

ALCOHOL DRUGS AND DRIVING

Volume 5 Number 1
January-March 1989

U.S. Department of Justice
National Institute of Justice

116877
116883

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Alcohol, Drugs and Driving

Volume 5, Number 1

The Social Psychology of Risky Driving

*Proceedings of an International Symposium
held in Santa Monica, California*

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April 28–May 1, 1988

**Herbert Moskowitz, Ph.D.
Editor**

Alcohol Information Service
a division of the
Brain Information Service
University of California

Los Angeles

1989

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Television Socialization and Risky Driving by Teenagers

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ABSTRACT

Television is considered to be an influential force across many domains of adolescent attitudes and behaviors, such as aggressiveness, substance abuse, sexuality, gender roles, politics, and materialism. However, the role of TV messages in informally socializing youthful drivers has been largely overlooked by investigators studying both media effects and risky driving (although some research attention has focused on purposive messages such as drunk driving public service campaigns). Due to the paucity of empirical evidence relating television viewing to risky driving, this paper will emphasize theoretically based predictions of the likely effects of entertainment and commercial advertising content on teenagers, focusing on drunk driving and riding behavior, safety belt buckling, social intervention to prevent drunk driving, and perceptions of normative practices involving risky driving, drinking patterns, and safety belt usage. Relevant data from the author's research will be introduced as several points to provide preliminary findings on the subjects of (a) the impact of alcohol advertising on drinking and driving, (b) the effects of entertainment programming on drunk driving intervention orientations, and (c) high-risk driving and safety belt portrayals in prime-time television content.

Theoretical Perspectives

This section outlines the key theories that can be applied to understanding how television portrayals influence cognitive, affective and behavioral responses of teenage drivers. It begins with stimulus-oriented perspectives, proceeds to receiver-centered conceptualizations, and concludes with assessments of the indirect effects via interpersonal influences.

Social learning theory focuses on responses to stimuli portraying human models; learning of behavioral enactment sequences and reinforcement contingencies occurs vicariously by example through imitation and contagion mechanisms. Impact is enhanced by models that are celebrities, high in status, or similar to observers, and by depiction of positive social and personal consequences. Three processes are relevant to TV's influence, typically as a result of visual portrayals.

Observational learning is the transmission of social information about novel forms of behavior, which may lead to imitative actions, particularly if the modeled response is rewarded (e.g., successful physical intervention techniques to prevent drunk driving or exotic forms of reckless driving). The symbolic modeling can also shape definitions of normative social practice and standards of conduct, and information is conveyed about the social and environmental situations where the modeled behavior is appropriately enacted. Cognitive representation of the observed behavior allows symbolic rehearsal and anticipation of consequences even in the absence of

immediate enactment opportunity; thus, young adolescents learn about driving via anticipatory socialization prior to actual eligibility.

A second social learning process pertains to the strengthening or weakening of inhibitions governing overt expression of similar previously learned responses, particularly acts of a proscribed or disapproved nature; vicarious punishment will lead to heightened self-restraint, while a reward or lack of negative consequences will be disinhibiting (e.g., portrayals of speeding without arrest). Third, response facilitation is the modeling enhancement of socially sanctioned behavior via a simple reminder cue to perform an act established in the observer's repertoire (e.g., safety belt buckling by TV actors).

Cultivation theory focuses on the formation and shift of beliefs about society. Based on observation of television content year after year, viewers derive conceptions skewed toward the predominant portrayals through a subtle absorption process (e.g., perceived prevalence of belt usage, or rate of serious injuries in crashes). A key tenet of the cultivation approach is that diverse subgroups in the audience (e.g., rich and poor, liberal and conservative) who are heavily immersed in the common symbolic environment of TV will develop a shared outlook as they adopt the televised version of reality; in particular, a mainstreaming process leads to convergence toward the televised "center of gravity".

The *agenda-setting* theoretical perspective is a much different approach to understanding media impact. In the classic formulation, it predicts that an issue or practice (e.g., drunk driving) that is frequently and prominently presented in the mass media will be perceived as important and assigned a high priority in the thinking of the receiver. The heavy media emphasis on a topic should make the public consider it to be a more significant problem facing society, aside from any attitude change toward the issue, and repeated portrayals of a particular behavior should raise the salience of this practice.

The salience-elevation process also pertains to the ranking of the perceived importance of various attributes or consequences connected with an issue or practice. Those aspects that are heavily emphasized by the media will be weighed more heavily; this agenda reordering is distinct from the strength of the linkage with each dimension based on learning processes. Higher priority for positive attributes and consequences will contribute to increased behavior, while more central weighting for those that are negative will have an opposite implication.

The final three theoretical conceptions are more receiver-centered, in that the individual plays a major role in determining the behavioral outcome of the influence process.

