

Advertising and Marketing

Mass Communication Effects on Drinking and Driving

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This chapter examines the role of mass communication in both preventing and encouraging alcohol consumption and drunk driving, particularly among young people in our society. It begins with an overview of public communication concepts relating drunk-driving behavior to advertising and public service campaigns and to entertainment and news media presentations, and then describes basic theoretical processes and topical literatures. The closing section identifies issues for discussion, suggests strategies for improving media influence, and recommends promising avenues for research.

The public may be influenced in a number of ways by exposure to media communications. The strongest effect generally occurs at the cognitive level (awareness, knowledge, beliefs, and images), with more modest effects at the affective level (attitudes, values, norms, interests, saliences, and intentions). In terms of overt *behavior*, key outcomes include:

- a. alcohol *drinking* patterns (frequency/quantity of consumption, hourly rate, settings),
- b. *driving* practices (driving after moderate drinking, drunk driving, general risky driving), and
- c. *interpersonal prevention* actions (persuading companion to drink moderately, prohibiting teen child from attending drinking parties, insisting on designated driver arrangement, serving driver nonalcoholic drinks, intervening to prevent intoxicated driver from taking the wheel).

These behavioral outcomes are interrelated, such that an effect on one behavior indirectly contributes to other actions. For example, messages stimulating consumption of a greater quantity also increase drunk driving; messages prompting interpersonal persuasion, in turn, reduce the quantity consumed before driving.

The scope of relevant media content ranges from hard news about police crackdowns on driving while intoxicated (DWI) to fictional entertainment portrayals of reckless driving, and from sensual commercial promotion of alcohol brand images to fear-arousing informational messages showing twisted wrecks. Several linkages between content presentations and audience behaviors are particularly noteworthy; the literature review will examine most closely the direct connections between: (a) alcohol advertising and drinking patterns, (b) entertainment programming and both drinking patterns and risky driving acts, (c) news stories and drunk-driving practices, and (d) public service campaigns and drinking, drunk driving, and prevention activities.

This chapter focuses on mass media communication rather than conventional alcohol *marketing* efforts (e.g., on-campus beer promotions, beer tie-ins with professional sports teams, positioning of wine coolers as quasisoft drinks, distribution of premixed cocktails

through convenience stores). The marketing perspective is primarily represented in the public service campaign section as a set of methods and strategies adapted by *social marketing* practitioners to unsell alcohol abuse and drunk driving. (Three interchangeable terms—social marketing campaigns, information campaigns, and public service campaigns—all refer to a series of promotional messages in the public interest that are intended to benefit individuals in the audience and/or to improve society as a whole.)

A number of theories are applicable to understanding the influence of mass communication on drinking and driving cognitions, attitudes, and behaviors. These general conceptions will be briefly reviewed before the empirical research for each specific topic area is examined. The first five perspectives are stimulus centered (focusing on message potency), while the rest are receiver centered (assigning a major role to audience predispositions in determining response to media presentations).

Social learning theory focuses on responses to messages portraying human models; vicarious learning of behaviors and consequences occurs by example through imitation and contagion mechanisms (Bandura 1977). The effect of a message is enhanced by models that are celebrities, high in status, or similar to the observers, and by depiction of positive social and personal reinforcement. Three processes explain the influence of visualized portrayals, especially in TV entertainment programming, commercials, and public service spots:

1. *Observational learning*, which is the transmission of social information about novel forms of behavior that may lead to imitative actions, for example, a public service announcement (PSA) showing successful physical intervention techniques to prevent drunk driving. Symbolic modeling can also shape definitions of normative social practice, for example commercials portraying appropriate situations for beer consumption.
2. *Altering inhibitions* governing overt expression of previously learned responses, for example, a film depicting early-morning drinking that reduces guilt about this practice, or a soap opera dramatizing humiliation of DWI arrest that inhibits driving after drinking.
3. *Response facilitation*, which is the modeling enhancement of socially sanctioned behaviors by a simple reminder cue to perform acts already established in the observer's repertoire, for example, a wine ad that prompts drink-pouring.

Verbal learning is a label encompassing a family of utilitarian-oriented persuasion theories such as instrumental learning and hierarchy-of-effects, which conceive of the individual as proceeding through attention, comprehension, yielding, and retention stages resulting in formation and change of beliefs and eventually of attitudes and behaviors (see McGuire 1981; Flay 1981; Bettinghaus 1986). The key elements are the presentation of relevant incentives (promised rewards and threatened punishments as the motivation for accepting the recommendation), the credibility or attractiveness of sources, and the structure, evidence, or arguments of the message appeals. This framework applies primarily to purposive media messages (e.g., anti-drunk-driving PSA's citing casualty statistics, or liquor magazine ads featuring substantive reasons for purchasing the product).

Cultivation theory focuses on the formation and shift of beliefs about society (e.g., perceived prevalence of drunk-driving behavior). Based on cumulative absorption of media content, viewers derive conceptions skewed toward the predominant portrayals (Gerbner et al. 1986; Signorielli 1987). While this perspective has been primarily applied to fictional content, it is also pertinent to news effects on perceptions of reality.

Agenda setting (McCombs and Gilbert 1986) is a theoretical model predicting that an issue or attribute that is frequently and prominently presented in the mass media will be regarded as more important and assigned a high priority in the thinking of the receiver.

For example, heavy news emphasis on a topic such as drunk driving will increase the public's perception that the problem is significant. Constant emphasis on camaraderie in beer advertising will elevate the salience of this attribute relative to safety concerns.

Classical conditioning applies to the affective impact of certain alcohol presentations, particularly in advertising, where an initially neutral stimulus is repeatedly paired with an unconditioned stimulus eliciting a favorable/unfavorable response, for example, linking alcohol consumption to masculinity, or associating drunkenness with joviality.

