### Chapter 1 : Alcohol Ads: Bad Influence or Harmless Marketing? - Drug Rehab Options

However, research clearly indicates that alcohol advertising and marketing also have a significant effect by influencing youth and adult expectations and attitudes, and helping to create an environment that promotes underage drinking.

Updated October 12, Australia Recent research showing children are exposed to thousands of alcohol advertisements during sport broadcasts has raised concerns about the influence of alcohol advertising on youth drinking habits. But the chief executive of the Brewers Association of Australia and New Zealand, Denita Wawn, is not worried about the influence of the advertising on children. There is no or very little causation between alcohol misuse and alcohol advertising, and alcohol misuse includes underage drinking. The chief executive of the Brewers Association, Denita Wawn, says there is no or very little link between alcohol advertising and alcohol misuse, including underage drinking. While more research about the relationship between alcohol advertising and drinking habits is needed, experts say the weight of evidence clearly shows a significant risk attached to advertising exposure and youth drinking. What evidence has been produced on whether exposure to alcohol advertising causes alcohol misuse among the young? ABC Fact Check investigates. They are even in alcohol industry material and websites. The age limits are there for good reason, including both immediate and long term harms," he said. While it would be legitimate to argue that Professor Mike Daube Guidelines to reduce health risks from drinking alcohol published by the National Health and Medical Research Council, a federal government agency, say abstaining from alcohol is the safest option for people under 18 years of age. The guidelines say risky behaviour is more likely among drinkers under the age of 18 than older drinkers, and alcohol may adversely affect brain development and lead to alcohol related problems later in life. Alcohol-related damage to the brain can be responsible for memory problems, an inability to learn, problems with verbal skills, alcohol dependence and depression. She said a randomised controlled trial would be the best way to establish causation. Alcohol advertisements are visible on the grounds of major sporting events. Kypros Kypri from the School of Medicine and Public Health at the University of Newcastle had a similar view, adding it would not be feasible or ethical to expose people to advertising and then see if they drink. Types of studies While it is impossible to conduct a randomised controlled trial, a variety of studies have examined the effect of alcohol advertising on drinking behaviour. A Australian Medical Association report on alcohol marketing and young people examined econometric, cross-sectional and longitudinal studies. The AMA defined econometric studies as examining "the correlation between the amount of advertising in a particular jurisdiction typically in terms of advertising expenditure and the amount of alcohol being consumed typically in terms of sales ". It said cross-sectional studies "take a snapshot of advertising exposure and levels of drinking and discern correlations between the two". Associate Professor David Jernigan Longitudinal research methods "capture data at several points in time, thereby providing a powerful methodological technique for untangling cause and effect," it said. The paper also referred to econometric and cross-sectional studies, and to reviews of long-term studies. She also sent Fact Check the Brewers Association position paper, and said it was the basis of her claim. Alcohol sales The Brewers Association paper said: The AMA report said econometric studies "have generally found that alcohol marketing does contribute to the level of alcohol consumption, but the impact is small and more pronounced for certain types of alcoholic beverages, such as spirits". Carlton United Breweries But it said these studies had inherent methodological weaknesses. They "rest on the assumption that advertising spend accurately reflects advertising effectiveness" and they are "unlikely to measure variations in effect unless there are significant changes in the amount of advertising taking place". The report said econometric studies overlook the duration of advertising effects and variations in the content, execution and media mix used in the advertising. For example, a social media campaign can be very effective, even though it may be cheap to execute. Snapshots of drinking habits Photo: An example of alcohol advertising in motorsport. Mark Evans In relation to cross-sectional studies, the AMA report said that while they have provided "ample evidence" for a