Uses and gratifications theory posits that individuals selectively utilize media channels and messages to satisfy needs. Psychological predispositions and social contextual factors shape the motivations of receivers, who actively select media stimuli for specific purposes such as learning, guidance, reinforcement, enjoyment, relaxation, and para-social interaction. Receivers who are instrumentally motivated to learn about a topic area (e.g., how to evade police detection of illegal driving) will be more likely to seek out and acquire pertinent information than TV viewers who watch to enjoy emotional arousal from the plotline.

Cognitive response approaches focus on the thoughts that the receiver generates while processing messages. Rather than passively consuming information, the individual actively relates the content to prior knowledge and experience, and forms new ideas and arguments that may be either consistent and supportive or discrepant and unfavorable with respect to the theme manifestly presented in the message. To the extent that the receiver is motivated and able to process the media content, there is greater likelihood of cognitive elaboration that facilitates or counteracts the impact of the external stimulus. While some viewers generate support arguments and cognitively link the ideas to their personal experiences, others aggressively resist persuasion by counter-arguing, derogating the sponsor, or denying applicability to self (e.g., challenging assertions in beer ads).

Expectancy-value theory is a utilitarian perspective emphasizing the role of audience predispositions in the formation of attitudes toward performing a behavior such as drinking. Attitude is conceived as a summation of the multiplicative products of expectancies (beliefs about the subjective probability that a drinking act leads to certain consequences or is associated with certain attributes) and values (positive vs. negative evaluation of each consequence or attribute). Through various stimulus-centered learning processes, the individual develops an array of belief expectancies from mass media messages. Although the media may also influence the evaluative component, values tend to be fundamental and stable predispositions, and, the media input is typically translated

into favorable or unfavorable attitudinal outcomes according to the existing value system of each receiver (e.g., ads associating wine coolers with hedonism will positively influence those inclined to debauchery but appall more conventionally oriented viewers).

The major categories of media content have differing implications for influencing the net directionality of attitudes, depending how uniformly they portray widely valued attributes and consequences of a behavior. While persuasive messages are designed to consistently highlight the advantages of the specific brand or behavior pattern (or the disadvantages of an inappropriate practice), entertainment media producers have purposes other than audience persuasion, and a varied mixture of favorably and unfavorably regarded aspects are featured such that the net impact will not so consistently occur in a particular direction.

Most assessments of the determinants of teenage risky behavior patterns assign a central role to *interpersonal* communication, social modeling, and peer pressure. Rather than pitting interpersonal vs. media influence to ascertain which has the stronger impact, an alternative approach is to consider how television exerts an indirect impact by altering the patterns of social influences and responses to these influences.

First, television has an impact on the nature of available interpersonal inputs in the adolescent's environment in these ways: (a) through the two-step flow, young opinion leaders may augment and broaden the effect of the original message content; (b) to the extent that television increases the frequency of risky behavior by other people in the primary environment, this higher level may serve as a modeling influence on observers; (c) television's contribution to pro-risk attitudes of significant others may lead to overt interpersonal encouragement; and (d) the impact of TV on others' beliefs that risky behavior is socially acceptable and relatively innocuous may diminish expressions of disapproval.

Second, attitudinal effects of television portrayals may heighten teenagers' receptivity to pro-risk social influences and lead them to resist warnings by companions.

Finally, television may shape teenagers' perceptions of normative standards toward risky driving norms projected by televised models; to the extent that they learn that such behavior is widely practiced and socially appropriate, they'll develop conceptions of other people's expectations as supportive of their risk-taking, even when approval is not explicitly expressed.

While the theories outlined in the introductory section explain how television portrayals of drinking or driving directly influence risky driving behavior, these perspectives are also applicable to other domains of TV effects that indirectly contribute to risk-taking by teenage drivers. According to Jessor's (1987) problem-behavior model, risky driving is associated with aggression, precocious and unprotected sex, illicit drug use, suicide attempts, excessive calories, and insufficient sleep and exercise—all of which have been shown to be influenced by television viewing during childhood and adolescence. Thus, to the extent that TV produces these health-compromising and problem behaviors through various influence mechanisms, the likelihood of risky driving may be increased via indirect paths separate from effects of manifestly relevant TV content. The remaining sections of the paper will review findings for three specific topic areas where manifest content is most likely to produce direct impact.

TV Advertising Effects on Consumption

Television networks and local stations carry thousands of alcohol ads each year; beer advertisers spent more than \$600 million on TV commercials in 1986, almost double the 1980 total. More than \$200 million was spent on wine advertising in 1986. While the quantity of traditional wine commercials dropped substantially from the early 1980s, there was a huge increase in wine cooler ads to \$125 million.

Two major content analyses of television ads provide background information about stimulus attributes relevant to audience effects (Finn and Strickland, 1982; Atkin, 1987). Human models were presented in almost all commercials; most were male and physically attractive, while few appeared to be youthful or clearly intoxicated. A modest proportion featured celebrity endorsers, primarily athletes and entertainers.