Uses-and-gratifications theory posits that individuals selectively use media channels and messages to satisfy needs (Rubin 1986). Psychological predispositions and social contextual factors shape motivations of receivers, who actively select media stimuli for specific purposes such as guidance or enjoyment. For example, readers who are instrumentally motivated to learn how to evade police detection will seek out and extract pertinent information from news stories, and TV viewers who watch soap operas for plotline excitement may not notice incidental portrayals of drinking. In addition, cognitive dissonance mechanisms explain certain exposure decisions. For example, drunk drivers may selectively avoid threatening messages about safety consequences.

Cognitive-response perspectives focus on the thoughts that the receiver generates while processing messages (Petty and Cacioppo 1981). Rather than passively consuming information, the person relates the content to prior knowledge and experience, and forms new connections or arguments. For example, receivers might think favorably about bars in response to a magazine ad showing a bar setting, or might raise critical objections and rehearse circumvention strategies when hearing a news story about drunk-driving roadside checkpoints.

Expectancy-value approaches emphasize the role of audience value predispositions in the formation of attitudes toward a behavior (Ajzen and Fishbein 1980). Attitude is conceived as a function of expectancies (e.g., beliefs about the likelihood of crashing or the probability of social approval for moderate drinking) and evaluations (e.g., positive or negative valence of an attribute or outcome).

Mass communication theorists also examine supplemental interpersonal influences, which can extend, reinforce, or counteract the effect of mediated messages. Relevant processes include:

- a. two-step flow (e.g., a news viewer relays an item about police crackdown to nonexposed coworkers; friend doesn't let friend drive drunk after hearing radio PSA),
- b. opinion sharing (e.g., coviewers of TV drama shape each other's evaluative reactions to humorous depiction of drunkenness),
- c. social influence (e.g., advertising-induced tendency to drink excessively is reinforced by prodrinking peer pressures), and
- d. social norms (e.g., anti-drunk-driving magazine message is counteracted by perceived appropriateness of males driving after drinking).

Research Literature

Empirical evidence assessing mass communication influences on drinking and driving behaviors is underdeveloped and often methodologically flawed. The greatest research attention has been devoted to the effects of advertising on alcohol consumption, owing to societal concerns and regulatory interest in this issue.

Alcohol Advertising

The mass media annually carry a billion-and-a-half dollars of advertising for beer, wine, and spirits, far exceeding expenditures for prevention and education by government and nonprofit agencies. Major content analyses by Atkin (1987) and Finn and Strickland (1982, 1983) showed that lifestyle portrayals are featured along with brand symbolism, as attractive and youthful (but not underage) characters display enjoyment (but not intoxication). Among the benefits frequently linked to the alcohol products are social camaraderie, romance, masculinity/femininity, adventure, relaxation, and elegance. Relatively few ads portray alcohol in hazardous contexts such as vehicle scenes, or depict negative drinking consequences such as hangovers, accidents, diseases, or embarrassment. Alcohol advertising practices have been subject to extensive criticism (Jacobson et al. 1983; Postman et al. 1987). Congress considered a ban on alcohol advertising in 1985 hearings.

Atkin (1988, 1989*a, b*) presented detailed assessments of the theoretical mechanisms by which these advertising messages influence both consumption patterns and risky driving behavior, particularly effects of TV commercials on adolescents. This chapter first summarizes the extensive empirical literature on advertising and drinking, then reviews a study focusing on drunk driving.

Drinking

In two recent reviews, Smart (1988) concluded that "alcohol advertising is, at best, a weak variable affecting alcohol consumption," while Atkin (1988) stated that "ads stimulate higher consumption by both adults and adolescents. . . there is a sufficient basis for rejecting the inference of null effects and for rejecting claims that advertising exerts a powerful influence on drinking behavior." The preponderance of the evidence suggests that advertising is a contributing factor that increases consumption to a modest extent, based on three types of investigations.

Six major experiments tested the effect of advertising messages on drinking behavior (Brown 1978; McCarty and Ewing 1983; Kohn et al. 1984; Kohn and Smart 1984; Sobell et al. 1986; Kohn and Smart 1987). The studies do not provide conclusive evidence, owing to the equivocal mixture of null and positive findings along with serious conceptual and methodological deficiencies (particularly in experiments showing apparent null effects). The critical review by Atkin (1988) interprets this set of results as suggesting limited prodrinking effects. Other experiments relying on verbal responses show that both sexual imagery and celebrity endorsements enhance the effect of advertising on youthful drinkers (Freidman et al. 1977; Atkin and Block 1981, 1983; Kilbourne et al. 1985).

A second set of econometric studies and quasi-experiments based the analysis on aggregate statistics representing alcohol sales and advertising expenditures over time or across locales (Simon 1969; Ackoff and Emshoff 1975; Smart and Cutler 1976; Bourgeois and Barnes 1979; Ogborne and Smart 1980; Duffy 1981; McGuinness 1983; Schweitzer et al. 1983; Ornstein and Hanssens 1985; Wilcox 1985; Franke and Wilcox 1987). This type of research produces mixed findings, basically showing that advertising accounts for slightly higher levels of consumption; but these techniques have restricted potential for precisely tracing the effect of commercial messages.

Third, several major correlational surveys provide the most externally valid data on the advertising-consumption relationship (Atkin and Block 1981; Strickland 1982, 1983; Atkin et al. 1984; Atkin and Block 1984). Despite ambiguities about causal direction, the data suggest that televised beer ads mildly increase beer drinking, that magazine liquor ads have a modest positive influence on consumption of spirits, and that the effect of traditional wine advertising is weak.

Drunk Driving

Advertising has potential for direct effects on drunk driving, based on occasional content portrayals juxtaposing moving cars with scenes of beer drinking in TV commercials and the association of alcohol and professional racing cars, and on more subtle linkages between beer and the challenging excitement of speed and macho risk taking (see Postman et al. 1987). However, overt depictions of vehicles occur in a just a tiny percentage of ads, and characters are never shown drinking in the context of driving.

