

What Is the Effect of Correcting Misperceptions? Successful Interventions Utilizing the Social Norms Approach

Social norms theory can be used to develop interventions that focus on the three levels of prevention specified as universal, selective, and indicated (Berkowitz, 1997). These categories, developed by the Institute of Medicine, replace what was formerly called primary, secondary, and tertiary prevention (Kumpfer, 1997). *Universal prevention* is directed at all members of a population without identifying those at risk of abuse. *Selective prevention* is directed at members of a group that is at risk for a behavior. *Indicated prevention* is directed at particular individuals who already display signs of the problem. Interventions at all three levels of prevention can be combined and intersected to create a comprehensive program that is theoretically based and has mutually reinforcing program elements.

Berkowitz (2003b) suggested that there are certain questions that must be answered in order for the social norms model to be applied effectively:

- What misperceptions exist with respect to the attitude or behavior in question?
- Are there over or under-estimations of attitudes and/or behavior?
- What is the meaning and function of misperceptions for individuals and groups?
- Do the majority of individuals in a group or community hold these misperceptions?
- Does the target group function as a group with respect to the behavior in question? That is, are the group norms “salient,” and are the individuals in the group an influence on each others’ behavior?
- What is the hypothesized effect of these misperceptions?
- What changes are predicted if protective behaviors that already exist in the population are supported and increased?

A variety of successful social norms interventions have been developed that provide answers to these questions and address universal, selective, and indicated prevention. Interventions in each of these categories are reviewed below.

Universal Prevention – Social Norms Marketing Campaigns.

A number of college campuses and high schools have successfully reduced drinking by developing community-wide electronic and/or print media campaigns that promote accurate, healthy norms for drinking and non-use. This includes Western Washington University (Fabiano, 2003), the University of Arizona (Glider et al, 2001, Johannessen & Glider, 2003; Johannessen, et al, 1999), Northern Illinois University (Haines, 1996; Haines & Barker, 2003; Haines & Spear, 1996), Hobart and William Smith Colleges (Perkins & Craig, 2002, 2003a), Rowan University (Jeffrey et al, 2003), and the University of North Carolina Chapel Hill (Foss et al, 2003, 2004). These campaigns use social marketing techniques to deliver messages about social norms and can be described as “*social norms marketing campaigns*.” At these schools, a reduction of 20% or more in high-risk drinking rates occurred within two years of initiating a social norms marketing campaign, and in one case resulted in reductions of over 40% after four years. Haines, Barker and Rice (2003) reported similar results for both tobacco and alcohol in social norms marketing campaigns conducted in two Mid-western high schools. These findings were recently replicated in a second high school (Christensen & Haines, 2004; Rice, 2003).

Among the most thorough and comprehensive evaluations of social norms campaigns are those by Perkins and Craig (2002) and Foss and his colleagues (2003, 2004). Perkins and Craig (2002) described an intervention that combined a standard poster campaign with electronic media, an interactive web site, class projects that developed parts of the campaign, and teacher training for curriculum infusion. The intervention began in 1996 at a college with higher than average alcohol use. A number of evaluations were conducted to determine the effectiveness of the campaign. Results included: 1) increases in drinking that normally occur during the freshman year were reduced by 21%; 2) a campus-wide decrease in high-risk drinking during the previous week from 56% to 46%; and 3) successive decreases in alcohol-related arrests over a four-year time period. Corresponding reductions were also found in misperceptions of use, heavy drinking at a party, and negative consequences associated with alcohol use. Surveys conducted at three time periods over a five-year period indicate successive linear decreases in all of these measures over time.

At the University of North Carolina Chapel Hill Foss and his colleagues (2003, 2004) conducted a social norms marketing campaign for first-year students with the theme: “Whether it’s Thursday, Friday, or Saturday night, 2 out of 3 UNC students return home with a .00 blood alcohol concentration.” A unique feature of the study was that the BAC data was collected using breath samples of students coming home to their residence halls. The program was thoroughly evaluated and at the end of

five years, the mean number of drinks on the night of the interview decreased from 5.1 – 4.3, the proportion of drinkers with a BAC above .05% on the night of the interview decreased from 60% to 52%, and the percentage of respondents who could be classified as heavy drinkers on the night of the interview decreased from 14% to 10% (representing an overall decrease of 29%.) By using actual BAC measures, this study addresses concerns raised about social norms campaigns that rely on survey data to document effectiveness because it demonstrates that the reductions in use are not due to potential response bias or the possibility that students are taught by social norms campaigns to answer surveys differently.