A wide variety of benefits were frequently linked to the product, in the following order of prevalence: social camaraderie, masculinity, delicious flavor/good taste, escape, femininity, romance, adventure,

refreshment, physical relaxation, and elegance. A small but significant fraction of ads portrayed alcohol in a hazardous context; almost no ads disclosed information about the harmful consequences of alcohol. It is noteworthy that many ads employ generic "lifestyle" themes focusing on the drinkers and drinking occasions, rather than emphasizing qualities of the product itself or brand imagery. It should be noted that the research was conducted before the introduction of wine cooler advertising; these lighthearted commercials emphasize fun partying themes and fruity flavor rather than the traditional wine appeals to quality, taste, and sophistication.

The beer and wine commercials can positively influence drinking behavior through a number of mechanisms that produce an advantageous benefit-to-cost ratio for young viewers. The most basic effects gradually accumulate over hundreds of exposures as advertising-induced images and beliefs lead to the development and reinforcement of favorable attitudes toward alcohol and drinking practices.

On the benefit side, advertising may produce more flattering conceptions of the characteristics of drinkers, more positive associations linking alcohol to attractive symbols, role models, and consequences, more salience for the valued attributes of alcohol, and more liberal norms regarding the appropriate drinking settings and sex/age/race role expectations. Through influence processes of conditioning, social learning, instrumental learning, and reasoned action, these cognitive changes are produced and translated into pro-drinking attitudes and intentions.

This can be illustrated with specific types of impact on orientations toward drinking situations, roles, and outcomes. From the situational depictions of drinking in ads, drinkers may learn that it is appropriate or rewarding to consume alcohol at certain times or occasions. Indeed, some ads simply seek to enhance the image of settings where drinking typically occurs, such as parties. Social role learning may also occur, as ads teach that a good host serves alcohol to guests, that a masculine male drinks beer, or that lovers share champagne. A wide range of valued outcomes linked to alcohol in ads may make an impression on the audience, such as sociability, emotional release, adventure, escape, social acceptance, refreshment, pleasant sensations, or relaxation.

While these examples primarily involve benefit enhancement, certain cognitive effects also serve to reduce perceived costs. Three advertising-promoted beliefs may disinhibit drinkers through legitimization and rationalization: the conceptions that drinking is a widespread norm, that alcohol is a harmless substance, and that deficit motivations such as escape and relief are acceptable reasons for drinking.

The omission of depictions of negative drinking consequences (e.g., hangovers, accidents, diseases, violence, embarrassment) may lead to the inference that alcohol consumption is a safe and non-problematic practice. Advertised associations between alcohol and mountains, seashores, pristine wilderness, or outdoor activities may also contribute to a benign image of alcohol. To the extent that perceived riskiness of drinking is diminished, consumption should increase regardless of anticipated benefits.

The agenda-setting process is an important consideration as cognitive elements are combined into attitudes. Among the full range of alcohol attributes and consequences, the subset emphasized in ads will be weighted more heavily in the drinker's decision-making. Since advertising stresses those aspects of drinking that are positively valued (e.g., fun, excitement, elegance), these ascend in perceived importance while relevant but unmentioned factors become relatively less central; since the latter are typically drawbacks and dangers, the cost-benefit ratio can be altered in the absence of changes in the expectancies or values of drinkers. This salience reordering phenomenon is also applicable to stereotyping of the kind of person who drinks; as ads continually accentuate flattering characteristics, these rise to top-of-mind accessibility in impression-formation while undesirable traits such as aggressiveness or obnoxiousness are underweighted.

Transitory reactions while viewing TV ads may also increase consumption as favorably predisposed persons are prompted to have a drink. This activation effect can be traced to either the response facilitation process of social learning theory, a reminder of the portrayed benefits of drinking, or a triggering cue that merely elevates awareness of the drinking option.

A correlational survey of adolescents was performed by Atkin et al. (1984). A sample of 665 respondents in the 12 to 17 age range from diverse geographic and demographic backgrounds was administered a detailed questionnaire measuring both alcohol consumption patterns and level of exposure (advertising exposure was operationalized in terms of the number of TV programs watched which frequently carry alcohol ads, the

frequency of exposure to advertising for certain brands and to specimen messages pictured in the questionnaire, and the degree of attention given to advertising for product categories and to specimen ads; this technique permitted construction of an elaborate index of actual exposure to advertising messages). This report will focus on the analyses dealing with beer and wine, which predominantly reflect exposure to televised ads.

An index of beer-wine advertising exposure is correlated $+0.24$ with beer drinking, and $+0.12$ with wine drinking. For six listed brands of beer, an average of 52% of the heavily exposed vs. 37% of the lightly exposed respondents indicated that they had tried each one. Regarding consumption in a typical week, 46% vs. 29% reported drinking at least one beer (16% vs. 10% said they drank five or more beers).

