	.086
		Negative condition	-1.16	-.082	.247	.01	.001	.989
		Typical drinking	-.83	-.059	.406	1.01	.109	.313
Intended Number of Heavy Drinking Occasions	1	Positive condition	5.14	.542	<.001	6.50	.806	<.001
		Negative condition						
	2	Positive condition						
		Negative condition						
		Typical drinking						

Criterion	Typical Baseline Drinking			Typical Hazardous Drinking		
	t	$\beta$	p	t	$\beta$	p
	.75	.064	.455	-1.23	-.154	.220
Positive $\times$ typical drinking						
Negative $\times$ typical drinking	-.33	-.028	.742	-2.41	-.288	.017