

STUDY PROTOCOL

Official Title: Daily Personalized Drinking Feedback Delivered Via Mobile Phone

Brief Title: Alcohol Feedback, Reflection and Morning Evaluation

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(1) Baseline assessment and orientation. An onboarding session (~60 minutes), conducted via Zoom, involved providing informed consent, completing a brief baseline questionnaire and further orientation to study procedures. Data needed to personalize the intervention content were collected during the baseline survey. Participants were asked to choose from a range of possible goal types (e.g., max drinks per drinking event, drinks per week, weekly frequency of drinking, “skip goals”, “delay goals”, slow goals”, “stop goals”), as well as goals for calories and spending on alcohol. To assist this process, they were provided with NIAAA guidelines for safe drinking ($\leq 3/4$ drinks/day and $\leq 7/14$ drinks/week for women/men) and a reminder of their self-reported drinking patterns. They viewed a list of negative drinking consequences and checked off any they saw as important to avoid over the next month. Then they viewed a list of protective behavioral strategies (PBS) and indicated which PBS they had found useful in the past. Each of these data points was designed to be integrated/contrasted with subsequent self-reported behavior on morning reports during the intervention period. After the baseline survey, a research assistant reviewed study procedures. Participants were trained in standard drink definitions (12 oz beer, 5 oz wine, 1.5 oz liquor) and in the completion of mobile surveys and feedback report viewing. Participants practiced completing a morning report.

(2) Randomization. Randomization occurred following consent. However, participants were not informed of their group until they completed the baseline survey. The pilot RCT included three conditions (mobile personalized feedback intervention (PFI) with daily incentive for surveys, mobile PFI without daily incentives, assessment-only). After consent, participants were assigned using a random number table to one of these three conditions ranging in possible compensation from \$110 (assessment only, or PFI without incentives) to \$138 (full compliance in PFI with daily incentives). Using their screening data, we stratified by sex and student status (currently in 4-year college or not). PFI participants (both groups) completed (1) orientation and participant training (as described above), (2) four weeks of daily assessment and (3) intervention, and (4) follow-up surveys.

(3) Daily assessment. Daily assessment + feedback began on a Monday for all participants. A link to a web-based morning survey was sent at one of three times (participant choice, 5:30 am, 7am, 10am). While participants were instructed to complete the survey as early as possible, it remained available until 6pm. Text message notifications sent at noon were used to remind them their bi-weekly aggregate feedback will be less accurate if the survey is not completed (“Reminder: Complete your daily survey so that your next summary report is as accurate as possible!”). The survey format was optimized for mobile phone completion and the link was sent via SMS to maximize convenience; for security a password was required to begin.

(1) Personalized Feedback Reports. The content of the personalized feedback intervention is described briefly below.

Daily. Following each daily survey on which a participant indicated prior day drinking, optional personalized feedback was provided on how their most recent behavior (e.g., drinks last night, drinking days so far this week) compare/contrast with personal goals. Participants then chose whether to receive additional feedback in any of 7 areas: blood alcohol concentration, high risk behaviors, consequences of drinking, caloric intake, spending, how drinking compares to peers, and safe drinking strategies. All feedback reports

included feedback on drinks consumed, and then participants were asked to choose at least one additional topic for feedback (following each drinking day). Feedback drew on data collected by the Qualtrics survey at daily assessments and sometimes requiring integration with baseline data. Positive reinforcement messages for completing daily surveys and viewing feedback were displayed, and the report concluded with resources.

2- and 4-week feedback. In addition to day-level feedback, an aggregate feedback report on drinking patterns and related behaviors was delivered twice, once at the end of each 2-week period. Participants were redirected to their biweekly feedback report at the end of the daily survey/feedback on day 14 and 28. They also received a link to the biweekly feedback later that day. Once again, they had the option to view feedback across the range of topics noted above. At the end of the 2-week feedback report, participants in the intervention groups had the opportunity to update/add goals for the next 2 weeks, given what they learned thus far about their personalized behavior-outcome links. In addition to the biweekly feedback delivered via Qualtrics, participants in the intervention groups received an email with a pdf summary of their drinking over the past 2 weeks, as well as a resource list.

(3) Follow-up surveys. At the end of four weeks, participants in all three groups completed a 30-minute online survey (post-intervention). The final 30-minute follow-up took place three months after the end of intervention (four months after baseline) and assessed primary outcomes and mechanisms.