

## **Study Protocol**

Personalized Booster Feedback After Alcohol Health Education

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**Principal Investigator:**

**Abby L. Braitman, Ph.D.**

### **Description and Purpose of the Project**

Heavy episodic alcohol use within the college student population is widespread, creating problems for student drinkers, their peers, and their institutions. Negative consequences from heavy alcohol use can be mild (e.g., hangovers, missed classes), to severe (e.g., assault, even death). Although online interventions targeting college student drinking reduce alcohol consumption and associated problems, they are not as effective as in-person interventions. Online interventions are cost-effective, offer privacy, reduce stigma, and may reach individuals who would otherwise not receive treatment. In a recently completed randomized, controlled trial, an emailed booster with personalized feedback improved the efficacy of a popular online intervention (Braitman & Henson, 2016). Although promising, the booster incorporated in the study needs further empirical refinement.

The current project seeks to build on past progress by further developing and refining the booster. In particular, one aspect missing from online interventions is a connection with a person invested in improving the student's outcomes. The current study aims to generate a personal connection for online interventions through a follow-up booster emailed by a member of the research staff. Outcomes will be compared for participants who receive a follow-up booster with similar content, but is clearly automatically generated and not from any particular individual.

There are 3 conditions: all participants receive the initial online intervention targeting college drinking. Condition 1 (the control group) receives an email with a reminder to complete the follow-up surveys, but no feedback (i.e., no booster). Condition 2 receives an emailed booster with normative feedback plus protective strategies feedback, clearly automatically generated. Condition 3 receives an emailed booster with normative feedback plus protective strategies feedback, from a member of the research staff. The booster content alone (automatically generated) may be efficacious, or the additional personal connection may enhance the effect.

### **Primary Aims**

The aim of the current study is to examine if personal contact enhances the tailored feedback received via booster email.

### **Participants**

Eligible participants must be 1) a current college student at the sponsor institution at the time of enrollment; 2) between the ages of 18 and 24; and 3) consumed at least one standard drink of alcohol in the past 2 weeks. Power analyses were conducted using Monte Carlo simulation methods within Mplus (version 5.21, Muthén & Muthén). Effect sizes, variance, and covariances used were based on data from a preliminary study with similar eligibility criteria using the same booster content (Braitman & Henson, 2016). We estimated a retention rate of 76%, the average reported in a meta-analysis of RCTs assessing alcohol interventions for first-year college students (Scott-Sheldon et al., 2014). Monte Carlo simulation methods indicated that for the effect size expected ( $b = 6.57$ ,  $\beta = 0.537$ ) and for the expected 24% attrition, a sample size of  $N = 180$  total students should yield power = .813 to detect the booster effects.

### **Recruitment Procedure**

Recruitment uses two methods. 1) An advertisement is placed in the Announcement system at the host institution, which includes a link to a screener survey. 2) An email describing the study is sent to undergraduate students who meet the age eligibility criteria (18-24 years old) at the sponsoring institution who attend classes on the main campus of the sponsoring institution, which also includes a link to a screener survey. In addition to the assessing eligibility criteria (age, student status, and alcohol consumed) additional irrelevant questions are included in the screener survey to discourage ineligible participants from re-taking the screener survey with different answers. Students who screen as eligible are invited to provide their contact information (name, email, and phone number), and to schedule their participation in the baseline session via Calendly).

### **Study Procedure**

Emerging adult college drinkers are recruited as described above. After completing the screener to verify eligibility, participants schedule their baseline session. After completing baseline, they are invited to complete two follow-up surveys 1 and 3 months after their baseline session. Participants receive a \$20 gift card for their participation (from Amazon or Target) for baseline participation. Additionally, participants receive \$10 for each completed follow-up survey (for the 1-, 3-month assessments). As an additional incentive, participants who complete all assessments are given a \$10 bonus (yielding \$50 total for the study).

