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Alcohol Warning Label Effects: Socialization, Addiction, and Public Policy Issues

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IN 1988, the U.S. Congress enacted the Alcohol Beverage Labeling Act mandating that by November 18, 1989, the following two warnings be placed on all alcoholic beverage containers to be distributed and sold in the United States:

> GOVERNMENT WARNING: (1) According to the Surgeon General, women should not drink alcoholic beverages during pregnancy because of the risk of birth defects. (2) Consumption of alcoholic beverages impairs your ability to drive a car or operate machinery and may cause health problems.

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The legislation was motivated by a discussion of the staggering social costs of alcohol abuse, including testimony by the National Institute on Alcohol Abuse and Alcoholism (Gordis, 1988) and evidence provided by the Surgeon General's Workshop on Drunk Driving (1989).

Since the passage of the Alcohol Beverage Labeling Act, numerous studies have investigated a wide variety of topics with respect to the effectiveness of the warning labels (Hilton, 1993). One aspect of interest is that although younger and heavier drinkers are more aware of the specific risks associated with alcohol (Mazis, Morris, & Swasy, 1991), they tend to find the warning information to be less believable and less favorable than occasional or non-users of alcohol (Andrews, Netemeyer, & Durvasula, 1991). Similar findings of resistance have emerged from studies of targeted, "at-risk" population groups, such as pregnant drinkers from inner-city clinics (Hankin et al., 1993). Thus, it would be unfortunate if alcohol warning label information is being disbelieved or discounted by the very people who presumably need this information the most. In this sense, it would be instructive to explore the reasons *why* people might resist warning information, as well as to examine what methods can be used to enhance the internalization of such information.

Thus, the purpose of this chapter is first to review exactly how alcohol risk information has been communicated and processed in the context of the warning labels. Second, theoretical explanations for the resistance of warning information by at-risk groups is presented. This rationale is based on previous cigarette warning research, the fear appeal literature, psychological reactance theory, the persuasive communications field, the alcohol socialization process, and models of addictive behavior. Then, a variety of public policy alternatives will be discussed, including the enhancement of present alcohol warnings, as well as their integration with public service announcements and other educational efforts in building cognitive defenses, changing beliefs, and internalizing alcohol risk information.

What We Know From Alcohol Warning Label Research

Numerous studies on the efficacy of the federally mandated alcohol warning labels have appeared since 1989 from a wide variety of academic fields (see Hilton, 1993). One practical method of organizing the findings

is to employ McGuire's (1980) Communication Persuasion Model, consisting of input (communication aspects) variables and output (response step or processing) variables. Communication aspects include the roles of warning source, message, channel (modality), receiver, and destination (i.e., immediate vs. delay; prevention vs. cessation) input variables.

COMMUNICATION ASPECTS

With the exception of research demonstrating that the words *Government Warning* improve alcohol warning detection times (Godfrey et al., 1991), surprisingly little research exists on the study of *source* effects associated with the alcohol warning labels. For example, does the inclusion of the words *Surgeon General* lend credibility to the subsequent processing of warning information? Or, based on research by Kelman (1961), can certain source factors be incorporated to enhance the internalization, identification, or compliance with alcohol warning information?

Studies of *message design* factors reveal that the noticeability of alcohol warning messages is improved by placing the message on the front label, in a horizontal position, with the words *Government Warning,* and by reducing surrounding clutter on the label (Godfrey et al., 1991; Laughery, Young, Vaubel, & Brelsford, 1993, Experiment #1). Furthermore, the use of pictorials, color, and signal icons is found to improve the noticeability of alcohol warning information, especially in combination with one another (Laughery et al., 1993, Experiment #2). Finally, in an innovative study employing eye-scanning equipment, mean response time in warning detection is found to be reduced by 49% with the inclusion of pictorial, icon, and color features (Laughery et al., 1993, Experiment #3). In sum, although Laughery et al. determined that the alcohol warning labels are not noticeable per se, the use of visual aids (icons, color, pictorial elements) can be quite effective in enhancing the noticeability of this warning information. Further message design research suggests that improving warning conspicuity (size and contrast) can increase recall of the alcohol warning information (Barlow & Wogalter, 1991). Moreover, alcohol warnings that contain fewer characters per inch, occupy a larger area, and are more isolated tend to be more noticeable than warnings without these message design features (Swasy, Mazis, & Morris, 1992).