Advertisements rarely warn the audience about the dangers of drinking before or during driving, which precludes learning about this risk and possibly deemphasizes salience of unsafe consequences. Indeed, the audience may infer that safety is not a significant issue based on portrayals of characters consuming alcohol away from home settings without any recognition of how they will achieve safe transportation.

Advertising may also produce indirect effects that increase the likelihood of drunk driving. Many ads promote drinking in bars and in outdoor locations. To the extent that drinkers are influenced to consume more alcohol in these nonhome settings, the chance of driving after drinking is greater. Further, the effect of advertising in stimulating greater frequency and quantity of drinking heightens the odds of drunk driving.

In a sample of adolescents and younger adults, Atkin, Neuendorf, and McDermott (1983) found that advertising exposure was significantly related to a drinking-driving index (higher levels of driving after drinking, drunk driving, drinking while riding, drinking while parked, and estimated drink limit for safe driving). For example, 39 percent of heavily exposed individuals reported having driven "when you were really too drunk to drive," compared to 28 percent of lightly exposed respondents. This exploratory study has methodological shortcomings, and the evidence must be regarded as tentative.

Entertainment Media

Television programming is considered influential in shaping both drinking and driving behaviors, particularly among youthful viewers (Atkin 1989a, 1989b). Other entertainment media play a minor role because of limited reach and frequency (e.g., films, books) or low-potency content (e.g., radio, recordings). Televised depictions of drinking are remarkably prevalent, as are risky driving portrayals, but specific presentations involving drunk driving are infrequent.

Drinking

Content analyses over the past decade have documented that two-thirds to three-fourths of all prime-time episodes present at least one drinking incident involving characters ordering, pouring, holding, sipping or talking about alcohol (Greenberg et al. 1979; Lowry 1981; Greenberg 1981; Cafiso et al. 1982; DeFoe et al. 1983; Breed and DeFoe 1984; Futch et al. 1984; Hansen 1986; Wallack et al. 1987). The most comprehensive measurements have been performed by researchers at the Prevention Research Center. In the most recent study, Wallack, Breed, and Cruz (1987) reported 10.6 drinks per hour in 1984, continuing a trend that moved upward from 4.8 hourly acts in 1976 to 7.6 in 1978 to 8.7 in 1981. Fictional characters drink 10 times as much alcohol as soft drinks, even though real life Americans consume twice as much soft drink beverages.

While much of this alcohol drinking is gratuitous and incidental, more central and vivid depictions (e.g., bar and party drinking, heavy drinking, intoxication, and significant plot implications) still average well over one per hour. Most of the motivations and consequences associated with alcohol consumption are either positive or neutral, but TV occasionally portrays deficit reasons for drinking (e.g., escape, tension relief, crisis management, coping) and adverse outcomes (status loss, strained relationships, social disapproval, and health and safety risks).

In an attempt to change the portrayal of alcohol in TV programming, Breed and DeFoe (1982) helped develop a white-paper guideline for Hollywood writers and producers. Through cooperative consultation, creative personnel became more sensitive to the implications of the way drinking is depicted. However, the evidence of content analysis is not in convincing in demonstrating major reductions in quantity consumed or improvements along qualitative dimensions.

Very little research examines actual effects on the viewing audience. Two laboratory experiments examined responses of preteens to televised fictional drinking portrayals. In one study, Kotch, Coulter, and Lipsitz (1986) found slightly more favorable attitudes toward drinking after subjects saw a montage of scenes showing characters consuming alcohol. In the second (Rychtarik et al. 1983), exposure to *M.A.S.H.* martini scenes increased the youths' perceived appropriateness of serving liquor to adults.

These meager results hardly begin to address the question of entertainment effects, but several likely forms of influence can be hypothesized based on cultivation, social-learning, and expectancy-value theories. First, the sheer quantity of depicted drinking acts should cultivate the perception that alcohol consumption in society is frequent and widely practiced. Viewers, especially adolescents, are more apt to consider drinking as a routine, commonplace part of everyday life that is highly normative and appropriate in a varied array of social situations. Second, viewers can be expected to develop generally favorable stereotypes of drinkers, display imitative consumption after vicariously experiencing the attractive modeling acts, or feel less inhibited about performing certain proscribed drinking behaviors. By contrast, the depictions of characters declining drink offers may increase performance of that act. Third, prodrinking attitudes may evolve as the audience learns about the predominantly portrayed positive consequences of TV drinking, which outweigh the problematic outcomes.

Drunk Driving

The only content analysis focusing specifically on drunk driving is a qualitative study by Breed and DeFoe (1985-86). Rather than quantitatively tabulating incidents of conversations about drunk driving or actual driving after drinking, the authors describe 37 selected examples embedded in 700 hours of prime-time programming observed between 1976 and 1986. They conclude that the "attitude toward DWI was negative throughout the period studied," pointing to scenes judged as educational in *Lou Grant*, *CHiPs*, *Six Million Dollar Man*, *Happy Days*, *Starsky and Hutch*, *Rockford Files*, and *Cagney and Lacey* (e.g., portrayal of DWI arrests and accidents, and warnings by companions not to drive). Breed and DeFoe also identified problematic scenes (e.g., humorous or nonserious treatment of drunk driving) and critical omissions (e.g., depiction of a character drinking heavily at party and then appearing later in another location—presumably having driven there). Although DWI scenes are relatively rare, the authors argued that the potential for effect is substantial because the televised stories feature "heightened visualization and identification permitted by the medium, as personalized and dramatized."

One study explored the effects of a TV program that modeled a social intervention to prevent drunk driving (Atkin 1989a). An episode of *Valerie's Family* featured a teenage party in which a drunken guest is physically restrained from driving. In before-after survey of young adolescents, those who viewed the on-air program were slightly more likely than nonviewers to say they would employ physical intervention with a drunk friend.

