

# A Failed Norms Social Marketing Campaign\*

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**ABSTRACT.** *Objective:* In this article we test the efficacy of an intensive norms social marketing campaign to reduce heavy drinking among college students living in a residence hall. *Method:* We employed a pre-test-posttest nonequivalent comparison group design. The study was conducted in two (experimental and comparison) comparable residence halls located in a large urban public university. We attempted a census at each hall, and pre- and postintervention data were collected in public areas

of each residence hall. Relative sample sizes were approximately 60% in the experimental hall (both waves) and 38% in the comparison hall. *Results:* The campaign successfully corrected students' misperceptions of drinking norms but had no effects, or counterintuitive effects, on drinking behaviors. *Conclusions:* Despite the popularity of this approach, universities would be prudent to proceed with care before adopting this approach wholesale. (*J. Stud. Alcohol* 64: 409-414, 2003)

IN RECENT YEARS there has been much interest in students' misperception of drinking norms as they relate to high-risk drinking behaviors. The prevalence of heavy drinking and its attendant consequences among college students across the U.S. (Hingson et al., 2002; O'Malley and Johnston, 2002; Wechsler et al., 2000) has imposed on universities the need to adopt preventive measures. Given the relative ease of implementing prevention programs using a social norms model and some initially encouraging (albeit tentative) findings related to the efficacy of such prevention efforts (Haines and Spear, 1996; Johannesen et al., 1999), it is hardly surprising that universities and colleges across the nation have embraced this social norms model approach. A small industry has sprung up around normative approaches to alcohol prevention; indeed, there is now an annual National Conference on the Social Norms Model, a professional periodical (The Report on Social Norms [PaperClip Communications]) and a National Social Norms Resource Center. Norms social marketing was also named one of the "80 Ideas that Shook the World" by *The New York Times* (Social Norms, 2001).

Norms social marketing campaigns are grounded in the common finding that students tend to overestimate the alcohol consumption of their peers. Perkins (2002) suggested

that such misperceptions help determine individual drinking behavior by pressuring students who hold them to conform to a false and wetter drinking norm. Norms social marketing campaigns attempt to correct commonly held misperceptions by educating students through mass media campaigns about actual campus drinking rates.

The efficacy of norms social marketing campaigns aimed at correcting college students' misperceptions of drinking norms is not clear. To date, there have been five (Fabiano et al., 1999; Glider et al., 2001; Gomberg et al., 2001; Haines and Spear, 1996; Johannesen et al., 1999) uncontrolled campus-wide studies that suggested norms social marketing approaches to correct normative misperceptions reduced heavy alcohol consumption. These studies generally found similar results. Using a time-series design, for example, Haines and Spear (1996) found that a media campaign designed to correct misperceptions resulted in a significant decrease of misperceptions of peer drinking behaviors and self-reported heavy drinking. Consistent with these findings, Gomberg et al. (2001) and Johannesen et al. (1999) also reported finding significant decreases in student misperceptions of drinking norms and drinking behavior in their studies. Unfortunately, all of these studies lacked adequate comparison campuses.

Others (Barnett et al., 1996; Stamper et al., 2002; Werch et al., 2000), on the other hand, have experimentally tested variations of this approach with college students and found no effects, or modest effects, on drinking outcomes. Werch and associates (2000) used greeting cards with a telephone follow-up to deliver a normative message to an experimental group and found no impact on drinking behavior. Despite this study's strong randomized design, the intervention was at a relatively low dosage. Similarly, Stamper et al. (2002) conducted a randomized intervention with college

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freshmen and found that a normative correction campaign successfully reduced misperceptions but had no effect on drinking behavior. Barnett et al. (1996) conducted a non-random comparison group study and found results similar to those of the Stamper et al. (2002) study. Each of these studies relied on peer-led discussions of drinking norms. It might be argued that, although well designed, these studies did not implement interventions sufficient in dose or variety to bring about the desired changes in drinking behavior.

This study adds to the literature by utilizing a pretest-posttest quasi-experimental design that featured an intensive social norms correction campaign and allowed for ruling out several threats to internal validity found in other evaluation efforts of such campaigns.

On the basis of current literature, we hypothesized that students exposed to the norms social marketing campaign, in contrast to students not receiving the campaign, would reduce their misperceptions of drinking norms and their drinking behavior.