Studies of *message content and destination* issues have examined topics such as the explicitness of conveying severity information in the alcohol warnings (Laughery, Rowe-Halbert, Young, Vaubel, & Laux, 1991). Results from Laughery et al. (1991) show that when the severity of the potential hazard is substantial (e.g., with birth defects), only explicit information (e.g., "If you drink while you are pregnant, your child may be born with fetal alcohol syndrome and need institutionalization") conveys the severity information adequately. Similarly, Beltramini (1988) has found that cigarette warning labels noting specific risk outcomes (e.g., lung cancer, heart disease, emphysema, fetal injury, premature birth) are significantly more believable than labels suggesting remedial action (e.g., quitting smoking) or harmful contents (e.g., carbon monoxide). In the case of alcohol warnings, many other message-related factors can be explored (Andrews, Netemeyer, & Durvasula, 1993, p. 60), such as the type of risk indicated (health, safety, and/or social), message valence (positive, neutral, negative), and degree of personal consequences of risk communicated.

Research studies on *modality* (channel issues) have shown that audio-only and audiovisual formats tend to produce significantly greater recall of warnings embedded in alcohol ads than video-only formats (Ducoffe, 1990). In general, Barlow and Wogalter (1991) have found that warning information about the hazards of alcohol consumption can also be communicated effectively in an advertising format. Finally, targeted alcohol warning posters have been found to enhance the exposure, awareness, and knowledge of alcohol warning information (Fenaughty & MacKinnon, 1993; Kalsher, Clarke, & Wogalter, 1993).

Perhaps the most neglected area of alcohol warning label research is the examination of *receiver effects*. Specifically, issues of receiver initial position and receiver motivation, ability, and opportunity to process warning information are important and often-studied aspects of marketing communication (Petty & Cacioppo, 1981). Yet beyond efforts to study alcohol consumption behavior of at-risk groups exposed to the warnings (Hankin et al., 1993), relatively few studies examine such receiver characteristics. Regarding receiver initial position, Andrews, Netemeyer, and Durvasula (1990) have found that those with more favorable attitudes toward alcohol consumption tend to disbelieve specific-instance warnings (e.g., birth defects, driving

impairment, drug combination), while only disliking longer-term risks of alcohol consumption (e.g., hypertension, liver disease, addiction, cancer). One likely explanation is the role of psychological reactance based on subject *experiences* (see Brehm, 1966; Fazio, 1990). For example, negative outcomes of drinking cited in the warnings (e.g., birth defects, DWI, drug interactions) may be inconsistent with positive drinking behaviors salient in one's memory and are, therefore, readily discounted. The lack of experience with longer-term risks of consumption offers less information for immediate counterarguments to the warnings.

Outside of the alcohol warning context, certain message design factors (e.g., shape and color) have been found to increase the salience of warning information, as measured by retention of label details, label compliance, and perceived danger of the warning information (Rodriguez, 1991).

PROCESSING RESEARCH

Many alcohol warning label studies focus on processing measures or *response variables,* such as awareness levels, perceived risk, agreement with the warning information, and behavioral change. For instance, Mazis, Morris, and Swasy (1991) conducted a national survey in May 1989 (before the warnings) and in May 1990 (after and during the warnings) to examine changes in awareness of the label and specific risks of alcohol consumption. By May 1990, approximately 35% of their sample indicated that it was "very likely" or "somewhat likely" that the alcohol beverage containers contained a warning. The reported awareness was highest among younger adults (42%), and women displayed the largest awareness increase (14%) from 1989 to 1990. Approximately 11% of the sample were able to identify the specific warning for drinking during pregnancy—the highest awareness coming from younger adults and those who consume the most alcohol. Research by Scammon, Mayer, and Smith (1991; see also Mayer, Smith, & Scammon, 1991) suggests that the alcohol warning labels achieved a relatively high level of awareness by July 1989 (34.9%), yet did not influence specific risks attributable to alcohol consumption. A follow-up study by these authors (Scammon, Mayer, & Smith, 1992) indicates that the awareness of the alcohol warning labels may

have peaked by April 1991, with recall of the driving impairment warning peaking earlier than that of the birth defects warning. Finally, Graves (1993) has found that by 1991, awareness of the warning label had increased to 27% in the United States and was especially recognized by men, younger adults, heavier drinkers, and those more educated.

