Study Protocol

Personalized Feedback After Alcohol Health Education for Members of Greek Life (GREEK Study)

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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). A second randomized, controlled trial confirmed efficacy for students of legal drinking age for a longer timeline (Braitman & Lau-Barraco, 2018). Although promising, the booster incorporated in the study needs further empirical refinement.

Primary Aims

The current project seeks to build on past progress by further developing and refining the booster. In particular, the current project is an extension of previous work by expanding the investigation into complete social networks (students involved in Greek life). This booster contains feedback about alcohol use tailored to the recipient, and will be emailed 2, 6, 10, and 14 weeks after baseline (experimental condition), or not at all (control condition). This study will be conducted specifically with students who are members of fraternities or sororities (specifically, those in the organizations that agree to participate). This population engages in heavy alcohol use, so is ideal for an alcohol intervention. Members of fraternities and sororities (i.e., "Greek life") engage in more frequent drinking, consume more when drinking, and have higher peak drinking occasions than students not involved in Greek life. We aim to administer the intervention and associated booster among complete networks of Greek organizations to examine how the intervention and booster progress through social networks. Moreover, given the close connections among members of fraternities and sororities, these may be closed peer networks that could facilitate the examination of how changes in drinking occur through social influence. In other words, we can potentially examine if change happens through selection (i.e., transitioning into friendships with individuals who are similar), such that those who drink less after the intervention change who they drink with to those individuals in the organization who also drink less; or socialization (i.e., becoming more similar to individuals who one spends time with), or drinking less through peer influence because participants may drink less to match the individuals they drink with, who are drinking less after the intervention and booster.

Thus, the current study has two primary aims (to be examined regardless of study outcomes or participation rates) and an exploratory, secondary aim (to be examined only if the booster is efficacious and the majority of members for each organization enrolled complete the study). Primary Aim 1: We will examine the efficacy of a personalized feedback booster emailed after eCHECKUP TO GO for Alcohol among members of fraternities and sororities. We expect initial post-intervention drinking reductions for both study conditions, with individuals in the booster condition reporting further reductions at later follow-ups. Primary Aim 2: Given the focus on perceived descriptive norms and protective behavioral strategies in the personalized

feedback boosters, we will examine if the booster impacts changes in those constructs over time. We expect individuals in the booster condition will report further reductions in norms and increases in protective behavioral strategies at later follow-ups. Exploratory, Secondary Aim: If the emailed booster is efficacious and the majority of members for each organization enrolled complete the study, we will examine social mechanisms of change (i.e., through selection versus socialization).

Participant population

Eligible participants must 1) be 18 years of age or older, 2) be an undergraduate student at a participating institution; and 3) be a member of a participating fraternity or sorority. Power analyses were conducted using Monte Carlo simulation methods within Mplus (version 5.21, Muthén & Muthén, 2002). Effect sizes, variance, and covariances used were based on data from a preliminary study with a similar protocol (some participants receiving the intervention only, others receiving the intervention plus booster) among college drinkers (Braitman & Henson, 2016; Braitman & Lau-Barraco, 2018). 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, β = 0.537) and for the expected 24% attrition, a sample size of N = 180 total students should yield sufficient power (.80+) to detect booster effects.

Recruitment Procedure

An email is sent to presidents of fraternities and sororities at the participating institutions. We explain the purpose and design of the study, share relevant approvals (IRB, NIH Certificate of Confidentiality, etc.), and explain the benefits of participation, including monetary compensation. Presidents who opt in for their chapter's participation share membership lists (names and email addresses). Names on membership lists are used for social network assessment in each survey (described in more detail in the Measures section below). Research staff then send recruitment emails to all members in participating organizations. This email contains similar content as the email sent to chapter presidents (i.e., study purpose and design, relevant approvals, compensation structure). We also ask chapter presidents if we may attend a chapter meeting to describe the study in more detail and answer questions. Some but not all organizations have chosen to do this so far. Undergraduate research assistants who are also members of Greek life make these visits. Recruitment emails include a link to Calendly to schedule their participation for the baseline session via Zoom.