## Method

### *Design*

We employed a pretest-posttest nonequivalent comparison group design (Campbell, 1963). For this study we selected two residence halls at a large public university and randomly assigned one hall as the experimental hall and the other as the comparison hall (subjects could not be randomly assigned to conditions). Students in the experimental condition received an extensive normative correction campaign for 6 weeks, while students living in the other hall received an address book with information on alcohol laws. We collected pretest data at each hall during the second week of the spring 2002 semester prior to the intervention at either hall. The posttest was completed at each hall 4 weeks after the intervention ended in the experimental hall.

### *Subjects and recruitment*

To minimize the likelihood of diffusion of treatment effects, we selected halls located approximately 1 mile apart. As seen in Table 1, the demographic characteristics of the two hall populations were comparable, as were the samples from each hall.

Given the relatively small population size, our interest in testing a multifaceted media campaign and the difficulty of generating a random sample of students living in residence halls (e.g., two students to a room, shared telephones and mail boxes), we attempted a census of each hall included in the study. Relative sample sizes were as follows: pretest 41.7% in the comparison hall, 59.3% in the experimental hall; posttest 33.6% in the comparison hall, 60.8% in the experimental hall. It is important to note that the

population of the comparison residence hall was larger ( $n = 645$ ) than the population of the experimental hall ( $n = 396$ ). The final sample sizes for each hall were similar.

To collect data we followed the methods used by Turrissi and associates (personal communication, June 22, 2002) at Boise State University. For a 5-day period during each testing phase, we set tables near the entrance of each hall and solicited volunteer subjects. We offered subjects a coupon for a free slice of pizza and a soft drink (value \$2) as an incentive to complete the survey. We recorded students' identification numbers and names in a log to ensure that no one completed the survey more than once. Our final samples are presented in Table 1.

### *Interventions*

The intervention condition took place for 6 weeks in one of the two residential halls. Both residential halls are large facilities. The campaign included posters, stickers, bookmarks and notepads (see Table 2 for distribution activities). Each of these materials included the same basic normative message: "Seventy-five percent of (school name) students drink 0, 1, 2, 3 or 4 drinks when they party." This statistic was drawn from a survey conducted at the study university during the same year of the campaign ( $n = 400$  randomly selected students). The simple message is consistent with normative messages used by Haines and Spear (1996) and Johannesen et al. (1999) in their uncontrolled studies.

To add an interactive component to the dissemination similar to that of Haines and Spear (1996), each week during our campaign we sent a research assistant to the experimental hall to ask randomly selected students if they knew the above campaign message or if they were displaying the poster in their room. If students indicated either was the case, they were awarded \$5. Students were eligible to win one prize per week. We gave away \$600 over the course of the campaign.

To students living in the comparison resident hall, we provided an address book (3" x 6") that contained information concerning alcohol-related laws and policies. We distributed the book to each student residing in the comparison dorm during the week following the pretest. The book contained messages such as, "Possession of false identification: \$250 fine and 32 hours community service." Throughout the 120-page book, 15 messages concerning laws, risks and negative consequences associated with drinking were repeated. These messages were located at the bottom of each page (1.5" x 3"). The booklet was provided at the request of the residence hall administration.

In a separate analysis, we pilot-tested the book in a marketing class to see how students in the comparison group might use the book. We gave the book as a gift to 80 undergraduates attending the class. The students were told

TABLE 1. Demographic characteristics of samples compared to the population

Characteristic	Sample (Waves 1 and 2 combined)				Population			
	Experimental		Comparison		Experimental		Comparison	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
Gender								
Male	182	38.2	210	43.2	159	40.2	257	39.8
Female	294	61.8	276	56.8	237	59.8	388	60.2
Ethnicity					NA		NA	
Hispanic	57	12.4	66	13.6				
White	299	64.9	319	65.9				
Asian/Pacific Islander	61	13.2	59	12.2				
African American	30	6.5	30	6.2				
Other	14	3.0	10	2.1				

the books were leftovers from another class but were told nothing else about the book. We conducted a posttest 2 weeks later to see if students were using the book, and found only 3 of the 80 students were actually doing so. Moreover, only 55% said they had read through the book; over half threw it away, lost it or gave it away. It is therefore unlikely the book had any influence on students' drinking behavior.