Since this raw association is partly spurious, regression analyses were performed to control for demographic factors (age, sex, race, community size, socio-economic status, and church attendance), social influences (parent and peer consumption patterns and approval of the respondent's drinking), and exposure to other media content (alcohol public service messages and televised entertainment portrayals of drinking). With these contaminating variables eliminated, the standardized regression coefficient for beer remains modestly positive at $+0.20$, while the wine relationship becomes non-significant.

Those who are heavily exposed to the numerous portrayals of drinking by large numbers of appealing models in a wide variety of settings should also be more likely to perceive that drinking is more pervasive in society, and that beer and wine drinkers possess positive attributes. The survey shows that as exposure increases, youth are slightly more likely to perceive that drinking is more widespread, and somewhat more likely to hold favorable stereotypes of the typical beer drinker as fun-loving, friendly, happy, manly, and young.

Beyond the effects on total consumption, alcohol advertising might also influence problematic forms of drinking in either a positive or negative direction. These outcomes can be considered in terms of direct effects as well as indirect effects via increases in consumption levels. The relevant alcohol abuse dimensions include excessive quantity of consumption, and harmful consequences of drinking such as poor school performance.

Based on the content of alcohol advertising, there is little theoretical potential for most messages to directly increase the degree of alcohol misuse. While ads may sell drinking, the manifest themes seldom sell problem drinking.

The likelihood of advertising increasing alcohol misuse is minimized by the rarity of message content that portrays or encourages such behavior. Only a small proportion of models are depicted as intoxicated, and almost none display improper practices or exhibit symptoms of alcohol abuse. Thus, there is little chance that observers would be disinhibited or inspired to imitation by modeling of these behaviors, or derive positive associations with misuse. Indeed, the portrayals of conventional moderate drinking far outweigh any dysfunctional depictions, suggesting the possibility of decreased abuse due to advertising.

While advertising messages may do little to enhance the perceived benefits of misuse, there is even less content that would affirmatively discourage abuse by raising the perceived cost factor. Advertising does not disclose information about potential adverse consequences or warn the audience about the risks of improper drinking practices; indeed, the implicit message that alcohol is harmless may be reassuring to some abusers. A few ads do contain a "drink moderately" recommendation, but this is a bland and vague disclaimer unlikely to deter inappropriate behavior. Thus, the audience is unlikely to learn about hazards of alcohol misuse, and the salience of these drawbacks is likely to be diminished relative to the heavily promoted advantages of drinking.

There is much greater potential for advertising to contribute to misuse through indirect processes. Certain effects on general consumption may serve to facilitate excessive drinking. First, advertising promotes greater frequency of consumption at a wider variety of occasions; thus, there are more opportunities for drinkers to exceed proper quantity limits. Second, some TV viewers are already drinking at the time of exposure; the sheer volume of advertising increases the chances that they will encounter an ad which stimulates them to continue consumption, perhaps beyond the moderate level. Third, advertising reinforces pro-drinking attitudes, which may be generalized by the individual to apply to excessive drinking levels; if advertising leads a drinker to hold a much more liberal view of normal drinking, this may carry over to a slightly more permissive view toward excessiveness. Similarly, some individuals may extrapolate certain conventional beliefs about the advertised benefits of alcohol, inferring that if three drinks enhance enjoyment or romance, then six drinks will be doubly romantic or enjoyable.

Relevant survey findings are reported by Atkin et al. (1983). Their sample combines the 12- to 17-year-olds from the Atkin, Hocking and Block survey with several hundred adults (predominantly 18 to 22 years old), and their exposure index includes magazine liquor advertising as well as televised beer and wine commercials because of the focus on problem drinking regardless of alcohol type. A two-item index of excessive consumption reflected number of drinks typically consumed and frequency of consuming "at least five or six drinks in a single day or night." Two other items measured each respondent's reported concern about drinking habits and trouble experienced at school or work due to drinking.

Overall advertising exposure correlates +.30 with the excessive drinking index; those above the median in exposure reported consuming an average of 4.5 drinks during a typical evening at a party or bar, compared to 2.9 for those with lower exposure. In the high exposure subgroup, 33% said they consume five or more drinks at least once per month, while 16% of the less exposed respondents reported monthly frequency of heavy drinking. Regression analyses controlling for demographic, social and other media influences reduce this raw relationship to a standardized regression coefficient of +.22; when the general consumption index is also controlled, the direct-effect coefficient drops to +.10.

In addition, highly exposed respondents were more likely to report worrying that they drink too much (18% of the high exposure group vs. 12% of the light exposure group said they were "very" or "slightly" concerned) and getting into trouble because of drinking (8% vs. 3% experiencing "much" or "slight" trouble).