Driving

Vehicle use is pervasively presented on television, as most programs shot in nonstudio settings prominently feature driving. A comprehensive 5-year content analysis found four to five driving scenes per hour (Greenberg and Atkin 1983). Most driving was routine.

However, one-fifth of the scenes depicted chase/escape driving, and several types of noisy or risky driving incidents were frequently portrayed. Quick braking appeared in 25 percent of all driving scenes, brakes squealing in 24 percent, tires screeching in 23 percent, speeding beyond the apparent limit in 20 percent, quick acceleration in 20 percent, weaving through traffic in 5 percent, leaving the road or ground in 5 percent, aggressive driving in 5 percent, automatic stunts in 4 percent, and other illegal driving such as recklessness, forcing a car off the road, or changing drivers while moving in 8 percent. Endangering acts were depicted almost once per hour. Almost 9 out of every 10 drivers were male, and three-fourths were in their twenties and thirties.

In terms of consequences, 9 percent of driving scenes portrayed positive outcomes for the driver, for example, impressing other people, escaping pursuers, power, and emotional satisfaction. On the negative side, death and injury were relatively rare, occurring in less than 1 percent of the scenes at a rate of one casualty each 5 hours. In only a few instances were immediate legal penalties imposed on bad drivers; one-tenth of speeding incidents and one-fourth of other illegal driving behavior resulted in police apprehension. The rate of safety belt use on TV was 1 percent in the late 1970s, but rose to the 20- to 25-percent range in the mid-1980s (Atkin 1989a; Geller 1988).

To date, no investigations have measured the effect of these portrayals on real-life drivers. Based on audience ratings, it can be estimated that the typical TV viewer annually sees several thousand irregular driving acts and hundreds of instances where people are endangered, usually performed in an engaging manner by attractive characters who suffer minimal harm. Media theory suggests the following types of effects might be expected:

- Viewers may vicariously acquire and imitate an array of unique and novel driving acts.
- Inhibitory constraints may be reduced as viewers learn that dangerous driving practices are commonplace and normative.
- External inhibitions may be minimized by the relatively infrequent portrayal of serious negative consequences such as legal punishment, social disapproval, and physical harm resulting from illegal or high-risk behavior.
- The prominent presentation of dramatic chase scenes, risky actions, and erratic vehicle handling may contribute to the feeling among some thrill-seeking viewers that risky driving is an exciting, exhilarating, glamorous, and challenging activity.

It should be noted that the absence of explicit drunk-driving depictions precludes direct modeling or disinhibition of this particular behavior. Nevertheless, a response to the other basic risky driving predispositions that TV induces may be generalized to the drunk-driving situation. Moreover, affirmative anti-drunk-driving messages are notably absent in entertainment content (e.g., demonstrations of intervention acts, modeling of decisions not to drive after drinking or not to drink before driving, portrayals of accidents or arrests as a result of drunk driving).

News Media

Over the past decade, both news reports and feature stories about drunk driving have increased in number, with newspaper and newscast items covering crashes, arrests, adjudication, policies, prevention approaches, and advocacy efforts. For example, one local study showed 16 times as many newspaper articles about DWI in 1983 than in 1980 (Luckey et al. 1984). Much of this heightened coverage can be attributed to the publicity-oriented activities of organized action groups such as Mothers Against Drunk Driving (MADD) and Remove Intoxicated Drivers (RID), which have sensitized journalists to the issue.

The most powerful role of the news media is in setting the agenda of policymakers and the general public, as more frequent and prominent coverage raises the salience of drunk driving, stimulates public discussion, and serves to legitimize the seriousness of the problem and attempts to address it (see Wallack 1989). In addition, news stories contribute to greater levels of audience awareness and information concerning this topic, and may have important effects on beliefs (e.g., probability of arrest or accidents), social attitudes (e.g., disapproval of drunk drivers), and political opinions (e.g., support for tougher countermeasures). The potential for influence is enhanced by the high credibility attributed to the news media by readers and viewers.

According to a statewide survey by Atkin, Garramone, and Anderson (1986), 60 percent of the public relies on newspaper and TV news sources for learning about chances of arrest, conviction, and penalization. These sources outscore PSAs, interpersonal conversations, driver's education classes, observation of police activities, and experience with police or courts. Further, among the half of the sample who reported having seen recent news stories about local police efforts to catch drunk drivers, the vast majority say that they subsequently believed the chance of arrest to be greater, that they were more likely to warn others about the need to drink safely before driving, and that they were more careful to drink safe amounts.

An analysis of crash-related fatalities in Great Britain during the 1983 Christmas Crusades against drunk driving showed a significant decrease attributable in part to unusually intensive news media publicity (Ross 1987). A combination of heightened police enforcement and news stories emphasizing the law's deterrent threat (particularly the risk of apprehension) was apparently effective in decreasing drunk driving during the crusade month and the following month as well.

Grunig and Ipes (1983) studied the effect of intensive newspaper coverage of the drunk-driving issue in Maryland, focusing on State legislative deliberations about age-21 minimum for drinking and tougher DWI penalties. They concluded that the publicity produced an agenda-setting effect, leading to high levels of problem recognition and involvement, and acceptance of simple solutions such as increased penalties.

Public Service Information Campaigns

In the mid-1980s, announcements on drunk driving became the most prevalent type of PSA on television owing to efforts of Federal agencies, citizens groups, and the National Association of Broadcasters. Brewers such as Coors and Anheuser-Busch also placed prevention messages on TV, and Seagrams continued magazine campaigns to discourage drunk driving and alcohol misuse. The National Highway Traffic Safety Administration (NHTSA), the National Institute on Alcohol Abuse and Alcoholism, the National Safety Council, the American Automobile Association, State highway safety agencies, and local police have used a variety of other channels including pamphlets, billboards, road signs, bumper stickers, cocktail napkins, litter bags, matchbooks, envelope stuffers, movie theater slides, radio spots, and TV talk show appearances.