Interestingly, although the above studies suggest that heavier drinkers are likely to be aware of and knowledgeable about the warnings, they may not necessarily be in *agreement* with such information. For example, Andrews et al. (1991) have found that frequent drinkers (i.e., those consuming alcohol more than once a week) perceived the warnings as significantly less believable and less favorable than occasional or nonusers of alcohol. The authors (Andrews et al., 1990) have also found that the birth defects and driving impairment warnings were significantly more believable than three warnings regarding hypertension, liver disease, and cancer; drug combinations; and addiction. The birth defects warning, in turn, was found to be significantly more favorable than the other warnings. Further research indicated, however, that cognitive responses (as measured by net support arguments) served to mediate 76% of the effect of the different warning labels on label attitudes (Andrews et al., 1993). These self-generated thoughts were found to be an important intermediate variable in the study of the persuasiveness of the alcohol warning information.

Many have argued, however, that the true measure of social marketing effort is *behavioral change* (Andreasen, 1994). Unfortunately, only one study (at this point) has focused on this issue by studying the effects of the warning label on at-risk pregnant drinkers from a prenatal clinic (Hankin et al., 1993). Hankin et al. discovered that 6 months following the appearance of the warning label, lighter drinkers reduced their drinking during pregnancy by a small yet statistically significant amount. Pregnant risk drinkers, however, did not significantly change their consumption of alcohol in this period. Similarly, a study of anti-drug and -alcohol abuse campaigns found greater impact in the form of ad recall, evaluation, and perceived effectiveness for nonusers than for those in stages of addiction (Bozinoff, Roth, & May, 1989).

Lessons From Cigarette Warning Research

Several excellent reviews on the regulation of cigarette advertising provide insight into the effectiveness of the dissemination of medical information (e.g., Sloan-Kettering and Surgeon General reports), package and advertising warnings, broadcast advertising bans, and the role of the Fairness Doctrine and public service announcements (PSAs) (cf. Schuster & Powell, 1987). Others have discussed the reality of trying to find causal linkages from advertising to behavior, especially in the aggregate (Cohen, 1990, pp. 237-241). One interesting aspect of the reviews is that, in comparison to cigarette package warnings (appearing in 1965), advertising warnings (appearing in 1984) and broadcast ad bans (beginning in 1970), counteradvertising and PSAs appear to have played an important role in facilitating a sharp reduction in total and per capita cigarette consumption (Schuster & Powell, 1987; Warner, 1977). Others have cautioned that it is difficult to estimate the magnitude of this effect due to other factors operating at the time (McAuliffe, 1988). Even so, it raises the question as to why the package and ad warnings were relatively unsuccessful in their effect on consumption.

Why People Resist Warnings

One argument for the ineffectiveness of the warnings is based on the theory of *perceptual defense* (McGinnies, 1949; Schuster & Powell, 1987). That is, consumers either ignore or do not attend to messages that are contrary to their own beliefs. Based on studies of *fear appeals,* this defensiveness (and subsequent increases in the individual's anxiety level) is especially present when warning processors are not provided with a method to cope or help solve the problem (Leventhal, Watts, & Pagano, 1967). Recent examinations of the Protection Model used in fear appeal research reveal that maladaptive coping responses (e.g., increased drinking) can occur in the process of assessing threat severity (e.g., birth defects), threat probability ("It won't happen to me"), the ability of the coping behavior to remove the threat (e.g., stopping or reducing alcohol consumption), and individual ability to carry out the coping behavior (Tanner, Hunt, & Eppright, 1991).

Leventhal, Singer, and Jones (1965) have demonstrated the difficulty of persuading high-risk groups to adopt appropriate coping responses. As argued by Tanner et al. (1991), strong maladaptive coping behaviors tend to exist for heavy users based on many previously-encountered threatening situations.

