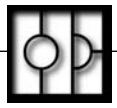

Research Article

Parenting Manuals on Underage Drinking: Differences between Alcohol Industry and Non-Industry Publications

Gordon B. Lindsay, Ray M. Merrill, Adam Owens, and Nathan A. Barleen

ABSTRACT

Background: *There is some debate over the efficacy of alcohol industry parenting manuals.* ***Purpose:*** *This study compares the content and focus of alcohol industry and non-industry "talk to your child about drinking" parenting manuals.* ***Methods:*** *Parenting manuals from Anheuser-Busch and Miller Brewing Company were compared to federal government and private health agency manuals (e.g., the National Council on Alcoholism and Drug Dependence and a joint project by the Department of Health and Human Services and the Ad Council). Independent reviewers read each page from the manuals and coded how frequently alcohol-related problems and potentially sensitive public health perspectives were mentioned. Tabulations were converted in rates of mentions per 1000 words.* ***Results:*** *Although the industry parenting manuals analyzed in this study advised parents to "get the facts," they provided substantially fewer reasons why teens should not drink and showed significantly lower rates of mention for most problems compared to non-industry manuals. They also avoided potentially sensitive public health perspectives on underage drinking, whereas the non-industry manuals devoted considerable attention to these issues.* ***Discussion:*** *This preliminary study suggests that when alcohol companies control the alcohol education agenda, major omissions are made, only selected risks are communicated, and the public health dimensions of the problem are minimized.* ***Translation to Health Education Practice:*** *Health educators should be aware of the vast range of topic coverage and focus available in parenting manuals on underage drinking when considering use of such material.*

BACKGROUND

Underage drinking is associated with an estimated 5,000 deaths among youths in the United States each year.[1] Other related public health problems include unintentional injury, violence, homicide, sexual assault, dropping out of school, and family problems.[2,3] In addition, underage drinking is directly associated with higher rates of subsequent alcohol abuse and dependence.[4]

In 2003, the National Academy of Science produced a report for Congress stating that the most important target audience for underage-drinking interventions is parents rather than adolescents.[5] Other research projects have reached the same conclusion.[6,7] In March 2007, the Department of Health and Human Services published *The Surgeon General's Call to Action to Prevent and Reduce Underage Drinking,* which reinforces the need for greater parent involvement in this issue.

Many public health agencies, private health organizations, and alcohol companies have already developed parenting manuals with the purported aim of reducing underage drinking. Yet, it is important that health educators critically evaluate the content of these materials, which vary in their efficacy. Critics of the alcohol industry argue that its attractive and freely distributed educational materials are created more as a public relations ploy to forestall regulation rather than as genuine efforts to reduce underage drinking.[8] This criticism may be rooted in past educational materials produced by tobacco companies. External analysis of such materials and internal tobacco industry documents has indicated that corporate "educational programs for youth" are mostly created as public relations tools used to prevent tobacco regulation and

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maintain profits.[9] The lack of analysis of such materials disseminated by the alcohol industry is an important gap in the research literature. An investigation of the content of industry-produced materials compared with federal government and private health agency parenting manuals on "talking with your children about alcohol" is warranted—particularly for any social service agency, civic group, church, or other organization looking to develop educational materials on parenting and underage drinking.

The Health Belief Model (HBM) is one of many social cognition models that explain health behavior. It was originally developed to explain medical screening behavior.[10,11] It has been subsequently modified to evaluate a wide variety of health behavior related to diet, exercise, smoking, sexual behavior, screening behavior, and treatment adherence.[12-19] The model has been used to explain parents' behavior on behalf of their children's health.[20-24] Research using a sample drawn from the National Health Interview Survey demonstrates that the HBM was able to explain a significant portion of the variance for the quantity and frequency of alcohol consumption.[25]

One portion of the HBM states that motivation to avoid risk is influenced by (1) personal perceptions regarding the severity of an issue and (2) perceptions of personal vulnerability to risk.[26] When applied to the issue of parental concerns over adolescent drinking, the HBM suggests that the more parents perceive underage drinking as dangerous, and the more they believe their children are vulnerable to alcohol-related risks, the greater their motivation to address this issue with their child. Hence, any effective parenting manual on underage alcohol use should present issues that will increase parents' perceptions of severe consequences for the behavior and provide data that reinforces their perceptions of personal susceptibility to dangers associated with such behavior.