A collection of campaign materials compiled by NHTSA appears in the handbook *Drunk Driving Public Information Program Strategies and Planning Guide* (DOT 1985). This guide lists hundreds of specific message ideas, classified into enforcement, alcohol effects, community, accident, arrest, sanctions, parent-youth, intervention, self-monitoring, and rehabilitation categories. It also includes a management planning checklist.

The research literature evaluating the effects of campaigns to prevent drunk driving is meager. After a thorough review of published studies and technical reports, Haskins (1985) concluded, "During the last 15 years, very little has been learned about the role of mass communications in drinking-driving despite the expenditure of many millions of dollars for campaigns and substantial amounts for research." Swinehart, Grimm, and Douglass (1974) tested reactions to two dozen magazine ads, discovering that the most

effective ones featured brief copy, dramatic graphics, emotional appeals, and specific action recommendations. The most elaborate field experiment was conducted by Worden, Waller, and Riley (1975) in evaluating the Vermont CRASH program. These authors found that the campaign produced significant improvements in knowledge, attitudes, and behaviors (especially when supplemented with countermeasures); however, this effect evolved slowly, with an increase in the second year of the campaign.

Atkin and Atkin (1986) carried out a project designed to stimulate parental prevention of teenage attendance at drinking parties (and resultant drunk driving). The parent-based approach was control-oriented, stressing actions to minimize teenager access to alcohol and opportunities for heavy drinking through rulemaking, surveillance, and punishment. Messages were disseminated to parents in two experimental communities through newspaper stories, radio PSAs, and pamphlets. In a postcampaign survey of parents, Atkin (1986) found that parents were strongly influenced; they showed evidence of greater awareness of the problem, elevated concern, more networking with other parents, more communication with teenagers about drunk driving and party attendance, and intensified monitoring. However, this effect on parents translated into only a slight indirect effect on bottom-line teenage drinking and drunk driving rates, as measured in student surveys.

In general, mediated drunk-driving campaigns appears to have had relatively little effect on drunk driving. This lack of significant influence is consistent with studies of related campaigns in the domains of safety belt promotion, substance abuse prevention, and other health practices (Atkin 1979; Blane and Hewitt 1980; Atkin 1981b; Flay 1981; Wallach and Barrows, 1982-83; Hewitt and Blane 1984; Manhoff 1985; Leathar et al. 1986; Rice and Atkin 1989).

In the past decade, specialists working in the fields of social psychology have made major advances in the development of conceptual frameworks for designing effective information campaign strategies (Flay et al. 1980; McGuire 1981; Dunn and Rogers 1986), mass communication (Mendelsohn 1973; Atkin 1981a; Grunig and Ipes 1983; Rice and Atkin 1989), public health (Albert 1981; Anderson and McCullough 1981; DHHS 1983; Wallack 1984), and social marketing (Fox and Kotler 1980; Bloom and Novelli 1981; Solomon 1981; Kotler 1982; Novelli 1984; Kotler 1984). These perspectives provide practical guidance for determining appropriate sources, message appeals, and channels for prevention campaigns. The most comprehensive approaches have been developed by social marketers, who stress the importance of the price, the place, and the product as well as the promotion elements emphasized by others. Experts agree that a critical beginning point for successful campaigns is formative evaluation.

Using Formative Research for Designing Campaigns

One key reason why campaigns to combat drunk driving have achieved only limited effectiveness is the lack of adequate evaluation research. Typically, goals are formulated and messages produced in an unsystematic fashion based on hunches of program planners and creative inspiration of copywriters and artists, patterned after normative standards of the genre. In developing campaign strategies for influencing the audience, commercial advertisers and social marketers rely extensively on market segmentation analysis, consumer opinion surveys, focus group interviews, and message pretesting. These approaches can be readily adapted to assist the planning and design of drunk-driving campaigns.

This section illustrates the formative process with selected findings from a series of surveys and supplemental focus group interviews (with teenagers, parents, party hosts, and the general public) carried out as part of a social marketing analysis for a NHTSA drunk-driving-prevention project (Atkin et al. 1986; Atkin and Freimuth 1989).

Identification of Target Audiences

Effective campaigns seldom aim at a broad cross-section of the public, focusing instead on specialized segments of the overall audience. Formative research data help identify the high priority target subgroups: which categories of individuals are at risk, which are most receptive to persuasion, and which are in a position to influence high-risk persons through interpersonal intervention.

Survey measures with representative samples are typically used in segmenting the audience along a number of dimensions defined in terms of demographic and psychographic characteristics, social role, behavioral risk profile, predispositions, future behavioral intentions, and media exposure patterns.

In the case of drunk driving, the surveys show that 16- to 24-year-old males who drink heavily at weekend parties are far more likely to drive while intoxicated or ride with a drunk driver. This high-risk segment constitutes less than 5 percent of the population. The research also indicates that several other target audiences display promising potential for attempting interpersonal intervention to prevent drunk driving: parents of high school students (who can prohibit their teenagers from attending unsupervised drinking parties), adult party hosts (who can discourage excessive drinking by guests, or arrange alternative transportation for intoxicated drivers), and female passengers riding with heavy-drinking dates or mates (who can warn their drivers not to overconsume, or take over the driving role on the ride home). In terms of receptivity, parents are an example of a favorably predisposed audience because most disapprove of teenage drinking, believe that teenage drunk driving is a serious problem, and desire to know techniques to prevent their son or daughter from becoming involved in drunk-driving incidents.

Target Behavior Specification

Typically, the ultimate goal of a campaign is bottom-line behavioral change, such as reducing the incidence of drunk-driving acts. However, most practices are a product of various component behaviors; for example, drunk driving may be reduced if the driver either abstains from alcohol, drinks limited quantities, or allows a sober person to drive home. These behaviors in turn are determined by social and environmental factors such as availability of attractive nonalcohol drinks or suggestions by companions to limit consumption. Formative research is helpful in specifying which particular behaviors and external factors are most influential in altering the focal practices, and which are most amenable to change through campaign messages. These variables are then incorporated as concrete objectives in the campaign plan.