Advertising and Hazardous Drinking

Advertising is one of many factors that may contribute to drinking in the context of automobile driving (and other activities which are hazardous when combined with alcohol consumption, such as boating, swimming, skiing, and team sports). There is a slight potential for *direct* effects of advertising, based on the occasional content portrayals juxtaposing moving cars with scenes of beer drinking in TV commercials, the associations of alcohol and racing cars, speedboating, skiing, boating, and horseback riding in TV and magazine ads, and the more subtle linkage between alcohol and the challenging excitement of speed and risk-taking. However, these types of depictions occur in only a small percentage of ads, and characters are never shown drinking while performing these activities.

Advertisements rarely warn the audience about the dangers of drinking before or during driving or sporting activities, which precludes learning about these risks and possibly de-emphasizes the salience of such concerns. Indeed, the portrayal of characters consuming alcohol away from home settings without any recognition of how they will achieve safe transportation may lead the audience to infer that safety is not a significant issue to these depicted drinkers.

Advertising may also produce *indirect* effects that increase the likelihood of drunk driving. Many ads promote bar and party drinking or consumption in outdoor locations; to the extent that drinkers are influenced to consume more alcohol in settings away from home, there is a greater chance that they will be driving after drinking. Further, the impact of advertising in stimulating greater frequency of drinking heightens the chances of drinking before driving and the small influence on excessive drinking identified in the previous section is a contributing factor as well.

In the sample of adolescents and younger adults surveyed by Atkin et al. (1983), the overall alcohol advertising exposure index was related to an index composed of five items dealing with driving after drinking, drinking while riding, drinking while parked, drunk driving, and estimated drink limit for safe driving. The raw correlation of +.26 between these indices is exemplified by cross-tabulation analyses comparing persons who are above-average vs. below-average in exposure level. Among those above the median in exposure, 39% reported having driven a car soon after drinking during the month prior to the survey, compared to 25% of the drivers below the median. There is a 47% vs. 31% difference for drinking while riding in the previous month, and a 31% vs. 19% difference for drinking while parked. At least one lifetime incident of driving a car "when you were really too drunk to drive" was reported by 39% of the highly exposed vs. 28% lightly exposed respondents. The high-exposure subgroup said they can drive safely after consuming 3.2 drinks, compared to 2.7 drinks for the low subgroup.

The regression analysis indicates that the relationship is partly spurious, as the coefficient drops to +.18 when interpersonal, demographic, and other media exposure variables are controlled. Only a portion of the effect appears to be direct, because additional control for amount of overall consumption decreases the coefficient to +.09.

These findings are open to challenge on several counts. The measures of drinking/driving are based on self-reported behavior, which may lack validity due to the sensitive subject matter. The exposure items do not specifically measure attention to advertisements that depict alcohol in the context of hazardous activities, restricting the opportunity for isolating the direct impact of these portrayals. The correlational data may be partially explained by reverse causation, as drinking drivers are selectively exposed to alcohol advertisements.

Social Intervention to Prevent Drunk Driving

One of the most promising approaches to reducing the incidence of drunk driving is for companions of an intoxicated driver to intervene by verbally persuading or physically restraining that person from performing the risky behavior of driving. Interpersonal intervention has been a major theme of public service prevention campaigns (e.g., "Friends Don't Let Friends Drive Drunk", "Drunk Driving Can Kill a Friendship"). However, informal socialization through entertainment portrayals of drunk driving intervention is an additional avenue of influence with considerable potential that has been unrealized due to the rarity of such depictions.

An opportunity to study the impact of televised modeling of teenage intervention behavior occurred in the fall of 1987 when a "Valerie's Family" episode featured an unsupervised high school student party in which one of the adolescent male guests becomes drunk and takes out his keys as he's leaving to drive to another party. The teenage star of the program (David Hogan) suggests that his friend is too drunk to drive; when the verbal appeal is rejected, David physically blocks the guest's exit and offers to give him a ride. The guest continues his attempt to leave, and David leaps onto his back and then shuts him into a closet to prevent departure. When the parents return home unexpectedly later in the evening, the father insists on driving the drunken guest home after further resistance. Days later, the friend is still hostile toward David (citing embarrassment and denying he was too drunk to drive), but eventually offers a grudging expression of gratefulness.

This dramatic vignette provides interesting implications for possible effects on young viewers. The stimulus program vividly portrays an explicit set of intervention sequences in an engaging, credible manner, although the reinforcers are mixed; youthful audiences should find the content relevant and useful, such that they are motivated to learn and are highly involved in processing the material.

Social learning theory would predict a greater likelihood of viewers carrying out verbal and physical interventions to prevent drunk driving; adolescents should acquire techniques through observational learning, and those regarding intervention as inappropriate or disapproved might also become disinhibited. These processes should be facilitated by explicit depictions of intervention acts (verbal modeling of advice not to drive and of the offer to provide a ride; visual modeling of physical restraint via blocking the exit, jumping on the person, and shutting him away), although the impact on behavioral performance might be tempered by the portrayal of negative consequences to the intervenor (repeated critical comments and retaliation threats by the drunken friend, and expressions of hostility immediately after and in the days following the intervention), embarrassment to the drunken friend, and the general difficulty of carrying out the action, possibly undermining the vicariously experienced positive reinforcements from successfully restraining the driving and eventually receiving appreciation.