PURPOSE

This study measured two alcohol industry and two non-industry parenting manuals for inclusion of issues that influence parental perceptions regarding the severity of underage drinking and their children's vulnerability to the behavior. Since many public health officials claim that industry publications frame adolescent drinking exclusively as a family and not a public health problem,[2] the study will also determine whether industry-produced manuals avoid issues, terminology, and data that present the public health dimension of underage drinking. Substantial differences between the content of industry and non-industry manuals might support or refute the argument that the industry produces educational campaigns primarily for political/public relations purposes.

METHODS

Content analysis is defined as a "systematic replicable technique for compressing many words of text into fewer content categories based on explicit rules of coding."[27(p42)] Holsti defines it as systematic and objective procedure to ascertain traits of a message.[28] A content analysis was performed on four parenting manuals addressing underage drinking. Two manuals were selected from the alcohol industry and two from outside. The industry manuals were *Family Talk, A Guide for Parents: How to Talk to Your Kids about Drinking* (n=6,568 words) from Anheuser-Busch,[29] and *Let's Keep Talking: A Resource for Parents to Talk with Their Teens about Not Drinking* (n=3,163 words) from Miller Brewing Company.[30] The non-industry manuals were *What Should I Tell My Child about Drinking?* (n=3,819 words) from the National Council on Alcoholism and Drug Dependence (NCADD),[31] and *Start Talking before They Start Drinking: A Family Guide* (n=3,008 words), a joint project by the Department of Health and Human Services and the Ad Council (HHS&AC).[32] The manuals representing the industry were selected because Anheuser-Busch and Miller account for roughly 70% of the U.S. beer market,[33] and because beer is the predominant alcohol beverage of choice for adolescents.[34] The two non-industry manuals were selected because of their similarity to industry manuals in terms of titles, visual layout, and purported objectives. Government-produced manuals designed to help parents discuss both alcohol and illicit drugs were excluded in order to limit analysis to risks specifically related to alcohol use. The manuals were also chosen to include both a government- and private agency–sponsored publication. All manuals were paper documents acquired from the sponsoring organization with the exception of the government publication, which was a printout of an internet document. Each of the manuals addressed general parental issues of spending time with children, communicating, listening, setting rules, and being a good example. However, the content analysis performed in this study was delimited to the motivational aspects related to "risk perception" components of severity and vulnerability as defined in the HBM.

Problems associated with underage drinking were identified using a coding method wherein the selected problems were established *a priori* to reviewing the manuals. These problems were identified from a literature review of the National Research Council Institute of Medicine's report on underage drinking and other related documents.[1-4] Table 1 defines problems associated with adolescent alcohol use, categorizing them into nine groups. The table also presents other expected differences between the manuals, based on observations made after initial reading but prior to formal coding by the reviewers.

The expected differences labeled in the second portion of the table as "potentially sensitive issues" represent topics or language that depicts underage drinking as a public health problem. The inclusion of these items was based on the belief that the industry manuals would avoid (1) using terms or raising issues that implicated alcohol or the industry as causal agents of health and social problems, (2) quantifying the magnitude of the underage-drinking problem, and (3) quantifying the increased risk experienced for underage drinking at a personal level.

Problems related to underage drinking and potentially sensitive public health perspectives were counted based on their mention in sentences, bullets, titles, and section headings. In addition, tabulated men-

Table 1. Issues Associated with Adolescent Alcohol Use: List for Parenting Manual Comparison

Alcohol-Related Problems

- Auto risks and consequences
  DUI, auto accident, loss or suspension of license, insurance issues
- Illegality issues
  Legal consequences of underage drinking, other problems with the law stemming from drinking
- Mental health, suicide
  Depression or suicide due to alcohol use
- Sexual issues
  Sexual activity, unplanned sex, pregnancy, STDs, sexual assault or rape due to alcohol use
- Physical health issues
  Acute alcohol poisoning, chronic disease, drinking during pregnancy, teen brain development, teen body too small for alcohol, alcohol interactions with other drugs, any unspecified health problem or risk
- Injuries, violence, crime
  Vandalism, theft, or any other unspecified crime due to alcohol use (not including DUI, sexual assault,
  or underage drinking), intentional violence including fights, homicide,
  or assault
- Alcoholism
  Alcohol dependence/addiction, alcoholism "Being in Recovery," or earlier use related to dependence
- Gateway drug
  Alcohol use may lead to or is associated with the use of tobacco, marijuana, and other drugs
- School, family, goals
  Lower grades, poor academic performance, increased absences, discipline issues, family relation problems, abandonment of goals/aspirations and/or extracurricular activities, decreased athletic ability