#### Instrument and measures

We developed an original questionnaire for this study that asked students about their alcohol use, their perceptions concerning their peers' alcohol use, demographic questions, and questions concerning their understanding of alcohol-related laws and policies. To help ensure anonymity for subjects while they completed the survey, we provided two private "voting booth" cubicles at each site. We also provided a drop box for the completed questionnaires. The anonymous questionnaire took about 10 minutes to complete.

The survey included three normative items: (1) How many drinks, on average, do most (school name) students have when they are partying? (2) Overall, what percentage of students here at (school name) do you think consume no alcohol at all? (3) Overall, what percentage of students here at (school name) do you think consumed five or more drinks in a row on at least one occasion in the past 2 weeks? The first item is consistent with the item used by Haines and Spear (1996), and the next two items are drawn from the Campus Survey of Alcohol and Other Drug Norms.

Respondents were also asked a series of questions about their alcohol consumption during the past 28 days. These

questions included the following: (1) Thinking specifically now about the *past 4 weeks or 28 days*, on how many days, if any, did you have at least one drink of beer, wine, or liquor? (2) On how many of those days (when you had a drink) did you have *more than one* drink? (3) On how many of those days (when you had more than one drink) did you have *three or more* drinks? (4) On how many of those days (when you had three or more drinks) did you have *six or more* drinks? These items were scored using the Consumption Models Analysis Program developed by Gruenewald and Nephew (1994). Based on the analysis of this set of questions covering the past 28 days, drinking frequency (*f*), mean drinks per occasion (*dpo*), and a drinking variance estimate (*s*<sup>2</sup>) in drinks per occasion can be computed. Gruenewald et al. (1996) argued that each individual's drinking pattern can be described as a point in three dimensional space defined by these three variables. The total consumption level can be estimated from the product of (*f*) × (*dpo*).

We also asked respondents about their heavy episodic drinking behavior. Consistent with Johnston et al. (1998), we defined heavy episodic drinking as five or more drinks in a single setting. Respondents were asked the number of times they engaged in this behavior in the 2-week period before being surveyed. For all alcohol consumption items, a drink was defined as one beer, one glass of wine, one mixed drink, or one shot of distilled spirits.

#### Analyses

For the cross sectional data (Waves 1 and 2, Halls 1 and 2), we used the GLM program in SPSS (v.10.1) to analyze between group comparisons. We used a two-phase analysis.

TABLE 2. Intervention materials and distribution

Type	Number	Distribution	Time
Large posters	25 each week	Posted in common areas	Each Friday
(11" × 17")	315 each week	Placed in stacks for students	
Stickers (3" × 5")	820	Provided to each resident twice	4th and 6th week
Bookmarks (2" × 4")	410	One provided to each student	3rd and 5th week
Notepads (4" × 4")	410	One provided to each student	1st week

First, we tested for variations between the residence halls at Wave 1 for the drinking variables and normative variables. Second, we computed a (2 × 2-Wave × Residence Hall) ANOVA model using the perception of norm variable as the dependent measure. Finally, consistent with our design (Pedhazur and Schmelkin, 1991), we computed ANOVA models (Wave × Hall) for the dependent drinking measures and included the normative variable as a covariate. We tested for gender and class standing effects during a preliminary round of analyses. As we found no significant effects for either variable, they were excluded as variables in the final analyses reported below.

## Results

### Sample characteristics

Because we were unable to randomly assign subjects to conditions, it is important to examine the sample characteristics. Theoretically, this lack of randomization may have resulted in incomparable groups. Our drinking data, however, suggested that the two halls were statistically equivalent on the dependent drinking variables at pretest. Although students at the experimental residence hall had, on average, lower misperceptions of their peers' drinking levels, our pattern of results suggests that the campaign resulted in a significant reduction of these misperceptions, whereas students living in the comparison hall showed an increase in such misperceptions. Second, we were unable to select students randomly for the surveys. Although this nonrandom procedure could potentially result in a selection bias, data drawn from a random sample of residence hall students collected during the same semester in a separate study yielded similar values to our pretest values for dpo (mean [SD] = 4.4 [5.2]) and perceptions of other students' drinking behavior (subjects' perceptions of the mean (SD) number of perceived drinks typically consumed by students when partying was 6.4 (2.6).