Although cultivation theory requires extensive quantity of portrayals for maximum effects, the relative rarity of televised intervention might allow a single incident to carry weight in shaping perceptions that this act is the prevalent response in the situation where a drunk person is preparing to drive. In terms of expectancy-value theory, the program is likely to establish or raise the salience of links between intervention and negatively valued outcomes such as hostility, thus reducing the behavioral intention.

To examine the program impact under naturalistic viewing conditions, a pilot study was carried out with middle and high school students; preliminary data are available from the younger portion of the sample (N=128 Michigan students 12 to 14 years old). A week before the episode aired, half of the students completed an

omnibus questionnaire that included baseline items dealing with drunk driving interventions; the other half answered questions primarily dealing with Alzheimer's disease (the subject of another forthcoming program).

The week after the program appeared, the questionnaire was re-administered. Among the 51 students who completed both waves of intervention items, 26 reported viewing the "Valerie's Family" episode and 25 did not happen to watch it. Change scores on each item (T2-T1) were then correlated with viewership to examine if those exposed to the stimulus changed relative to non-exposed "control" respondents. On the critical behavioral intention question asking about the likelihood that the respondent would "physically try to stop a friend from driving if he/she were drunk, by taking away their keys, not letting them drive...", there is a +.16 correlation. While there was no net change among non-viewers, 35% of the viewers were more likely to intervene at Time 2 (most movement was from "possibly" to "probably") while 19% moved in the opposite direction. Verbal intervention was measured by an item asking about the probability of trying to "talk a friend out of driving"; the correlation between exposure and increased likelihood is only +.04, but a ceiling effect restricted variance (the vast majority of respondents answered "definitely" at Time 1).

There is a varied pattern of findings on belief and attitudinal variables. As expected, a slight negative net change ($r = -.05$) is obtained for the belief "a drunk person will be grateful when someone tries to persuade them not to drive," and there is a positive net change ($r = +.19$) for "a drunk person will be thankful later on (a few days after) that someone prevented them from driving drunk." Reflecting the program portrayal, viewers are also more likely to change in the direction of perceiving that "a drunk person will get hostile when someone tries to prevent them from driving" ($r = +.22$) and that "it's really embarrassing for the drunk person when someone tries to prevent them from driving" ($r = +.15$). After seeing the show, viewers tend to shift toward believing that "it's easy to convince a drunk person not to drive" ($r = +.23$); while this appears to be at variance with the manifest difficulty of the portrayed intervention, perhaps adolescents perceived the energetic efforts as easier than expected.

On two other key variables, the change score for the viewers relative to non-viewers is in a negative direction: the viewers are less likely to feel that intervention is "worth all the effort and hassle" ($r = -.09$) and to "feel certain that you could successfully" carry out an intervention ($r = -.11$), both of which are more in line with the depicted material. Surprisingly, there's a relative shift for viewers toward the belief that "people who have been drinking know when they are drunk" ($r = +.25$). Regarding the perceived prevalence of real life intervention, one item asked "Out of every 10 teenagers who see a drunk friend getting ready to drive a car, how many would try to stop him or her from driving?" The modest increase among viewers to 5.23 is almost matched by the controls, so the coefficient is only marginally positive ($r = +.04$).

Within the exposed group, additional analyses examined the role of viewer identification with the teenage character who performed the intervention. Degree of desire "to be like" David Hogan is correlated positively with change scores for likelihood of verbal intervention (but not physical intervention), beliefs that drunks will be appreciative, will realize when they're drunk, and won't be embarrassed, and the attitude that it's worth the hassle to carry out an intervention.

One other set of analyses focused on the interrelationships among the belief, attitude, and behavioral intention variables. The strongest predictor of intervention intention is self-efficacy (expectation of successfully performing the behavior); the attitude that prevention is worth the hassle is modestly related. Surprisingly, beliefs that might be presumed to increase intervention likelihood are only slightly positive predictors: that intervention is easy to perform, that it will result in immediate or eventual gratitude, and that drunk people realize when they're intoxicated. On the other hand, two drawbacks to intervention do not appear to inhibit intentions: belief that intervention is embarrassing to the drunk person is unrelated to intention, and expectation that the drunk person will display hostility is actually positively related to a moderate degree. Several belief variables are fairly closely correlated with each other: the conception that drunk persons realize when they're intoxicated with the expectation that they'll be grateful at the time of intervention, and the perception that intervention is embarrassing with the expectation the drunk person will display hostility.