An additional argument for the relative futility found with the provision of federally mandated warning information (especially for at-risk groups) can be found in *psychological reactance theory* (Brehm, 1966; Mazis, 1975). According to Brehm, threatening to restrict or actually eliminating a person's freedom to act motivates the person to reestablish the lost or threatened behavior or attitude. Thus, when heavy drinkers are told that they should abstain in certain situations (e.g., when driving or if pregnant) or that long-term abuse is likely to create health problems, such drinkers may see their "freedom to drink" threatened. Petty and Cacioppo (1981), however, have reasoned that psychological reactance is lessened if the behavioral change is viewed as justified, if it is of lesser importance, if it is not totally eliminated, when similar alternatives exist, and if the individual feels either inadequate or controlled by external events in the situation.

The *Elaboration Likelihood Model* posits that as one's likelihood of message elaboration increases, the quality of message-related arguments becomes more important in *objectively*-based persuasion (Petty & Cacioppo, 1981). Some variables, however, such as alcohol warning labels, may introduce a *systematic bias* in processing under high elaboration, especially for heavier drinkers. For example, forewarning a highly-involved audience of a message's persuasive intent tends to increase active resistance and counterarguing (Petty & Cacioppo, 1979). *Social judgement theory* has been advocated to help change addicted behavior and reorient the processing of risk information in a more objective fashion (Bandura, 1977; Petty, Baker, & Gleicher, 1991). This can be accomplished through the development of new skills, actions, and enhanced self-perceptions in the modeling of behavioral consequences.

Under lower levels of message elaboration, cue-driven processes such as automatic activation (Fazio, 1990), pain-pill-pleasure mentalities (Shimp & Dyer, 1979), or both are likely. In such situations, peripheral cues (e.g., likable peers who drink, positive feelings based on prior drinking) may come to mind negating processing of warning

information. Still other peripheral cues (e.g., credible sources) may work to enhance identification and possible internalization of the warning message.

Beyond Alcohol Warning Labels

Given such resistance, a broader perspective on the provision and internalization of alcohol risk information beyond warning labels may be in order. Arguably, the alcohol warning label may represent a post hoc solution, at best, for which drinkers simply are provided with birth defects, driving impairment, and general health risk information—*if* the label is noticed and processed. Unfortunately, the presence of warning information *at this stage* in a heavy drinker's life may be too late to counter years of alcohol socialization and possible abuse. For example, common counterarguments of drinkers to the alcohol warning label information include: statements of denial ("Stupid—I'm aware of the contents of the beverage"), skepticism ("If drunk, the label is of little help"), and positive criticism ("There should be some literature on pregnancy and drinking—not just the warning") (Andrews et al., 1993).

Thus, the critical question is: Exactly how is the specific risk information learned and internalized throughout an individual's life? For example, to what extent do children and young adults understand and internalize alcohol risk information, such as driving impairment and birth defects? How is this information best conveyed? Are there other important risk factors that should be communicated? For instance, some proponents of the mandated birth defects and driving impairment warnings have also advocated warnings regarding alcohol addiction; dangers in combination with OTC (over-the-counter), prescription, and illicit drugs; and risks associated with hypertension, liver disease, and mouth and throat cancers ("Alcohol Warning: Impact Is Debated," 1989; Center for Science in the Public Interest, 1992; Gordis, 1988; Zanga, 1990). Others have argued for warnings of the risks associated with alcohol poisoning (Center for Science in the Public Interest, 1992). In general, it is likely that such risks are not as well-known or as believable as the driving impairment and birth defects risks (see Andrews et al., 1990).

An additional concern beyond the content of the warnings and personal context with which warnings are viewed is the reliance on a single communication format (i.e., labels). The warning label should therefore be viewed as simply one of many methods of communicating risk information, rather than an end in itself. There may be a need to consider the multitude of methods (counteradvertisements and PSAs, educational programs, the media, warning labels), and their inherent differences, in effectively communicating such risk information in early stages of alcohol socialization. As recently advocated by the use of integrated marketing communications, all efforts could be coordinated and targeted to "speak with one voice" (Schultz, Tannenbaum, & Lauterborn, 1992; Shimp, 1993). Even so, such comprehensive efforts in transmitting warning information may face formidable external socialization and cultural impediments. And if addicted, the individual may also need to conquer internal coping mechanisms as well.