Social norms marketing campaigns have also been successful in reducing smoking prevalence and delaying smoking onset. For example, in a seven county campaign directed at 12-17 year olds in Montana, only 10 percent of non-smokers initiated smoking following the campaign, while 17 percent in the control counties began smoking. This represents a 41% difference in the proportion of teens initiating smoking in the intervention counties as compared with those in the rest of the state (Linkenbach & Perkins, 2003A). At the University of Wisconsin at Oshkosh, a 29% decrease in smoking rates was achieved from a multi-component intervention including a social norms media campaign, while rates at a control campus did not change significantly (Hancock, et al, 2002). Finally, at Virginia Commonwealth University, use remained stable and perceptions became more accurate while the number of cigarettes smoked per month at a control campus increased (Hancock et al, 2002; Hancock & Henry, 2003). In addition to providing strong support for the effectiveness of social norms campaigns for smoking reduction, these studies all used comparison groups, thus strengthening the scientific literature in support of the model. In an overview of some of these campaigns, Hancock et al (2002) discussed the differences between smoking and alcohol use behaviors that need to be considered when designing a social norms marketing campaign for smoking.

Finally, Hellstrom (2004) recently reported on a three-year, seven campus study in which DWI was reduced overall by 13% (with one campus reporting a decline of 40%) along with reductions in high-risk use from 36% to 29%.

The website of the Social Norms Center (www.socialnorm.org) presents data from these and other schools documenting substantial reductions in health risk behaviors within one or two years of initiating a social norms marketing campaign. Monographs developed by Haines (1996), Johannessen et al (1999), and Perkins and Craig (2002), chapters by Fabiano (2003) and Linkenbach (2003), and the Social Norms Resource Book (Berkowitz, 2003c) outline the stages of developing a social norms

marketing campaign, provide guidelines for creating effective media, and present evaluation data in support of the effectiveness of social norms marketing campaigns.

These results provide strong evidence that the social norms approach can be effectively applied as a universal prevention strategy to reduce high-risk drinking and promote moderate alcohol use, and for smoking to reduce smoking prevalence and delay its onset.

Selective Prevention – Targeted Social Norms Interventions.

Targeted interventions focus on members of a particular group, such as first-year students, fraternity and sorority members, athletes, or members of an academic class. Misperceptions of close friends' behavior are highly correlated with personal use, a finding that has led to the development of selective social norms interventions on a number of campuses. In most of these efforts, information about the actual group norms is provided in small interactive group discussions, workshops, or academic classes. Due to their smaller size and more manageable format many of these interventions have been evaluated using randomized assignment to experimental and control groups.

The following successful targeted small group norms interventions have been reported:

- Schroeder & Prentice (1998) designed an intervention for first-year students that randomly assigned participants to one of two discussion groups during their first term. In the *norm-focused condition*, students were given data showing systematic misperceptions of drinking norms on campus and participated in a facilitated discussion about actual norms and the social dynamics of drinking. In the *individual-focused condition*, students participated in a discussion of how to make responsible drinking decisions. In a follow-up questionnaire six months later, students in the norm-focused condition consumed significantly fewer drinks each week than students in the individual-focused condition.
- Washington State University pioneered the development of selective interventions with groups such as athletes, fraternities, sororities, and first-year students (Barnett, et. al, 1996; Far & Miller, 2003; Peeler et al, 2000). WSU's "Small Group Norms Challenging Model" provides group members with feedback about their group's actual and perceived drinking patterns in a 45-minute workshop. Discussion focuses on the nature and causes of misperceptions in a talk show format using slides with data on actual and perceived norms for that group. This approach has produced reductions in drinking among first-year students, Greeks, and athletes who

received the intervention and was sustained enough to create campus-wide reductions in drinking over a number of years (Far & Miller, 2003). For example, over a nine-year period, students who drink 5 or more drinks on an occasion decreased from 59% to 30%, and abstainers increased from 12% to 20%.