Although the evidence from this exploratory investigation should be considered as tentative, several implications can be suggested. First, a single exposure to televised modeling of a complex pro-social behavior such as drunk driving intervention has limited effects under naturalistic conditions, even when portrayed in a vivid and relevant manner. While the lack of statistically significant change can be partly attributed to the small sample size, it is also due to the restricted absolute magnitude of response (e.g., 10%-15% differences on most

variables from Time 1 to Time 2 or between the exposed and non-exposed groups). Second, a major qualitative factor limiting the impact is the mixed message communicated in this particular stimulus presentation, especially the difficulties encountered by the intervenor model and the negative consequences experienced by both parties. While the nature of the depiction in this case is not what a social learning theorist would design, it's quite realistic in two senses: it accurately reflects the drawbacks associated with actual interpersonal risk-prevention efforts such as drunk driving intervention, and it is typical of the way that TV fictional programming seeks to emphasize entertaining drama rather than imparting a purposive persuasive message. Finally, the lack of uniformity of response across the sampled adolescents (e.g., some respondents changing in opposite directions, and those identifying with the character influenced more strongly) illustrates the importance of the viewers' values, predispositions, and abilities in determining how television content is processed, learned, and utilized by the audience in forming attitudes and behavioral intentions.

Televised Portrayals of Risky Driving

Driving behavior is pervasively presented on television; most programs shot in non-studio settings prominently feature vehicle use, and more than one-tenth of commercials show cars being driven. Although there are no studies testing the effects of these portrayals on audiences, content analyses provide an illuminating basis for assessing the nature of these stimuli and predicting possible impact.

Two sets of content data will be described. The first is a comprehensive formal content analysis of 223 prime-time programs aired during the 1975-80 seasons (Greenberg and Atkin, 1983). To update the description, several findings from an informal examination of two dozen 1988 programs and almost 150 driving-oriented commercials will also be cited.

Driving acts. There were four-to-five driving scenes per hour on prime-time television, almost all in serious story contexts (particularly action-crime shows). While a majority of all driving was routine, one-fifth of the scenes depicted chase and escape driving and one-twentieth involved emergency driving. The rate of "irregular" driving acts presented in these scenes is 7.5 per hour, with five types most prevalent: quick braking (appearing in 25% of driving scenes), brakes squealing (24%), tires screeching (23%), speeding beyond the apparent limit (20%), and quick acceleration (20%); less frequently depicted acts included weaving through traffic (5%), leaving the road or ground (5%), aggressive driving (5%), "autobatic" stunts (4%), and "other" illegal driving such as reckless driving, forcing a car off the road, or changing drivers while moving (8%). Driving acts that endanger people were portrayed slightly less than once per hour, including endangering other motorists (in 6% of all driving scenes), passengers (4%), and pedestrians (3%).

The 1988 informal analysis pooled all the squealing and roaring motors into a "noisy driving" category, which was shown in 26% of all driving scenes. In 22% of the scenes, there were depictions of "risky driving," which encompassed excessive speeding, erratic weaving, "autobatic" stunts, aggressive driving, and other illegal acts that endanger the occupants or other people.

Consequences. Positive outcomes for the driver in terms of significant social or psychological rewards (e.g., impressing other people, escaping from pursuers, emotional satisfaction, or power) were depicted in 9% of the driving scenes. On the negative side, death and injury were relatively rare, occurring in less than 1% of the scenes at a rate of one casualty each five hours. Physical damage to the driver's vehicle (4% of scenes), property (4%), or other vehicles (2%) occurred once every other hour. There were few instances of immediate legal penalties being imposed on bad drivers (3% of all driving scenes). One of every ten speeding incidents and one-fourth of other illegal driving behavior resulted in police apprehension (stopping, ticketing, or arrest). In the 1988 follow up, there was only one casualty, in 121 driving scenes, while damage occurred in 11% of the scenes. Only one-tenth of the "risky driving" acts resulted in legal penalties.

Driver characteristics. Almost nine out of every ten drivers were male, and three-fourths were in their 20s or 30s (Greenberg and Atkin, 1983). The highest rate of dangerous driving acts was performed by those under thirty years old and by villains, although star and hero drivers frequently performed irregular or dangerous acts.

Safety belt use. Of 869 driver characters analyzed in 1975-1980, there were just four instances where drivers were shown buckling their seatbelts, and only three drivers were seen wearing belts as they drove; belt usage appeared in less than 1% of all scenes.

Belt usage was substantially higher in the 1988 follow-up, as 23% of the drivers were buckled; the proportion for stars vs. non-stars was identical. On the other hand, only two of the 47 drivers depicted entering a car where shown buckling up before driving.

The current 23% figure is consistent with findings from a content analysis of almost 1,000 driving scenes in 1986 prime-time action programs performed by Geller (in press). He found that drivers were buckled in 22% of the scenes that season, representing an increase from 15% the year before and 8% in 1984. According to Geller's count, the programs with the highest rate of buckling in the mid-1980s were "Moonlighting", "Cagney and Lacey", "Hunter", and "A-Team"; shows with rates below 10% were "Magnum PI", "Highway to Heaven", "Hill Street Blues", "Miami Vice" and "Fall Guy" (indeed, the analysis of seven episodes from the 1985 "Fall Guy" series revealed that not one of 222 driving scenes depicted a buckled driver). Several "macho" male character role models were especially unlikely to be buckled, including Magnum, Spenser, MacGyver, Renko, and stunt driver Colt; Mr. T, who was not buckled in 1984, took up the habit the following year after a letter-writing campaign advocating reform.