Potentially Sensitive Issues

- Statistics
  Statistics on drinking-related problems and teen drinking (actual numbers, fractions, or percentages), or alcohol compared to other problems. Relative risk statements conveying chances of problems due to alcohol use, including increased risk and association/correlations and population attributable risk
- Use of the word "drug"
  Defining or describing alcohol as a drug; alcohol problems treated at drug treatment centers
- "Beer is as harmful as liquor"
  Any mention that beer is as bad as liquor as far as alcohol content, intoxication, or problems caused
- Media/advertising
  Mention of mass media portrayal of alcohol in commercials, movies, television, print, etc.
- "Disrupts clear thinking"
  Any mention that alcohol disrupts clear thinking, judgment, and decisionmaking or causes loss of control

tions of items were scored in context and did not need to contain specific words. For example, if a sentence stated that "too many teens drink and drive" and the following sentence said that "this puts teens in a situation of high risk," both sentences would be tabulated as a mention about "auto risk and consequences" because the second sentence clearly refers to automobile-related risks.

Four reviewers—consisting of three public health students and a faculty member in health education—were trained by the primary investigator of this study, who defined and illustrated the process of content analysis and presented the content categories (see Table 1). The reviewers were trained to recognize and categorize the selected content items. Older industry and government parenting manuals on underage drinking were used to train the reviewers. Each of the reviewers was presented with a page from the parenting manual and asked to individually read and identify the frequency of content mentions. The reviewers then came together and shared their recorded findings. This process was repeated several times; after the first few rounds, the reviews began to consistently reach consensus on the content assessment. This training phase occurred in one two-hour session.

Reviewers met together and individually read each page of the four selected parenting manuals. At the conclusion of each page, the reviewers scored and compared frequency tabulations for mentions of the items listed in Table 1. In a small number of cases there were differences in the reviewers' scores on the frequency of mentions of selected items. In these cases, the reviewers assessed where differences occurred and reached consensus on a final score.

Tabulations were performed using Excel software. Frequencies were converted to rates per 1,000 words, and rate differences within and between industry and non-industry manuals were calculated. Tests of significance and confidence intervals were based on two-sided hypotheses at the 0.05 level. The z approximation was used for comparing independent rates. Category-specific rates for HHS&AC and NCADD

were either both higher or lower than the category-specific rates for Anheuser-Busch and Miller in all but two categories (mental health/suicide and media/advertising). In order to increase statistical power, the numbers were combined within the industry and non-industry manuals and a comparison was made of the category-specific rates. For the two categories where the rates in the industry manuals were not both higher or lower than those in the non-industry manuals, HHS&AC did not address these topics. Hence, a comparison between industry and non-industry manuals involved a comparison between the NCADD manual with the combined industry manuals. Finally, Poisson regression was used to derive rate ratios of industry to non-industry incidence of mentions for the selected items in order to determine which items best predict the industry versus non-industry manuals.

RESULTS

Rates were significantly higher for industry manuals regarding mention of illegal issues (z=4.2, P<0.001) and auto risks and consequences (z=3.1, P=0.001). Yet, rates were significantly lower for industry manuals regarding other alcohol-related risks (z=-10.3, P=0.001) and for potentially sensitive public health perspectives (z=-8.2, P<0.001). For illegal issues, the rate of mentions in the industry manuals was 3.6 times greater than for non-industry manuals, while the mention of auto risks and consequences was 2.4 times greater. In contrast, the rate of mention of other alcohol-related risks in the non-industry manuals was 5.9 times greater than in the industry publications. Regarding mentions of potentially sensitive issues, the rate in the non-industry manuals was 71.3 times greater than in the industry manuals.

The first three of the four variable groupings presented in Figure 1 are specific problems related to underage alcohol consumption that might motivate parents to intervene on the issue. Over 40% of the mentions involving problems related to underage alcohol consumption in the industry manuals addressed the illegality of underage drinking. In contrast, this percentage was only 7.4 in the non-industry manuals. Similarly, the percentages of alcohol-problem mentions that addressed auto risks and consequences were 38.0% for industry manuals and 10.8% for non-industry manuals. In contrast, the percentage of problem mentions that involved alcohol-related risks such as sexual problems, dependence, violence, crime, physical health, academic performance, and other issues was 21.9% for industry manuals and 81.9% for non-industry manuals.