The mean age of the students living in the experimental hall was 18.5 (sample mean = 18.8 [1.1]), and mean age of students in the comparison hall was 18.1 (sample mean = 18.8 [1.4], ns). The class standing of subjects did not statistically differ by residence hall: 78.6% of subjects in the comparison hall and 82.2% of subjects in the experimental hall were freshmen; 9% of the subjects in the comparison hall and 7.0% of subjects in the experimental hall were sophomores. The samples thus did not exactly match the population parameters for age, but the differences between the sample statistics and the parameters were not statistically significant.

### Misperceptions of drinking norms

During the first phase of the analyses, we examined whether the mediator variable, that is, subjects' perceptions

of the mean number of perceived drinks typically consumed by students when partying, changed over time. We present the results from the ANOVA models in Table 3. As shown in the table, the two residence halls did differ significantly on the mediator variable overall. However, as shown in Figure 1, at posttest the experimental hall perceived a lower mean number of drinks than did the comparison dorm ( $F = 10.1, 1 \text{ df}, p < .002$ ). There was also a change from baseline measure to postintervention measure for the two halls. In the experimental dorm, subjects' perceptions of the mean number of perceived drinks typically consumed by students when partying decreased from a mean of 6.7 to 5.7, whereas subjects' perceptions in the comparison for this normative variable decreased from a mean of 7.0 to 6.7. This Time × Condition interaction was statistically significant ( $F = 5.0, 1 \text{ df}, p < .05$ ).

### Drinking behaviors

As illustrated in Table 3, the drinking behaviors of the students in the two halls also increased overtime. The mean number of drinks reported per occasion of drinking increased for both the experimental (4.0 to 4.1) and the comparison (3.7 to 4.4) groups from pretest to posttest ( $F = 8.7, 1 \text{ df}, p < .01$ ). Similarly, the number of heavy episodic drinking episodes also increased for both halls over time, with the mean number increasing from 2.7 to 2.9 for the experimental group and 2.7 to 3.3 for the comparison group ( $F = 5.1,$

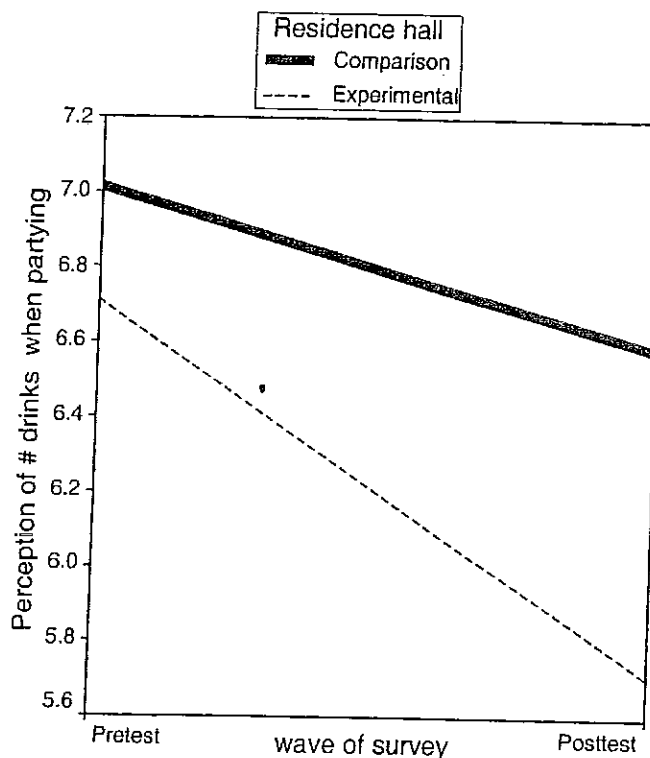


FIGURE 1. Normative perceptions by condition and time

TABLE 3. Mean comparisons for conditions on drinking and normative perception variables

Variable	Wave 1		Wave 2	
	Hall 1 Experimental Mean (SD)	Hall 2 Comparison Mean (SD)	Hall 1 Experimental Mean (SD)	Hall 2 Comparison Mean (SD)
Perceived number of drinks consumed when partying <sup>a</sup>	6.71 (2.75)	7.01 (3.27)	5.71 (2.58)	6.50 (2.5)
Drinks per occasion <sup>b</sup>	4.03 (3.66)	3.72 (3.70)	4.15 (3.52)	4.38 (3.81)
Heavy episodic drinking past 2 weeks <sup>c</sup>	2.69 (3.63)	2.69 (3.78)	2.89 (3.65)	3.32 (7.55)
Days at least one drink past 28 days <sup>d,e</sup>	5.88 (6.47)	6.29 (6.99)	6.89 (6.89)	5.41 (6.41)
Number of times got drunk past 28 days <sup>ns</sup>	5.26 (5.66)	5.09 (6.38)	5.16 (5.79)	5.48 (8.67)
Total drinks 28 days <sup>ns</sup>	35.30 (55.7)	38.00 (62.0)	35.10 (53.0)	42.10 (55.0)