Study Procedure

Members of Greek life are recruited via email as described above. Participants schedule their participation time through an online time management system (Calendly). They receive an email reminder from the Calendly system 24 hours before their assigned timeslot. After participating in the fully remote baseline session via Zoom, participants are to be paid $20. Participants are invited to complete additional 1-, 3-, and 6-month assessments, and receive $5 for each completed follow-up survey. As an additional incentive, participants who complete all assessments will be given a $5 bonus (yielding a $40 total for the study if all follow-ups are completed). All monetary compensation is provided via online gift card to Amazon.

Baseline: Participants sign on to Zoom via the link provided during their assigned timeslot. Upon signing into the Zoom meeting, the research assistants provide a link (using the chat function) directing them to a Qualtrics survey. Participants read and view videos of the study procedures on the first page of this website. The videos have been created in Powtoon, using voiceover and images that are not related to a specific gender or race/ethnicity. After reviewing the videos, participants are provided with the informed consent document (on a subsequent page of the survey), and will have the opportunity to ask questions during the live Zoom session with the research assistant. After consenting to participate, they are directed to complete the baseline survey (approximately 30-45 minutes). All participants will complete this computerized survey that assesses alcohol use, alcohol-related problems, protective behavioral strategies for drinking and their perceived effectiveness, alcohol-related cognitions (motives, expectancies, and beliefs about alcohol use), social network characteristics, cannabis and tobacco use, COVID-19 pandemic experiences, internalizing symptoms, and demographic measures. After completing the initial assessment, participants are then be directed to navigate through the eCHECKUP TO GO program (San Diego State University Research Foundation, 2018) until it is completed (approximately 20-30 minutes).

Subsequent assessments: Approximately 1, 3, and 9 months after the initial assessment, researchers send each participant an email reminding them to complete the follow-up assessment. 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, social network characteristics, and cannabis and tobacco use. If participants provide additional ways to contact them during the baseline survey (a second email address, a phone number to text), these methods are also used to send the link to the follow-up surveys.

Boosters: After the intervention, participants receive additional emails from the researcher, depending on their study condition. For the intervention-plus-booster study condition, these emails contain personalized normative feedback about alcohol use as well as feedback about harm reduction strategies, serving 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), and reminders of protective behavioral strategies they can use to reduce drinking-related harm (separated by strategies they have reported using recently versus those they might consider trying). This is received at 2 weeks, 6 weeks, 10 weeks, and 14 weeks after baseline. Participants in the intervention-only control condition do not receive any feedback via email. Participants are assigned to study condition at the group level, so that an entire organization receives the booster emails (or the entire organization does not).

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 24-item Brief Young Adult Alcohol Consequences Questionnaire (BYAACQ; Kahler et al., 2005). **Protective behavioral strategy** (PBS) use is assessed using the Protective Drinking Practices Scale (PDPS; Martin et al., 2020). **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). They are asked to list the top 5 people they consider their closest friends in their organization, and are presented with dropdown menus to list other members of their organization. There are also two write-in boxes to list individuals outside of their organization they consider a very close friend. **Cannabis use** is assessed using recommended best practices (Prince, 2019), and **tobacco use** is assessed using items created by the researcher. **Perceived Importance of Marijuana to the College Experience Scale** (PIMCES; Pearson et al., 2017) is used to assess how salient marijuana/cannabis is to college life. Questions about participants' experiences with the COVID-19 pandemic were created by the researchers. **Symptoms of depression** are assessed using the short version of the Center for Epidemiological Studies Depression scale (CESD-10; Andresen et al., 1994)**,** altered to reflect the past 30 days. **Anxiety** is assessed using the Generalized Anxiety Disorder 7 (GAD-7; Spitzer et al., 2006), modified to reflect the past 30 days. **Stress** is assessed using the psychological vulnerability subscale of the Perceived Stress Scale – Revised (PSS-R; Wickrama et al., 2013), modified to reflect the past 30 days. **COVID-19-specific stress** is assessed using the COVID-19 Stress measure (Ellis et al., 2020). **Demographics and general information** are assessed during the initial assessment only. Participants report their age, race, sex, GPA, class standing, military affiliation, first generation college student status, athletic status, residential status, relationship status, sexual identity, height, and weight (for blood alcohol content calculations).

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