Belt use in commercials. The 1988 content analysis discovered widespread safety belt usage in TV ads for automobiles and other products where driving was portrayed. Of 146 commercials, buckling status was unclear in 50 cases due to window glare and distant or brief shots; where discernible, 86% of the drivers were clearly buckled.

Implications of content portrayals. Each year, TV viewers see several thousand irregular driving acts and hundreds of instances where people are endangered, typically performed in an engaging manner by attractive characters who suffer minimal harm. Based on the content analytic findings and television effects theories, the following influences may be expected for the viewing audience. First, viewers can acquire and possibly imitate an array of unique and novel driving acts that are depicted on television but seldom observed first-hand. Second, inhibitory constraints may be reduced as viewers learn that irregular or dangerous driving practices are commonplace and normative (and perhaps justified in various circumstances); 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. (It should be noted that the absence of drunk driving depictions should preclude modeling or disinhibition of this particular form of risky driving; however, there is also an absence of affirmative anti-drunk driving messages in entertainment content, such as demonstrations of intervention acts, modeling of decisions not to drive after drinking or not to drink before driving, and portrayals of accidents or arrest due to drunk driving).

Third, the prominent presentation of dramatic chase scenes, dangerous driving acts, and other noisy or erratic vehicle usage may contribute to the feeling among some thrill-seeking viewers that risky driving is an exciting, exhilarating, glamorous and challenging activity. This emotional response may elevate the salience of these attractive features of high-risk driving for certain segments of the audience, leading to more frequent performance.

The impact of this content should be strongest for the youthful male viewers for several reasons. Most teenagers are inexperienced drivers, and thus are likely to be motivated to learn from the depicted behavior; some young men are particularly predisposed to respond to the dangerous portrayals because of their risk-oriented values. Further, they're most apt to identify with the relatively young, masculine role models (particular program stars and heroes, and even "villain" characters in some cases) who most often drive in an irregular or risky manner on television.

The portrayal of *safety belt* usage provides mixed implications at this point in time. Certainly the potential for positive influence has improved over the situation a decade ago, when almost no television drivers were buckled; these days, about one-fourth of the fictional characters are using safety belts, and the vast majority of drivers in commercials are buckled. The sheer frequency of viewing buckled drivers (several thousand depictions per year in programs and ads) may serve a reminder facilitation function and possibly cultivate the perception that buckling is widely practiced.

On the other hand, there are a number of factors that may limit this impact. Since the belted status of TV drivers isn't obtrusively portrayed (or even perceptible in many cases), the audience may not even notice how many characters are buckled. Belt usage patterns could be much more readily detected and learned if characters

were clearly shown performing the act of buckling as they enter a vehicle, but this is rarely depicted; likewise, there would be more impact if characters commented about safety belts, suggested that other occupants buckle up, or were shown to benefit from belt usage, but this also appears to be absent. Moreover, the number of belted portrayals is still outnumbered by unbelted portrayals by a three-to-one ratio, thus undermining the perception that this practice is normative.

In addition, belt buckling behavior is seemingly less subject to media influence because it's an act that viewers have already learned how to perform and which is primarily governed by personal experiences and interpersonal influences; while most people have little direct experience with the safety *consequences* of belt usage, this instructive outcome is seldom portrayed on television. Finally, the high-risk drivers most needing protection are likely to identify with the macho characters who tend not to buckle up and who seldom demonstrate seat belt advantages that these drivers would find relevant, such as being better able to control the car, looking fashionable, or symbolizing readiness for daredevil situations.

Conclusion

While there is little empirical evidence concerning the actual effects of TV on risk-related driving behaviors of teenagers, there's ample basis for speculation. Relying on applicable theories, content analyses, and fragmentary audience response data, it appears that the socializing influence of this powerful medium is rather modest in magnitude and mixed in directionality: alcohol commercials seem to slightly increase the incidence of drunk driving, certain fictional role modeling portrayals stimulate drunk driving intervention intentions while other entertainment depictions apparently teach reckless driving patterns, and the incidental safety belt usage increasingly depicted in programs and ads probably promotes buckling to a limited degree. At this point, however, any conclusions remain tentative pending the implementation of a systematic research program to explore and chart the dimensions of television's impact in the important domain of risky driving.

ACKNOWLEDGEMENT

This work was supported by grants from the Michigan Office of Highway Safety Planning and U.S. Department of Transportation/National Highway Traffic Safety Administration, and from the Alcoholic Beverage Medical Research Foundation.

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