<sup>a</sup>Significant difference for residence hall,  $p < .002$ ; significant difference for Wave \* Residence Hall interaction,  $p < .03$ . <sup>b</sup>Significant difference from Wave 1 to Wave 2,  $p < .003$ . <sup>c</sup>Significant difference from Wave 1 to Wave 2,  $p < .01$ . <sup>d</sup>Significant difference for Wave \* Residence Hall,  $p < .01$ . <sup>e</sup>Nearly significant difference for residence hall,  $p < .06$ . <sup>ns</sup>No significant difference for time or condition.

1 df,  $p < .05$ ). Finally, the experimental group increased in their mean number of days drinking from 5.9 to 6.9 per 28 days, whereas the comparison group decreased from a mean of 6.3 to 5.4 per 28 days. This between-subjects difference approached statistical significance ( $p = .06$ ), and the Time  $\times$  Condition interaction was statistically significant ( $F = 6.6$ , 1 df,  $p < .02$ ). No significant differences were identified for the report of number times gotten drunk during the past 28 days or the total number of drinks consumed by subjects.

### Discussion

This study found that students exposed to the norms social marketing campaign reduced their misperceptions of drinking norms but drank more frequently at posttest than did their counterparts in the comparison group. The campaign had no effect on several other drinking indicators.

The present study had some key strengths. First, we ran a fairly extensive campaign. Our design ensured that each member of the experimental residence hall received the normative message in multiple forms several times during the intervention period. Our weekly monitoring of the posters found several students decorated their rooms with the materials (e.g., wallpapered a wall in their room with posters, etc.). Each week our research assistant easily awarded cash prizes for people who knew the campaign message or had it posted in their room. Second, our design allowed for a comparison condition and used common measures of alcohol use and drinking norms. As noted above, several of the earlier studies in this area used single indicators of drinking (i.e., heavy episodic drinking) or time series designs without comparison groups.

The primary limitation to the study was our inability to randomly select or assign students to conditions. As noted in the results section, however, the samples matched their

corresponding populations well on the demographic variables and the drinking variables of interest.

Another possible limitation was the duration of the campaign. During our preliminary review of the evaluation and theoretical literature concerning norms social marketing, we were unable to find any empirically based guidelines concerning optimal campaign duration. Thus, we selected a campaign duration for this study based on cost factors. The campaign evaluated here was short and intense, while many universities implement such campaigns for several academic years (Haines and Spear, 1996; Johannesen et al., 1999). Given our findings, however, it appears the campaign successfully reduced normative misperceptions.

Although we attempted to control for diffusion of treatment effects (Campbell, 1963) by selecting halls on opposite sides of the campus, we did not have a direct measure of exposure to the campaign for the residents in the comparison hall. It is possible that some students residing in the comparison hall were exposed to the campaign materials when visiting friends at the experimental hall. Even if such exposure did occur, however, there were no significant changes in perception within the subjects living in the comparison hall.

Despite the potential limitations associated with our design, the findings of this study are similar to those of other studies that used experimental or quasi-experimental designs (Barnett et al., 1996; Stamper et al., 2002) while incorporating a social marketing intervention of the campus-wide uncontrolled studies (Haines and Spear, 1996; Johannesen et al., 1999). That is, an intervention similar to those employed on campuses across the country appears to have contributed to norms correction among the students without reducing heavy drinking among those exposed to the campaign. Of greater concern was our finding that the frequency of drinking actually increased significantly over time within the experimental group, while declining in the comparison

group. The present study, however, does not provide a definitive test of norms social marketing as a prevention approach. Future research is needed to examine such campaigns at other colleges and universities. Issues concerning campaign duration, saturation and the like also need additional empirical work. Although universities have immediate needs to address alcohol issues on campus, they would be prudent to proceed with care before adopting this approach wholesale.

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