In the case of social intervention to prevent drunk driving, survey research reveals two examples of priority target behaviors. One potentially effective tactic is to encourage the female passenger to drive the car back from a drinking occasion; the data show that women tend to become less intoxicated than their male drivers, yet most allow the male to drive. Findings also show that half of young adults planning to ride back with a driver hesitate to put pressure on that person to stay sober enough to drive safely, while most drivers say they would respond cooperatively to such dissuasion by cutting back on consumption. Thus another important target behavior is more frequent attempts by companions to prevent their driver from exceeding the safe drinking limit.

Regarding target audience receptiveness to behavioral recommendations, the survey of party hosts asked the sample to rate 22 potential hosting techniques in terms of acceptability: how comfortable they would feel in using each strategy, and how offensive they believed each strategy would be regarded by guests. Results indicate that certain techniques are highly acceptable, for example, actively offering food to drinkers, arranging for another guest to drive an intoxicated person home, or expressing concern that a driver is drinking too much. However, other actions are disdained, for example, having guests check in car keys on arrival, or warning drinking drivers about accident risks, stopping service of alcohol 2 hours before the party's end. Such formative evaluation

data enable designers to narrow the list to the most promising techniques, and to isolate less acceptable but critically important behaviors that would require extra persuasive emphasis in order to be changed.

Intermediate Response Elaboration

As a means to achieving the behavioral objectives, campaign messages must first influence preliminary or intermediate target variables along the response chain, ranging from exposure and processing to learning and yielding to actual use. In particular, campaign designers face certain barriers that must be overcome; these individual resistance points often involve misconceptions, dysfunctional attitudes, and behavioral inhibitions. Isolating the most crucial response stages is facilitated by an understanding of the characteristics and predispositions of the target audience. Focus groups and sample surveys are both valuable tools that provide topic-specific background information for mapping the domains of knowledge and lexicon, beliefs and images, attitudes and values, salience priorities, and efficacy and skills.

Knowledge and lexicon. Research illuminates the target audience's entry-level awareness and information-holding about the subject of the campaign, identifying what is already known, what gaps exist, what confusions must be clarified, and what misinformation must be corrected. The level of familiarity with and comprehension of topic-related vocabulary and terminology can also be ascertained.

For example, only one-quarter of the surveyed drinkers knew that 0.1 percent blood alcohol content (BAC) is the legal level that would result in arrest for driving under the influence. Just half realized that eating food before drinking substantially reduces intoxication, and one-fifth incorrectly think that drinking coffee helps to sober up a driver. People have diverse meanings for key terms such as "social drinker" and "moderation," diverse labels for the state of intoxication, and limited understanding of concepts such as intervention and designated driver.

Beliefs and images. Since many campaign message strategies seek to alter subjective conceptions such as perceived social norms or estimated probability of outcomes associated with the behavioral practice, it is important to be precise in measuring the preexisting cognitive orientations held by individuals. For example, data show that drinkers underestimate the degree of social disapproval of drunk driving (fully two-fifths believe that others excuse drunk driving, while just 5 percent of the public is actually tolerant) and overestimate the statistical risks of both crashes and police apprehension (the typical driver perceives that the odds of arrest while driving drunk on a given evening are 1 in 100, while police figures show the chances are 1 in 2,000). Such data tell a strategist that messages should feature information about social norms, but shouldn't emphasize facts about arrest probability.

Attitudes and values. Affective predispositions are also a significant consideration in message design, particularly evaluations of outcomes associated with practices. Depending on the direction, intensity, and structure of relevant values and attitudes, the campaign may concentrate on creation, conversion, reinforcement, or activation. The latter two strategies are appropriate for most drivers, who already hold a negative attitude toward drunk driving and regard the crash and apprehension consequences as undesirable. Messages that intensify the negativity of outcomes (e.g., monetary costs of conviction or difficulty of coping without a license) appear to be promising. On the other hand, the research shows that most men dismiss the embarrassment or threat to masculinity resulting from a wife or girlfriend driving them home, indicating that this presumed obstacle need not be addressed in campaign appeals.

Salience priorities. Research also provides guidance concerning which cognitive and affective orientations need to be made more or less salient. Since most drivers already

believe that there is a substantial risk of crash involvement, but only one-fourth consciously contemplate this possibility, increasing the perceived importance of this outcome would lead drivers to give it greater weight relative to other factors when setting a limit or deciding whether to consume additional drinks. By contrast, most regard drunk driving as a serious problem facing society, indicating little need for campaigning designed to raise this issue on the public's agenda.

Efficacy and skills. For certain practices, many well-intentioned and highly motivated people fail to carry out appropriate acts because they lack subjective performance competency. If research shows that this lack is a barrier, messages can emphasize personal efficacy enhancement or provide specific skills training. For example, survey findings demonstrate that, although most companions agree that it is important to help drivers limit consumption and to prevent intoxicated friends from driving, many of them wish they knew better techniques for discouraging excessive drinking or handling a drunk friend who insists on driving.

Channel Consumption Ascertainment

In deciding which channels are most efficient and effective for disseminating campaign messages, strategists need to determine the mass media preferences and interpersonal communication patterns of target audiences. While some basic exposure figures are available from commercial audience measurement services such as Nielsen, specialized surveys provide a much more elaborate and relevant array of data.