***Baseline:*** Upon arrival at the research lab, participants are provided with the informed consent document, and have the opportunity to ask questions. After consenting to participate, they are directed to one of the computers in the lab. Because data are collected in a computer lab setting, each computer has a privacy partition (behind and beside the monitor). This is to minimize the possibility of participants viewing each other's screens. Additionally, participants are provided with headphones to minimize disruption from the other computers. All participants complete a computerized survey at the beginning of their first appointment that assesses alcohol use, alcohol-related problems, protective behavioral strategies for drinking and their perceived effectiveness, motives and expectancies for alcohol use, anonymized social network characteristics, context of their most recent drinking occasion, marijuana and tobacco use, and demographics measures. Upon beginning the survey, participants are randomly assigned within the survey system to one of the three study conditions: neutral email (no feedback), auto-generated booster email (feedback, no warmth), warm booster email (feedback written by a person using warm, personable language). After completing the initial assessment, participants are then directed to navigate through the ***eCHECKUP TO GO for Alcohol*** program (San Diego State University Research Foundation, 2018) until it is completed (approximately 20-30 minutes).

***Follow up assessments:*** Approximately one and three months after the initial assessment, researchers send each participant an email reminding them to complete the follow-up assessment in exchange for payment. This email includes a link to an online follow-up survey that assesses alcohol use, related problems, protective behavioral strategies for drinking and their perceived effectiveness, anonymized social network characteristics, context of their most recent drinking occasion, and marijuana and tobacco use.

***Boosters:*** Approximately two weeks after the intervention, all participants receive an additional email from the researcher. Information in the emails for the experimental booster groups serve as a booster to the original intervention. Baseline data are used to provide students with normative information (e.g., typical drinking among ODU students who are male/female

depending on the gender of the recipient), and reminders of protective behavioral strategies they can use to reduce drinking-related harm. In the auto-generated booster email condition, the feedback is delivered neutrally: “Hello, This feedback has been automatically generated for Carlton based on your answers to the online survey you completed in the research lab for the Project ‘Personalized Booster Feedback after Alcohol Health Education’”), whereas in the warm booster email condition, the feedback is delivered by a person using warm, personable language (i.e., Dear Carlton, My name is Edward and I’m your personal research coordinator for the Project ‘Personalized Booster Feedback after Alcohol Health Education’. I track your responses over the course of the study, and I’m writing to give you feedback about your answers to the online survey you completed in the research lab”). Participants in the control condition receive an email with no feedback.

## **Measures**

The same measures are included in baseline and the follow-up surveys:

Participants’ **alcohol use** is assessed using a modified version of the Daily Drinking Questionnaire for the past 30 days (Collins et al., 1985). Additionally, participants describe specific aspects regarding their drinking in the past 30 days (e.g., highest consumption in a single day). **Descriptive Norms** are assessed by modifying the DDQ to reflect their expectations for typical male students at the same institution, typical female students at the same institution, and close friends. Injunctive Norms are assessed using 10 items (Carey et al., 2010). **Alcohol-related problems** are assessed using the 48-item Young Adult Alcohol Consequences Questionnaire (YAACQ; Read et al., 2006), modified to assess the past 30 days rather than the past year. **Protective behavioral strategy** (PBS) use is assessed using Sugarman and Carey’s (2007) Strategy Questionnaire (SQ). **Perceived effectiveness of PBS** is assessed by modifying the instructions and response scale for Sugarman and Carey’s (2007) measure to assess how effective participants perceive each strategy to be. **Importance of PBS** use for all people and self are assessed with 10 items created by the researcher. **Alcohol expectancies** are assessed using the Comprehensive Effects of Alcohol questionnaire (CEOA; Fromme et al., 1993). **Motives for alcohol use** are assessed using the Drinking Motives Questionnaire (DMQ; Cooper, 1994). **Alcohol beliefs** about how salient alcohol use is to college life are assessed using the College Life Alcohol Salience Scale (CLASS; Osberg et al., 2010). **Social network** and affiliated characteristics are assessed using the adapted version (DeMartini et al., 2013) of the Brief Important People Interview (BIPI; Zywiak et al., 2002). Participants are asked to report characteristics and context for their **most recent drinking occasion**. This assessment is a collection of items mostly created by the researcher, but incorporates a modified version of the **Alcohol Offers** scale (Read et al., 2005), and a truncated, occasion-specific version of **drinking motives** (Cooper, 1994). **Marijuana use** is assessed similar to prior research (e.g., Collins et al., 2014), and **tobacco use** is assessed using items created by the researcher. **Demographics and general information** are collected during the initial assessment only; participants report their age, race, sex, Greek affiliation (i.e., membership in fraternities or sororities), GPA, class standing, athletic status student status (full- versus part-time), residential status, relationship status, sexual identity, height, and weight (for blood alcohol content calculations).

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