- Peeler et al (2000) designed an intervention as part of a course at Washington State University in which the experimental group received a class module on drinking norms. At the end of the term, the male students in the experimental group reported significant changes in their perceptions of campus drinking and also reported consuming less alcohol per occasion than students in the control group.
- Steffian (1999) assigned college men to either a normative education group (experimental group) or a traditional alcohol education program (control group). The experimental group participated in a group consensus exercise in which the group made predictions about campus drinking norms and then were presented with actual data, evidence of their own misperceptions, and a discussion of social norms theory. The control group watched a film on the physiological effects of alcohol. The author reported that “Participants in the normative education groups demonstrated more accurate perceptions of campus drinking norms and a significant reduction in the consequences of alcohol use while those in the control group did not. Changes in normative perception were among the strongest contributors to a function discriminating between those who decreased their drinking and those who did not.”
- Bonday & Bruce (2003) adapted the small group norms challenging model to develop a normative feedback intervention for fraternities at the University of Virginia. They reported a decrease in negative consequences of fraternity member drinking after the intervention, although actual drinking rates did not change.
- Hillenbrand-Gunn and her colleagues at the University of Missouri-Columbia (2004) developed a three-session intervention on acquaintance rape for high school students that incorporated local social norms. The workshop resulted in more accurate perceptions and decreases in rape supportive attitudes among boys that were maintained at a one-month follow-up.

Another way of delivering social norms messages to groups is through the use of interactive peer theater. Scripts for such performances are

available from BACCHUS (2002) or can be developed locally. For example:

- At the University of Albany, social norms data were integrated into interactive scenarios presented to students in a freshman seminar class (Cimini, Page & Trujillo, 2002). Students in the control condition were enrolled in the same class but received an academic lecture on substance abuse instead. Students in the theater intervention reported a significant decrease in frequency of use, DWI, and regretted behavior, and an increase in the incidence of protective behaviors in comparison with the control group. The intervention group also reported a reduction in high-risk drinking rates while these rates increased in the control group.

Other selective interventions have utilized focused media campaigns directed at a particular group of students in combination with other strategies:

- The University of Virginia designed a targeted social norms marketing campaign for first-year students by placing posters in bathroom stalls in first-year residence halls. In its first year (1999-2000), the campaign was successful in reducing the drinking of women and non-fraternity men but not fraternity men (Ohahowski & Miller, 2000). In the next two years of the campaign, which also incorporated environmental management strategies, these improvements continued and the drinking of fraternity men also improved (Bauerle, Burwell & Turner, 2002). Thus, over a period of three years, the number of drinks per week for first-years went down from 3 drinks a week to 1, the median number of drinks per week for fraternity first-year men went down from 15 to 7, and the percentage of abstainers went up from 35% to 49%. In a subsequent presentation of this data, Bauerle (2003) reported that the campaign was expanded to the entire campus and that negative consequences for first-year students continued to trend downwards. These results serve as an important reminder that social norms campaigns may not affect all groups equally (especially at first) and that sustained effort is required over a period of years to normalize improvements and extend them to all students.
- At Rochester Institute of Technology, a social norms marketing campaign was developed for deaf and hard-of-hearing students to reduce the incidence of sexual assault (White, Williams, & Cho, 2003). In this intervention, a campus-wide social norms marketing campaign to prevent sexual assault that had been offered to all students (including deaf and hard-of-hearing) was re-designed to

tailor it to the culture and communication styles of deaf and hard-of-hearing students. While the all-campus campaign did not have an effect on deaf and hard-of-hearing students, the tailored campaign was successful in changing attitudes and perceptions, and resulted in fewer sexual assaults.

- At the University of Arizona (Johannessen, 2004) a targeted social norms campaign was developed for sorority members focusing on the ethic of caring among women and providing feedback about actual drinking norms and attitudes. As a result of the campaign, significant decreases in high-risk drinking were reported on a number of measures while sorority drinking remained the same on a control campus.
- Mattern and Neighbors (2004) randomly assigned students in a residence hall to an experimental condition in which participants were given normative feedback through a variety of channels, and a control condition. They found that corrected perceptions were associated with decreases in the quantity and frequency of drinking among students in the experimental group. In addition, a smaller group of students whose misperceptions increased during the campaign reported higher use, providing strong support for the assumptions of the social norms approach
- In a project sponsored by the Kansas Health Foundation (Berkley-Patton et al, 2003), first-year students received a social norms intervention that resulted in significantly decreased drinking rates for first year students when rates of use for the summer before college were compared with spring term drinking.