At a general level, it is useful to know the following information about the intended receivers:

- Amount of time spent watching TV, listening to the radio, and reading magazines and newspapers
- Use of specific media (local radio stations, magazine titles)
- Attention to various types of media content (news, public service messages)
- Exposure to secondary channels (movie theater slides, pamphlets, direct mail, billboards, bumper stickers, posters, matchbooks)
- Interpersonal contact networks

Topic-specific data are more pertinent to campaign planning:

- Consumption of media presentations containing subject matter that complements or competes with campaign messages (product ads, news items, feature stories, entertainment portrayals)
- Interpersonal communication about the topic (interactions with opinion leaders, informal conversations, peer pressures)
- Exposure to prior campaign messages (attention to topical PSA's and posters)

Beyond sheer exposure, formative researchers can obtain credibility ratings for media channels, vehicles, and content categories, and measure audience recall and evaluative reactions to messages disseminated in previous campaigns. For example, the drunk-driving surveys found the following:

- Teenage male drinkers tend to listen to rock music stations, while adult party hosts are heavy readers of local newspapers.
- The typical person is exposed each day to a dozen prodrinking portrayals in beer commercials and prime-time shows and to several depictions of risky driving behavior in crime dramas.

- One-fourth of adults have tried to verbally discourage a drunk person from driving.
- Teenage drivers perceive moderately strong peer pressure to avoid getting drunk if driving.
- Young adults attend to an average of two anti-drunk-driving TV PSAs per week, but almost no promoderation spots.
- More than half the public has noticed news stories about local police efforts to catch drunk drivers.
- Many teenage drinkers discredit safety threats featured in PSAs.

Preliminary Component Evaluation

Before campaign stimuli are drafted, strategic and creative approaches are facilitated by both informal feedback and formal ratings of prospective source presenters, message themes, persuasive arguments, and stylistic devices. In the drunk-driving project, focus group discussions explored reactions to altruistic as opposed to fear appeals for motivating intervention attempts, and examined the appropriateness of humorous as opposed to serious treatment of the subject. Survey questionnaires presented listings of several dozen spokespersons, arguments, and claims under consideration for campaign messages. Believability and effectiveness scores for each component were measured along a scale of 0 to 10.

Armed with background information collected in the preproduction phase of campaign design, the strategy and research specialists are in a position to work with creative personnel in the following tasks:

- Formulating potential message ideas (and specific headlines, slogans, copy points, layouts, formats, art work, music, and special effects)
- Selecting visible source presenter talent to appear in the messages
- Determining the most appropriate media for communicating the material

As stimulus construction progresses, research makes further contributions in the form of message pretesting.

Pretesting Research

Pretesting is the second basic phase of formative evaluation that is conducted in developing campaign messages. This term describes the process of systematically gathering target audience reactions to preliminary versions of messages before production in final form (Atkin and Freimuth 1989). Pretesting can help determine which of several alternative ideas or draft message executions are most effective, or it can identify strengths and weaknesses in single prototype executions. Significant progress has been made toward standardizing and implementing production testing methods in general health campaigns, with the initiation of the Health Message Testing Service program (Bratic et al. 1980) and the preparation of a pretesting handbook (HHS 1984).

Issues, Strategies, and Recommendations

This final section identifies issues for discussion, suggests strategies for minimizing deleterious effects and enhancing positive impact, and recommends priority research directions. The categories in this section are the same as the first four categories in the research literature section. The subject of alcoholic beverage marketing is specifically covered under the alcohol advertising topic.

Alcohol Advertising

A key question is whether a clear connection exists between alcohol advertising and drunk-driving behavior, particularly among youthful drivers. If so, what changes in the nature of advertising practices would reduce drinking by drivers (or driving by drinkers)? Would a ban on broadcast advertising lead to less drinking and thus reduce the incidence of drunk driving? Would eliminating vehicle portrayals in ads help minimize problematic effects? Should advertisers disclose safety risks involved in consuming their products in a driving context? Would it be beneficial if ads depicted positive role modeling, such as drivers refusing drinks or companions intervening to discourage excessive drinking or prevent drunk driving?

This first set of issues can be addressed in part in philosophical or intuitive terms, but the ultimate answer requires precise research data demonstrating the actual effects of advertising on key outcomes. Investigations are needed to isolate the features of advertising content that contribute to higher and lower levels of excessive drinking and drunk driving. Conclusive evidence will require longitudinal research with multiple data points, particularly over the formative teenage years during and following the onset of drinking and the initiation of driving. Special attention should be devoted to new products that are introduced; indeed, priority should be given to studies of wine cooler advertising.

Based on the current literature showing relatively modest degrees of harmful effects and the pragmatic political barriers to fundamental change, broad-scale restrictions on advertising do not appear to be promising. Instead, attempts should be made to eliminate a small array of the most problematic practices, to insert additional disclaimers and positive role modeling in ads, and to increase the number of brand-sponsored public service ads that promote moderation or warn against drunk driving. This approach will require discussion of the social responsibility of the advertising, media, and alcohol industries, and of the role of government and advocacy organizations in implementing reform. The optimum arrangements for collaborative efforts between representatives of the industry, the public health sector, and other interested parties should be aggressively explored.

Problematic effects of marketing practices have yet to be investigated by social scientists. Among the four Ps of marketing (product, place, price, and promotion), this panel's attention should focus on promotional activities since other panels are dealing with the first three components. Several types of marketing activities warrant examination:

- Alcohol promotions to underage college students (campus newspaper ads, sponsorship of drinking events, spring-break promotions)
- Tie-ins with professional athletic teams and promotion of drinking at sporting events
- Sponsorship of automobile races and product endorsements by race car drivers
- Licensing of youth-oriented clothing and toys featuring brand names, logos, or trade characters

Entertainment Media

The issues involving the entertainment media closely parallel those raised with advertising. What changes in the nature of TV portrayals would reduce drunk driving? Is the entertainment industry responsible for "social engineering" of appropriate drinking and driving practices? The potential for successful collaboration seems promising, owing to the precedent of the alcohol white paper (Breed and DeFoe 1982) and recent efforts of Harvard's Center for Health Promotion and the Entertainment Industries

Council to encourage depictions of designated drivers and safe party hosting in TV programs.

