

**Personalized Normative Feedback Intervention for Food and Alcohol
Disturbance Among College Students**

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Author Note

I would like to thank my advisor.

Abstract

This is the abstract about FAD.

Keywords: Alcohol, Food and Alcohol Disturbance, Norms, College Students,
Mediation

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Introduction

Food and alcohol disturbance (FAD) involves disordered eating behaviors before, during, and/or after alcohol consumption used to compensate for alcohol-related calories (FAD-calories) or enhance alcohol's effects (FAD-intoxication; (Choquette, Rancourt, & Thompson, 2018)). Research on FAD has focused on prevalence rates, correlates, and the outcomes associated with underlying motives. Although FAD endorsement rates vary, one study suggests that in the past month, 67.1% of college students endorsed engaging in FAD for either motive at least once. These risky drinking habits can have serious negative consequences, such as poor academic performance, legal repercussions, and the development of alcohol use disorder. High rates of FAD among students and limited research on interventions call for urgent development and evaluation of strategies to reduce FAD in high-risk college settings. Current interventions for FAD are limited and fail to address the full range of FAD motives and behaviors, highlighting a significant gap in the literature.

Recent research indicates that college students overestimate both the prevalence and acceptance of FAD among peers, suggesting that college students may benefit from addressing these normative misperceptions. Studies in alcohol use support this approach, showing that personalized normative feedback (PNF) interventions can effectively reduce alcohol use and associated harms and shift norms (Lewis & Neighbors, 2007) (Christine M. Young Neighbors, 2019). The potential to adapt this method for addressing other harmful behavioral patterns, such as FAD, remains unexplored.

This study aimed to develop a PNF intervention to reduce FAD behaviors among college students. For this study, it is hypothesized that participants in the PNF-FAD condition will exhibit a greater reduction in FAD behaviors than the control group. Additionally, it is hypothesized that those with shifts in norms will have the greatest reductions in FAD behaviors and related alcohol outcomes (see Figure 2).

Method

College students ($N=X$) were recruited from research participant pools or classes within the Psychology Department at William & Mary in the Fall 2025 semester for an online survey and brief intervention focusing on personal health habits. The survey lasted about one hour, and participants were compensated with research credit. Participants completed a baseline survey, and two additional surveys spaced out two weeks apart (i.e., T1 [baseline], T2 [2-week follow-up post baseline survey], T3 [1-month post baseline follow-up survey]). The study protocol received IRB approval via university specific IRB.

Participants

Analytic sample was limited to students who reported consuming alcohol in the past 30 days, completed alcohol consumption and alcohol-related problems measures, and correctly responded to at least three of the five attention checks in the online survey.

Materials and Procedure

Participants received a personalized normative feedback (PNF) intervention during study 1. This intervention was similar to Young & Neighbors (2019) PNF intervention for alcohol use. Participants were asked to report on their (1) personal frequency of FAD behavior, (2) perception of frequency of FAD behavior among peers, (3) perception of peers approval or disapproval of engaging in FAD behaviors, and (4) personal approval or disapproval of engaging in FAD behaviors. This information was used to compare to the actual FAD behaviors and norms (descriptive and injunctive) of typical same-sex peers at their university. This feedback was presented as text and graphs (see Figure 1). The information for comparison with same-sex peers was gathered from a larger project that collected information on FAD behaviors and FAD norms among W&M students (Project SNAP3). For the control group, participants received the same information related to their sleep quality (Project Koala). For the follow-up surveys, participants completed the same series of measures as in the baseline questionnaire.

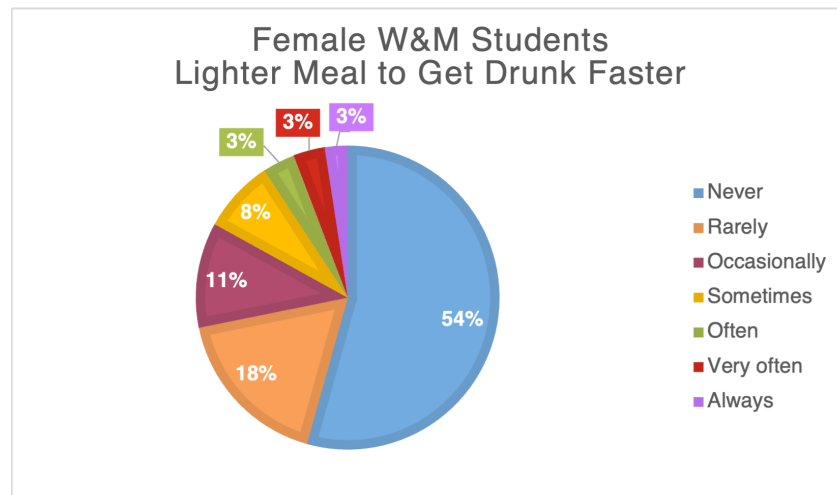


Figure 1

Example of FAD feedback in graph.

Results

A repeated measures 2 x 3 between-within ANOVA was conducted to assess changes in FAD behaviors over time and determine if the PNF for FAD condition demonstrates the most significant effects (see Table 1). Additionally, a mediation analysis was conducted to examine whether FAD norms mediate the relationship between intervention type and FAD behaviors.

An a priori power analysis was conducted to determine the required sample size to detect a small effect size for a repeated-measures ANOVA (within-between interaction) using G*Power 3.1. It was decided to use a small effect size ($f = 0.10$) to be conservative, as no previous PNF interventions for FAD could be used as a reference. Past research indicated a small-moderate effect size of PNF interventions for alcohol use and problems (Dotson et al., 2015; Young & Neighbors, 2019). The analysis was based on an alpha level of 0.05 and a desired power of 0.80. There were two groups (i.e., PNF-FAD, and control) and three measurement points (i.e., baseline, two-week and four-week follow-ups). The analysis indicated a minimum sample size of 164 participants per condition with these parameters to detect a statistically significant effect. Additionally, one research article suggests that a sample size of at least 562 participants is required to detect small effects in a partial mediation model with 0.80

power (Fritz & Mackinnon, 2007). The goal was to recruit 650 participants to account for potential dropout rates.

Table 1

Engagement in FAD behaviors in the experimental and control groups. 0 = Never, 6 = Always.

		Study		
		Baseline	Time 2	Time 3
Group	Experimental	1.25	1.06	1.01
	Control	1.23	1.67	1.23

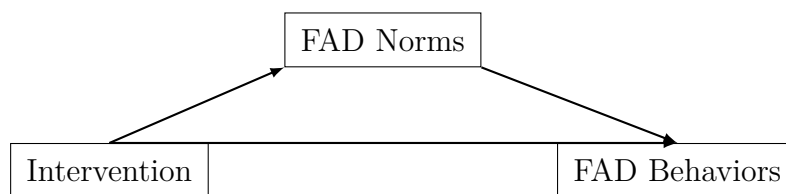


Figure 2

Mediation model of intervention effects on changes in FAD behaviors through changes in perceived FAD norms.

Discussion

If effective, PNF for FAD could inform future intervention research targeting FAD among college students. If successful, this may be used as a stand-alone brief intervention (e.g., college campuses). This brief intervention can be easily administered (e.g., during college orientation or in freshman seminars, at the doctor's office) and may significantly improve student wellness.

References

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