These examples provide strong support for the effectiveness of selective social norms interventions directed at particular groups of at-risk individuals when used alone or in combination with other strategies. Targeted social norms interventions such as these may be more effective when the normative data are tailored to the group in question and when they are presented in more extended, interactive formats. As noted earlier, it is extremely important to determine the most salient and relevant influences on the target group before designing an intervention to make sure that the norms being corrected are influential. These influences may differ by gender and membership in groups such as athletics and fraternities or sororities and may vary by campus. When offered in the context of a campus-wide media campaign, the two interventions should be designed so that they are compatible with each other.

Indicated Prevention – Individualized Social Norms Interventions.

Normative data about drinking can be presented to high-risk drinkers and abusers as part of individual counseling interventions. These interventions are theoretically sound because abusers tend to adhere strongly to misperceptions that serve to rationalize their abuse (i.e. see the section on “false consensus.”) Sharing normative data in a motivational interviewing format is a non-judgmental way to create cognitive dissonance in heavy drinkers and catalyze change.

The most well-known and scientifically supported individualized intervention that includes a norms correction component has been developed by Alan Marlatt and his colleagues at the University of Washington (Dimeff, et. al. 1999). The Alcohol Skills Training Program (ASTP) uses an eight-session motivational interviewing approach based on stages of change theory to provide heavy drinkers with non-judgmental feedback about their drinking. Data collected prior to the interview are used to provide comparisons between the individual’s drinking and actual rates of peers’ drinking on campus. This information presents heavy drinkers with the fact that their drinking is much more extreme than that of peers on a variety of measures. ASTP has been condensed into both a one-hour intervention (BASICS) and a correspondence course in which subjects use a manual. All three interventions have been successful in reducing drinking at follow-ups as long as 1-2 years (Dimeff, et. al. 1999; Larimer & Cronce, 2002), including with high-risk drinkers (Murphy et al 2001).

Agostinelli, Brown & Miller (1995) were able to produce similar reductions in drinking by mailing participants personalized graphic feedback following their completion of a mailed survey. Similar results were found in a larger population study, in which a normative feedback pamphlet was mailed to over 6,000 households. In a follow-up general population survey a month later, respondents from households receiving the normative feedback reported significantly lower alcohol use than controls (Cunningham et al. 2001). Mailed feedback was also successful in correcting perceptions and reducing drinking in a study of high-risk college drinkers (Collins et al, 2002). These findings have been replicated in other samples, including one conducted in a workplace where reductions in consumption were documented for heavy drinkers following normative feedback without any increase in drinking on the part of non-drinkers (Walters & Woodall, 2003). Neighbors, Larimer & Lewis (2004) found similar results using computerized normative feedback with alcohol consumption remaining lower at three and six month follow-up assessments. Finally, Agostinelli and her colleagues (forthcoming) found that heavy drinkers were more likely to acknowledge that they had a drinking problem when they learned as a result of the intervention that their own drinking quantity was above the norm.

“Check-Up to Go” or CHUG is another widely used tool for providing personalized individual feedback about drinking. In its original paper-and-pencil version, it has produced drinking reductions in three controlled clinical trails (Walters, 2000) and is now available on the web at www.e-chug.com.

These results are extremely promising because they are efficient and cost-effective, produce measurable results, and can be combined with other social norms interventions. For example, both Western Washington University (Fabiano, 2003) and the University of Washington (Larimer, et al, 2001) have successfully combined universal interventions with indicated interventions providing specific information about campus drinking norms to individual high-risk drinkers.

In addition to individual personalized feedback, high-risk drinkers and smokers also may be influenced by campus-wide media campaigns. For example, Perkins and Craig (2002) reported four-fold reductions in the typical increase in high-risk drinking among first-year students and a 21% reduction in weekly heavy drinking among students in general at a small private college in the Northeast. Pryor (2001) reported a decrease from 20% to 13% from 1999-2000 in the number of students drinking ten or more drinks at a sitting at a different small Northeastern college. Similarly, a social norms marketing campaign at University of Wisconsin at Oshkosh directed at smokers with the theme “96% of smokers want to quit before graduating” resulted in a 29% decrease in smoking rates in one year. As noted earlier, social norms interventions at Washington State University (Far & Miller, 2003), The University of North Carolina Chapel Hill (Foss et al 2003, 2004) and the University of Virginia (Bauerle, 2003) have also been successful in reducing high-risk drinking.

In summary, norms corrections interventions with heavy drinkers are theoretically sound and can be effective both in individual contexts as part of a motivational interviewing strategy, through computerized or mailed feedback, or as part of community-wide media campaigns.