The Alcohol Socialization Process

Approximately $2 billion are spent each year in the United States on alcohol advertising and promotional expenditures (Center for Science in the Public Interest, 1992). Hypothetically, children viewing a minimum of two alcohol promotions or information cues a day would be exposed to more than 15,000 alcohol messages by the time they could legally purchase alcohol. According to the U.S. Secretary of Health and Human Services (Bowen, 1989), an estimated 4.5 million young people are dependent on alcohol or are problem drinkers. Recent alcohol education efforts, however (in conjunction with enforcement and treatment programs), have been cited as helping to reduce substantially the number of alcohol-related traffic fatalities among drivers between the ages of 15 and 20 years (Fell, Hedlund, Vegega, Klein, & Johnson, 1994). Although such fatalities have declined by 20% for all age groups since 1990, approximately 17,700 alcohol-related traffic fatalities remain in the United States (Fell et al., 1994).

In general, *consumer socialization* is viewed as a process by which young people acquire skills, knowledge, and attitudes relevant to their functioning in the marketplace (Ward, 1981). This knowledge emanates from a variety of sources, including family and parental values,

friends, and media influences (Solomon, 1994). In fact, children under 6 years of age are found to engage in approximately 25% of their television viewing during prime time (Adler et al., 1980) and have been shown to be affected by programs and commercials targeted toward adults (Gorn & Florsheim, 1985). Arguably, such repeated exposure to adult products (e.g., beer) via a variety of promotional stimuli is likely to engender a positive affect toward such products through enhanced familiarity (Zajonc, 1968; Zajonc & Markus, 1982).

In general, studies of *aggregate* relationships, such as overall alcohol advertising expenditures and consumption, have shown mixed results (Schuster & Powell, 1987). This is not that surprising given the limitations of such aggregate research efforts (Cohen, 1990). A variety of studies, at the *individual* level, have controlled for demographic and normative influences, and have found effects of alcohol advertising on drinking knowledge, beliefs, and intentions among children (e.g., Atkin, Neuendorf, & McDermott, 1983; Grube & Wallack, 1994; Resnick, 1990). For example, pre-drinking children who were more aware of beer ads were found to hold more favorable beliefs about drinking, intended to drink more frequently as adults, and had greater knowledge of beer brands and slogans (Grube & Wallack, 1994). These effects were maintained even when reciprocal knowledge, belief, and intention relationships with awareness were included in the model. An interesting finding by Grube and Wallack was that alcohol advertising awareness was unrelated to beliefs about the *negative* aspects of drinking. This may point to the difficulty that PSAs and counteradvertisements face in "competing" with alcohol promotion (and other cultural cues) in the formation of beliefs in the socialization process.

Consumer behavior research has found that children aged 3-5 have marked difficulties in understanding the selling intent of commercials (Macklin, 1987) and, on average, appear to acquire such knowledge only by age 8 (Brucks, Armstrong, & Goldberg, 1988). As indicated by Brucks et al., however, children who understand the selling intent of commercials do not necessarily apply "cognitive defenses" to persuasion attempts. Also, according to Piaget (1954), children do not operate as abstract thinkers until approximately age 11, due to a primary reliance on recognition skills and reactions to symbols that need to be physically present in the child's perceptual field. Thus, it is not that surprising that recent studies of young children have found

strong brand recognition effects for adult product symbols, such as cigarette logos (Fischer, Schwartz, Richards, Goldstein, & Rojas, 1991). Analogously, alcohol recognition statements from young children, such as "that's beer" or "cowboys drink beer," are not uncommon.

Recently, the alcohol socialization process of U.S. college students, also known as a "rite of passage," has come under greater scrutiny. This past year, a comprehensive study of alcohol use by college students reported a dramatic increase in binge drinking reaching "epidemic proportions" (Center on Addiction and Substance Abuse, 1994). The report cites that:

- In a 2-week reporting period, 42% of all college students engaged in binge drinking (i.e., five or more drinks at a time) versus 33% of non-college counterparts.
- One in three college students now drinks primarily to get drunk. This includes 35% of college women, more than 3 times the average (of 10%) reported in 1977.