Poisson regression gave adjusted rate ratios of industry to non-industry of 3.6 (95% CI: 1.9, 6.9) for illegal issues, 2.4 (1.4, 4.1) for auto risks and consequences, 0.2 (0.1, 0.3) for other alcohol-related risks, and 0.01 (0.00, 0.10) for potentially sensitive public health perspectives. Each of these items simultaneously discriminated between items in industry and non-industry manuals.

Rates of mention used in industry and non-industry manuals are presented for the nine categories of problems and the five categories of potentially sensitive issues in Table 2. Rates were significantly higher in

Figure 1. Rate of Mention for Selected Topics in Industry and Non-Industry Parenting Manuals on Underage Drinking

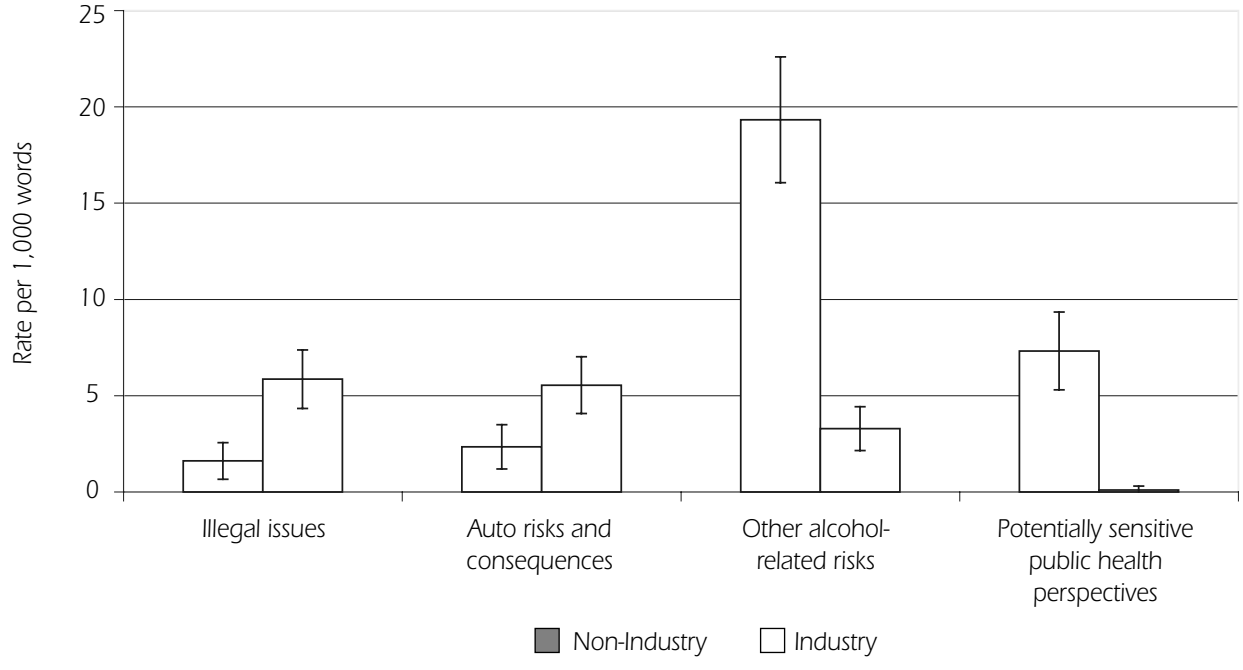

Table 2. Rates of Issues Mentioned in Non-Industry and Industry Manuals

	Non-Industry		Industry				
	No. of mentions	Rate per 1,000 words	No. of mentions	Rate per 1,000 words	Rate Difference	95% CI for RD	
Alcohol-Related Problems							
Auto risks and consequences*	16	2.3	54	5.5	3.2	1.3	5.1
Illegality issues*	11	1.6	57	5.9	4.2	2.5	6.0
Mental health, suicide†	4	0.6	3	0.3	-0.3	-0.9	0.4
Sexual issues*	10	1.5	1	0.1	-1.4	-2.3	-0.4
Physical health issues*	38	5.6	9	0.9	-4.6	-6.5	-2.8
Injuries, violence, crime*	19	2.8	4	0.4	-2.4	-3.7	-1.1
Alcoholism*	32	4.7	7	0.7	-4.0	-5.7	-2.3
Gateway drug*	6	0.9	0	0.0	-0.9	-1.6	-0.2
School, family, goals	12	1.8	7	0.7	-1.0	-2.2	0.1
Potentially Sensitive Issues							
Statistics*	26	3.8	0	0.0	-3.8	-5.3	-2.3
Use of word "drug"*	12	1.8	0	0.0	-1.8	-2.8	-0.8
"Beer is as harmful as liquor"*	5	0.7	0	0.0	-0.7	-1.4	-0.1
Media/advertising*†	7	1.0	1	0.1	-0.9	-1.7	-0.1
"Disrupts clear thinking"*	11	1.6	1	0.1	-1.5	-2.5	-0.5