Thus, the highest priority is determining which types of content are most problematic and which portrayals should be emphasized. The sheer pervasiveness of drinking on TV is probably less critical than the mixture of motivations and consequences. Whether viewers see 100 or 200 drinking acts per week may not make much of a difference, but the ratio of positive to negative depictions can significantly determine attitudinal and behavioral outcomes (e.g., downplaying deficit motives and more realistically representing harmful consequences involving drinking and/or driving). Increased modeling of certain responsible behaviors would also be beneficial (e.g., declining drinks, choosing nonalcoholic beverages, stopping drinking before intoxication, intervening to prevent drunkenness or drunk driving). Research is needed to specify exactly how these various portrayals influence the audience (especially young viewers), and how the material should be packaged for maximum effectiveness.

News Media

As with advertising and entertainment, a general issue concerns the extent to which journalists are responsible for adjusting their professional news standards to accommodate the public interest in covering drunk driving. This problem is more complicated in the case of the news media owing to press freedom and autonomy priorities. Among the specific issues are whether editors and writers should adopt practices such as reporting whether drinking is involved when describing accidents, and identifying names of drunk drivers arrested after accidents or convicted of DWI. These practices are widely endorsed by the public in the Atkin, Garramone, and Anderson (1986) survey.

Several approaches to improving news media treatment appear to be promising. Efforts should be made to generate more extensive news coverage of drunk driving in newspapers and local television newscasts. The publicity tactics developed by antismoking advocates can be examined and adapted to drunk driving (see ACS 1987; AI 1988). There is also a need for more stories reporting newsworthy aspects of the problem about which the public is ignorant and misinformed, such as BAC levels, penalties for conviction, and host liability. Special efforts should be made to work more closely with news media personnel who cover the alcohol and drunk-driving beats, perhaps by convening annual conferences at State or national levels to update gatekeepers on the latest information on these problems.

Research is required to identify the types of content in news and feature messages that attract audience attention and influence the beliefs and attitudes of key subgroups such as drinking drivers and intervenors. For example, tests could be performed to:

- a. determine the relative effect of news items emphasizing the likelihood of getting caught versus the severity of punishment,
- b. measure the extent to which apprehension of the social stigma of news publicity is induced by local newspaper identification of drunk drivers, or
- c. ascertain the effect of stories reporting the arrest of well-known people.

Public Service Information Campaigns

The first issue concerns the degree of current and potential impact of anti-drunk-driving campaigns. Are present information campaigns working well enough, or are additional efforts needed? Can mass media education and persuasion have a meaningful effect in preventing drunk driving, or should resources be redirected elsewhere? Is it necessary to place paid ads in order to reach target audiences effectively?

Second, discussion should explore various forms of coordination that can be

developed to enable more comprehensive campaign programs. How can cooperation between government agencies, private organizations, and the mass media be further enhanced? How can campaign messages be better coordinated with local police enforcement efforts and judicial handling of drunk driving cases?

A third set of issues involves the specification of campaign objectives: Should campaigns recommend absolutely no drinking before driving, or set more realistic guidelines such as one drink per hour? What should be the balance between messages fundamentally discouraging excessive consumption of alcohol and messages focusing on drinking only in the context of driving? Should campaigns intensively focus on specific occasions such as graduation or holiday periods? Or should they run continuously with a lighter schedule of messages? What portion of campaign efforts should be targeted to drivers, to companions, to hosts, and to the general public? For example, interventions can be performed at several points:

- Parents can prevent party attendance by teenagers (precluding the opportunity to drink and drive).
- Designated driver arrangements can prevent drivers from drinking.
- Companions and hosts can persuade drivers to limit drinking before driving.
- Friends can prevent intoxicated drivers from driving.

Campaign strategies can be improved in a number of ways. Concepts and principles from the fields of mass communication and social marketing should be refined and implemented by designers of anti-drunk-driving campaigns. Channels beyond the standard TV PSA should be used more extensively, especially alternatives nearer in time to the drinking and driving event (e.g., radio spots heard on the way to a bar, onsite reminder signs). New message themes and appeals should be created, with more emphasis on positive persuasive incentives and concrete demonstrations for carrying out good intentions. A portion of campaign materials should be devoted to countermessages that inoculate young people against undue influence from problematic themes and depictions in ads and entertainment programming. Research examining the relative effectiveness of various sources, messages, and channels in anti-drunk-driving campaigns would be useful in improving the design and construction of stimuli.

Summative evaluation research is also needed to trace the naturalistic effect of campaigns, using sophisticated and sensitive methods proposed by Haskins (1985). However, at this time a higher priority should be placed on formative evaluation research. More extensive use of preproduction research and message pretesting is one of the more promising avenues for increasing the effectiveness of public communication campaigns. Formative evaluation techniques provide campaign strategists and message producers with valuable information for decisions along each step of the design process from identifying target audiences to refining rough executions.

Formative research has played an instrumental role in the success of educational television programming produced by the Children's Television Workshop, ranging from the development of *Sesame Street* to the recent *Be Smart Don't Start* campaign aimed at predrinkers (Atkin 1989c). Formative evaluation has been centrally featured in a number of recent health campaigns, and is a mainstay in the commercial campaign sector. However, such research is still the exception rather than the rule in the drunk-driving public service domain. It is rarely conducted during development of mass media campaigns because of insufficient funding, lack of technical expertise, and minimal appreciation for the value of background information and feedback. Until this important form of evaluation is given higher priority by managerial and creative personnel, drunk-driving campaigning will continue to be handicapped and only sporadically influential.

Finally, the creation of a new handbook for campaign design would make a major contribution. This document could incorporate social marketing principles, persuasive

strategy guidelines, and evaluation research techniques in a practical package that could be used at national, State, and local levels to improve the effectiveness of public service information campaigns.

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