As a result, campuses have reported dramatic increases in alcohol-related deaths, sexually transmitted diseases, poor academic performance, and violent crime, all linked to alcohol (Center on Addiction and Substance Abuse, 1994, p. 2).

In sum, the socialization process may help promote alcohol consumption as an acceptable behavior for certain groups via peer pressure, rites of passage, and media advertising. In fact, one prominent model of the addiction process is socialization based. This, and a variety of addiction models from other disciplines, are now presented to provide greater insight into the behavior of heavier drinkers who are likely to discount alcohol warning information.

Alcohol Addiction

ADDICTION DEFINITIONS

There are several definitions of *addiction* in the medical, psychiatric, clinical psychology, and social science literatures. For example, Jacobs (1989) defines addiction as a dependent state acquired over

an extended period of time by a predisposed person in an attempt to correct a chronic stress condition. Marlatt, Baer, Donovan, and Kivlahan (1988) view addiction as "a repetitive habit pattern that increases the risk of disease and/or associated personal and social problems" (p. 224). Peele (1985) describes addiction as an adjustment by the individual in coping with his or her environment, psychological traits, and biological functions, where individuals who become addicted develop a tolerance for the behavior and have difficulty in ceasing the behavior.

Regardless of the definition, most researchers would agree that addictive behaviors are characterized by a loss of control where the behavior continues to occur despite attempts to stop, immediate gratification in the short term, long-term deleterious effects, and a high rate of relapse. Furthermore, the existence of co-morbidity (i.e., problems with other compulsive and/or addictive behaviors) and commonalities across different addictive behaviors has been well documented (Hirschman, 1992; Jacobs, 1989; Krych, 1989; Marlatt et al., 1988; Orford, 1985; Peele, 1985). Others have argued that addictive behaviors are often initiated by persons as methods of self-medicating or coping with emotional and mental anxiety experienced as a result of preexisting mental disorders (Hirschman, 1995). As such, alcohol addiction clearly falls into the general category of addictive behaviors.

MODELS OF ADDICTION

There are a number of approaches that attempt to model the etiology of addictive behaviors. The following discussion will briefly outline the more prevalent models as they relate to alcohol addiction.

Medical/Disease Model. An early approach in the study of alcoholism was the medical model, which took the perspective that alcoholism was a disease (e.g., Marlatt et al., 1988). Most recent advocates of the medical/disease model hypothesize an underlying disease process with an emphasis on physical dependency, genetic predispositions, and the progressive nature of the disease. Critics of this approach, however, suggest that it does not consider the commonalities in behaviors across addictions, it negates the influence of the situational

context, and that the model suggests the individual is not responsible for the disease or changing his or her behavior (e.g., Marlatt et al., 1988; Orford, 1985). Still, this model has contributed to our understanding of the addiction process.

Biological/Genetic Model. In a review of the alcoholism literature, Schuckit (1987) found that there was consistent evidence for a biological/genetic component in the development of addiction. Schuckit found that sons of alcoholics had a "decreased intensity of reaction to modest doses of ethanol" (1987, p. 307), which may put them at greater risk of alcohol abuse than sons of nonalcoholics. Other research suggests that addictions are manifestations of traits that are passed on from generation to generation. Results show that children of alcoholics are up to 4 times more likely to develop alcoholism as compared to children of nonalcoholics (Marlatt et al., 1988).

Personality Model. With regard to alcohol abuse, several personality correlates have been identified, including impulsivity, nonconformity, and reward seeking (Cox, 1987). One study discovered six different clusters or profile types of alcoholics when using the MMPI (Minnesota Multiphasic Personality Inventory) as a measurement instrument (Graham & Strenger, 1988). Other studies, however, suggest that no one personality type can be traced to alcoholism (Sutker & Allain, 1988). Still, the personality approach has uncovered insights into the etiology of addiction.