*Rates significantly different, $p<0.05$, based on the approximated z score.
†The HHS&AC manual did not address mental health, suicide, or media/advertising, whereas the other non-industry manual (NCADD) did. Hence, the comparison of industry and non-industry manuals for these two categories is a comparison of the NCADD manual with the combined industry manuals.

the non-industry manuals compared with the industry manuals for sexuality issues, physical health, non-vehicular injuries, violence and crime, alcoholism, gateway drug effect, statistical data, use of the word "drug," statements that beer is as harmful as liquor, media and advertising issues, and alcohol's disruptive effect on clear thinking.

A Poisson regression model was calculated for the first nine items in the top portion of Table 2. Adjusted rate ratios were significant, discriminating between industry and non-industry manuals for each item except "mental health, suicide"; "gateway drugs"; and "school, family, goals" (data not shown). Another Poisson regression model was calculated for the last five items in the bottom portion of the table. Adjusted rate ratios significantly predicted industry versus non-industry manuals for each item except "Beer is as harmful as liquor" (data not shown).

DISCUSSION

Two major differences were observed between the pairs of parenting manuals. The first was the selection of alcohol-related problems that each pair emphasized or avoided. Industry manuals advise parents to "get the facts," but beyond drinking/driving and illegality issues, they provide parents with far fewer solid reasons why teens should not drink. In contrast, non-industry publications provide longer lists and a significantly higher mention rate of other problems that should concern parents. The second major difference is the industry's avoidance of potentially sensitive topics and quantitative perspectives on underage drinking.

Perhaps the reason the two alcohol company manuals fail to provide parents with a more comprehensive understanding of problems associated with underage alcohol consumption is that the industry fears doing so would create more demand for a public health response. The more the public sees alcohol linked to the issues of violence, unintentional injury, sexual prob-

lems, addiction, and academic failure, the more likely it will be to support public health interventions, which are an anathema to the alcohol industry.

The industry's heavy emphasis on the illegality of teen drinking in the two manuals analyzed could be seen as self-serving. The many reasons for being cautious about drinking, provided in the government and private health agency manuals, still exist even after a person reaches the legal age. Yet, readers of the Anheuser-Busch and Miller manuals could conclude that once one reaches age 21, the biggest reason for not drinking disappears. An adolescent who refrains from drinking because of concerns about alcohol-related risks is less likely to be a future problem drinker than an adolescent whose major motivation for not drinking was a fear of "getting caught by the cops" for underage consumption. Overall, the industry message implies that beer drinking is risky only when it is illegal. In contrast, the non-industry publications communicate that underage drinking is illegal because it is associated with increased risk of accidents, injury, and death.

Industry manuals also convey the impression that if the "drunk driving" problem is solved, all alcohol-related problems will be solved. This narrow focus may facilitate the parental practice of providing in-house, "take-away-the-keys" alcohol parties for minors, since some parents believe that teens will drink anyway and it is safer to have them doing so at a residential location in order to prevent drunk drinking.

Approximately 78% of the mentions in the industry manuals relating to why adolescents should not drink pertain to drinking and driving and the illegality of underage alcohol consumption. In contrast, 82% of non-industry affiliated manuals' mentions of problems pertain to other issues. Perhaps Anheuser-Busch and Miller feel safe focusing on legal issues because these topics are already so well known. However, motor vehicle crashes account for less than 40% of underage drinking-related mortality.[1] It is riskier for these corporations to increase public awareness of the crucial but lesser known etiologic role that underage drinking plays in date rape, violence, future alcohol dependency, academic failure, non-vehicular accidents, and a host of other problems. Greater awareness of alcohol's role in causing such problems would generate demand for public health and environmental interventions that reduce not only teen drinking, but also overall beer consumption and corporate profits.