Psychological Model. Several researchers suggest that addiction may be the result of psychopathology. *Psychopathology* refers to a dysfunction of the mental processes, where psychological adaptations are the consequences of ego deficiencies, such as a lack of maternal attention during childhood. Studies have shown a relationship between addictive behaviors and psychopathy of depression. For example, Jones, Chesire, and Moorhouse (1985) found a higher level of depression in alcoholics than that found in the general population. These findings have been replicated across numerous other addictive behaviors, including compulsive spending and pathological gambling (e.g., Raviv, 1993). Other widely studied psychopathological variables in relation to addiction are anxiety and self-esteem. Links between these two

variables and alcoholism have been consistently found (Jacobs, 1989; Marlatt et al., 1988).

Sociological Model. The sociological view contends that addictive behavior is learned and is the result of adaptation to meet internal and external needs over time (Peele, 1985). This approach suggests that addiction may be the result of socialization in which the behaviors and attitudes of one's family, peers, and environment are integral in the development of the behavior. In terms of alcohol abuse, there is some evidence to suggest that individuals acquire beliefs and expectations about alcohol well before they begin to drink (Marlatt et al., 1988). For example, Goldman, Brown, and Christianson (1987) noted three potential sources in the formation of expectations: causal attributions, vicarious learning, and classical conditioning. Causal attributions suggest the individual may have experienced an event and a related outcome with respect to the addictive behavior. Vicarious learning does not require the actual experience of the individual, rather, the individual may have formed a relationship merely from observation. Goldman et al. also note that expectations formed in this way may be the result of exposure to mass media. In fact, some have cited symbolic appeals in beer advertising commonly focusing on escapism; "male-bonding"; and beer as a reward in overcoming challenges, such as losing poise and control (Strate, 1991). In a similar sense, the relationship between OTC drug advertising and the tendency for a pain-pill-pleasure mentality has been examined (Shimp & Dyer, 1979). Others have explored the role of alcohol marketing communication as a cue in engendering trial and relapse behavior in stages of alcohol addiction and cessation behavior (DePaulo, Rubin, & Milner, 1987). Thus, the sociological model advocates that the role played by society and culture may be a contributing factor behind individuals developing addictions.

In sum, many models designed to study the etiology of addiction have been proposed and recognize that addiction is likely to have multiple determinants. As such, several investigators are now considering various combinations of the models discussed above as contributing factors to addiction, including genetics, biological dysfunction, family environment, cultural impact, and personality (Jacobs, 1989; Marlatt et al., 1988; Peele 1985). This approach appears promising

and has become known as the "biopsychosocial approach" (Marlatt et al., 1988). Thus, these many potential factors and approaches represent important theoretical contexts for the study of the provision and internalization of alcohol risk information, especially in the case of more frequent and heavier drinkers. Clearly, in the case of alcohol addiction, such risk information is likely to be incorporated into specific treatment programs, with goals of positive behavioral and lifestyle changes. More generally-applied, public policy alternatives for the provision and internalization of alcohol warning information are now examined.

Alternatives for Public Policy

A wide variety of public policy alternatives exist for alcohol information provision and regulation. Many such options are recommended by the Advertising and Marketing and the Education Panels of the Surgeon General's Workshop on Drunk Driving (1989, pp. 27-32, 37-46; see also Mazis, 1990). One recommendation from the Education Panel of the Workshop is to expand the [existing] alcohol warning labels. In this regard, a variety of *message design and content* improvements are argued to enhance the noticeability and comprehension of the warnings. For example, variations in cigarette warning presentation formats and ad type (textual ad vs. pictorial ad) are shown to impact warning message comprehension (Bhalla & Lastovicka, 1984). Thus, many have advocated the rotation of warning label information and the presentation of new and specific information in order to reduce processing habituation and inattention.

A second recommendation of the Workshop is for the warnings appearing on alcohol beverage containers to be required—in a clear and conspicuous manner—in *all* alcohol advertising. This option has been translated in the "Sensible Advertising and Family Education Act of 1993" (S. 674 and H.R. 1823), sponsored by Senator Strom Thurmond and Representative Joseph Kennedy (Colford, 1993). The proposed bill contained a series of seven rotating health and safety messages for both broadcast and print media. The messages for print media were more comprehensive and included a toll-free number for information. Given strong political opposition, however, Senator Thurmond withdrew the

legislation from the Senate Subcommittee on Commerce, Science, and Transportation before its vote (Colford, 1994). The threat of ad warnings has generated promises of an increased number of PSAs, however, including some addressing fetal alcohol syndrome (Colford, 1993).

A third recommendation of the Workshop is to match the level of alcohol advertising with *equivalent* exposure of pro-health and safety messages. In fact, approximately 60% of consumers favored this alternative in a survey conducted at the time of the dissemination of the alcohol warning labels (Freedman, 1989). Such an equivalency, however, may present difficult (yet possibly not insurmountable) funding requirements to match approximately $1 billion in alcohol advertising a year. For example, the *entire* budget for one major sponsor of PSAs, the Ad Council (an arm of the National Association of Broadcasters), is approximately $1 billion per year (Colford, 1993). Recent ideas for increasing public alcohol PSA funding include the application of alcohol tax funds, special appropriations to the Department of Health and Human Services, and setting aside funds from state and federal substance abuse programs (see Center for Science in the Public Interest, 1992; Grube & Wallack, 1994; Resnick, 1990). Although other private sponsors exist (e.g., NCAA/TEAM), some have argued that equivalent exposure would crowd out spots for AIDS, education, highway safety, and crime ("Big Win for Ad Council," 1993). Also, the 1967 Fairness Doctrine called for *reasonable* access for differing viewpoints on cigarettes (cf. Mazis, 1990). As it turned out, the Federal Trade Commission estimated that for every 4.4 cigarette ads, there was 1 antismoking ad (Schuster & Powell, 1987).

Four other Surgeon General recommendations specified restrictions when a significant proportion of the audience is under the legal drinking age. When such an audience is likely, these restrictions would cover the promotion of alcohol on college campuses, in certain public events (e.g., concerts), the use of celebrities, and sponsorship of athletic events. These specific promotional instances have received the scrutiny of the Federal Trade Commission (Rose, 1991) and the issuance of several consent agreements. For example, Canandaigua Wine Company agreed to stop misrepresenting Cisco as a low-alcohol product and from encouraging retailers to display it next to wine coolers (*Canandaigua Wine Company*, 1991).

Based on the present review of the warning, socialization, and addiction literatures, and arguments elsewhere (Mazis 1990), perhaps one of the more fruitful avenues to explore is the goal of increasing not only the number, but the effectiveness, of alcohol counteradvertising and PSAs. Existing attempts by alcohol manufacturers could be viewed as helpful, yet perhaps sending mixed messages (e.g., abstention to young adults, yet at age 21, drinking is promoted as a normal part of one's life). In general, some recent PSA success stories include anti-drug ads that incorporate coping and cognitive defense strategies, as well as modeled behavior. For example, in a recently-aired PSA sponsored by the Partnership for a Drug-Free America (1994b), a drug pusher approaches a young child and his friends on the schoolyard and asks him, "What do you need?" Suddenly, the boy's face becomes angry and larger than life when he shouts back at the pusher a multitude of positive alternatives to using drugs (e.g., "I need friends, a job, peace . . . "). The rehearsal of such counterargumentation is likely to aid in a balancing of alcohol ad messages *if* young children can be taught such coping strategies (Brucks et al. 1988). On average, such cognitive defenses may be appropriate for children aged 8 and older (Brucks et al., 1988), and identification and compliance processes (Kelman, 1961) may be more appropriate for younger children. Other strategies include the use of modeling behavior in recent PSAs with the theme, "if you use drugs, your kids will too" (Partnership for a Drug-Free America, 1994a). Coping behaviors, alternative solutions, social risk appeals, and inoculation strategies are important ingredients in such PSAs, as well as providing attractive executional features (Goldberg, Gorn, & Gibson, 1978; Pechmann & Ratneshwar, 1994).

Efforts at warning label redesign and PSA campaign activity are most effective as part of a coordinated and targeted integrated marketing communication (IMC) program (Schultz et al., 1992). Such programs are customized to each relevant group (e.g., pregnant women, young adults), attempt to speak with a single voice, and ultimately are focused on affecting behavioral change. For example, an IMC program for pregnant women might make coordinated use of direct mail brochures, circulars available in doctors' offices, and targeted messages in magazines, all in conjunction with the warning label message. Such preventive efforts may help reduce the future

discounting of alcohol warning label information, especially for those who need the information the most.

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