The difference in mentions of "potentially sensitive issues" was particularly striking—as mentioned previously, their rate of appearance was 71.3 times greater in the non-industry manuals. The non-industry manuals also tended to use language that describes the correlation between alcohol and select problems as well as relative risk calculations that illustrate alcohol's probable etiologic role in causing problems. They provided plausible causal mechanisms for how alcohol increases the identified problems (i.e., mentions of disrupting clear thinking or judgment). Almost nonexistent in the industry publications was a population-based view of the problem as illustrated with total numbers of cases, prevalence rates, relative risk estimates, or population attributable-risks projections. Also lacking in the industry manuals were mentions that beer can be as harmful as liquor, that alcohol is a drug, or that industry marketing practices may influence underage consumption. These omissions reinforce the apparent corporate position that underage drinking is a family problem and stems solely from a lack of responsible choices.

By framing underage drinking as an individual or family issue, the two industry manuals analyzed in this study infer that a child's drinking problem is the parent's fault. Yet, results from a national survey found that nearly 75% of parents believe that alcohol companies fall short in dealing responsibly with the impact their advertising has on young people,[35] even as the industry rejects assertions that its youth-oriented marketing campaigns influence underage consumption.[36] Results from this study support the idea that America's two largest beer companies ignore their role in the problem and avoid topics that would encourage public health interventions as part of the solution.

A corporate spokesperson for Anheuser-Busch recently reaffirmed the corporate position that teen drinking is solved through parental control and not public health interventions.[37] This is the equivalent of arguing that smoking is a family not a public health issue. Clearly it is both. Tobacco-control experts claim the steady decline of smoking in the United States over the past four decades is largely the result of public health interventions.[38] It would be naive to conclude that the 50% decline in smoking rates since 1964 is simply because of "better parenting." It is equally naive to conclude that parental education is the silver-bullet solution to underage alcohol consumption.

Certain limitations of this study bear mentioning. First, while the rationale for selecting the specific manuals was appropriate, these manuals do not necessarily reflect all industry and non-industry publications on the subject. Hence, generalization of the study results to all industry and non-industry publications is inappropriate; this study should be seen as a preliminary analysis. Second, the study was descriptive in nature, with no specific *a priori* hypotheses. However, the study's results are informative and may provide a reference for further investigations of specific differences in emphases and content between industry and non-industry manuals. Third, the results are based on reviewer assessment of the number of mentions for selected items. Unfortunately, it was not feasible to blind the reviewers as to the type of manual they were reviewing, partly because the content and focus often made this obvious, and also because some of the pages reviewed identified the sponsoring body. Nor was it possible to control for the reviewers' previous experiences or predispositions about alcohol. Yet, reviewer bias is unlikely given that the nature of the items identified and counted were straightforward (e.g., either a sentence mentioned or did not mention date rape). In addition, the high level of initial agreement and then consensus on the number of item-specific mentions

per page—as achieved during and after training—further supports the unlikelihood that bias influenced the results.

Future parenting manuals on underage drinking may benefit from a better understanding of the perceived risks that generate the strongest motivation for parents to consult with their children about drinking. Research should explore whether other media, such as the internet or public service announcements, are superior to hard-copy parent education manuals when it comes to preventing underage drinking. Health educators should step up to the challenge of determining how risks are best communicated. Are parents more sensitized to the risk of underage drinking when confronted with total numbers of cases, rates, relative risks, or attributable-risk statements? Finally, it is important to better identify whether parent-based interventions actually do reduce adolescent alcohol consumption.

TRANSLATION TO HEALTH EDUCATION PRACTICE

The reluctance of Anheuser-Busch and Miller to discuss many important and prevalent alcohol-related problems in the parenting manuals stands in sharp contrast to the government and private health organization publications. The two non-industry manuals increase parental risk perception by giving a broader, more in-depth understanding of alcohol-related risks and communicating how alcohol consumption increases those risks. An American Medical Association assessment of previous industry educational materials showed that they promoted two consistent themes: "environmental strategies do not work" and "the individual drinker (or the underage individual with his or her parent) bears the sole responsibility for any problems that occur."[8(p8)] The Anheuser-Busch and Miller manuals examined in this study continued that trend. The content of (and major omissions within) these manuals support allegations that they were developed primarily with political purposes and the company image in mind, rather than looking to solve the problem of underage drinking.

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