correlation between marketing and consumption, "they do not demonstrate whether this correlation is due to marketing causing consumption, or whether young people who drink or misuse alcohol are more receptive to alcohol marketing". Adjunct Professor Grube wrote that "because of the cross-sectional design of most of the published studies, causal inferences are difficult". He made a similar point to the AMA report: That is, young people who are favourable toward drinking may seek out information about alcohol and thus be more attentive to alcohol advertisements. Systematic reviews Professors Daube and Kypri referred Fact Check to two systematic reviews and an analysis of systematic reviews published in The first was a systematic review published in the BMC Public Health Journal in of seven longitudinal studies that followed up more than 13. people aged 10 to It is certainly plausible that advertising would have an effect on youth consumer behaviour, as has been shown for tobacco and food marketing," the review said. It examined 13 longitudinal studies that followed up over 38, young people around the world. But it seems unlikely, given that this evidence comes from a large range of studies conducted in different countries and over a long period of time. It found "consistent evidence" in the 13 studies to link alcohol advertising with the uptake of drinking and increased alcohol consumption among young people. An analysis of systematic reviews published in medical journal The Lancet in said there was strong evidence that exposure to advertising increases the risk that a person will start to drink earlier and drink more heavily. The Brewers Association paper referred to the first two of these systematic reviews and pointed to a contrasting conclusion in a paper by Jon Nelson, Professor Emeritus of Economics at Pennsylvania State University, that was published in the Contemporary Economic Policy journal in Although this predated the three systematic reviews, the paper said Professor Emeritus Nelson reviewed a body of literature "almost identical" to the research examined in the first two reviews referred to above. He found "the evidence on alcohol advertising on youth is mixed, contradictory and inconclusive". More recent research Associate Professor Jernigan said more recent individual longitudinal studies support the findings of the systematic reviews published in One of these studies was published in in Pediatrics, the official journal of the American Academy of Pediatrics. Is the research conclusive? It said all of the included studies controlled for a variety of variables such as gender, ethnicity, social influences or parenting style, but it was impossible to know if unknown variables influenced the analysis. The systematic review published in Alcohol and Alcoholism said: Alcohol advertisements are ubiquitous at sporting events seen by children, such as the NRL State of Origin series. Channel Nine "It is beyond me how anyone could make those assertions, given the absence of solid evidence to support these claims, let alone the existence of so much by way of literature on the impacts of alcohol advertising, including on children and young people. He said it can be difficult to measure exposure to advertising and "how big a dose each person gets The fact that the longitudinal studies continue to come to similar conclusions strengthens the case for a relationship between youth exposure to alcohol marketing and youth alcohol consumption. The research indicates these links become more pronounced as exposure to advertising increases. Experts contacted by Fact Check said more research is needed to determine the complexities of the relationship between alcohol advertising and drinking habits, but the weight of evidence clearly indicates there is a significant level of risk attached to advertising exposure and youth drinking.

### Chapter 2 : How does alcohol advertising affect young people's drinking?

So, instead of attacking alcohol advertising, which will have a negligible effect, let's focus on the clear causes of underage drinking. The evidence backs up the suggestion that parents can.

The short- and long-term consequences that arise from underage alcohol consumption are astonishing in their range and magnitude, affecting adolescents, the people around them, and society as a whole. Alcohol frequently plays a role in these adverse outcomes and the human tragedies they produce. Among the most prominent adverse consequences of underage alcohol use are those listed below. Annually, about 5, people under age 21 die from alcohol-related injuries involving underage drinking. Plays a significant role in risky sexual behavior, including unwanted, unintended, and unprotected sexual activity, and sex with multiple partners. Can cause a range of physical consequences, from hangovers to death from alcohol poisoning Call to Action, page Creates secondhand effects that can put others at risk. Loud and unruly behavior, property destruction, unintentional injuries, violence, and even death because of underage alcohol use afflict innocent parties. For example, about 45 percent of people who die in crashes involving a drinking driver under the age of 21 are people other than the driver. Early alcohol consumption by some young people will result in an alcohol use disorder-that is, they will meet diagnostic criteria for either alcohol abuse or dependence. Figure 2 shows that the highest prevalence of alcohol dependence is among people ages Call to Action, page 4. Approximately 40 percent of individuals who report drinking before age 15 also describe their behavior and drinking at some point in their lives in ways consistent with a diagnosis for alcohol dependence. This is four times as many as among those who do not drink before age Alcohol consumption by underage college students is commonplace, although it varies from campus to campus and from person to person. Indeed, many college students, as well as some parents and administrators, accept alcohol use as a normal part of student life. Problems among underage military drinkers include: Dahl, "Adolescent brain development: Kenkel, " Social health and economic consequences of underage drinking "in: National Academies Press,, Alcohol, DOT Pub. Miller, "Fatal nontraffic injuries involving alcohol: Winter, et al, "Magnitude of alcohol-related mortality and morbidity among U. Granholm, et al, "Neurocognitive functioning of adolescents: Brown, "Neuropsychological correlates of adolescent substance abuse: Alcohol Problems in Adolescents and Young Adults: Springer, For the typical adult, this pattern corresponds to consuming 5 or more drinks male, or 4 or more drinks female, in about 2 hours. Changing the Culture of Drinking at U. It is used to screen for excessive drinking and alcohol-related problems. Scores between 8 and 15 are indicative of hazardous drinking, scores between 16 and 19 suggest harmful drinking, and scores of 20 or above warrant further diagnostic evaluation for possible alcohol dependence. Guilford, , Donovan, "Adolescent alcohol initiation: Wolfe Street, Baltimore, MD

### Chapter 3: Alcohol Advertising and Promotion - Reducing Underage Drinking - NCBI Bookshelf

Exposure to alcohol advertising can raise familiarity with brands among young people, but whether it has a direct link to the onset of drinking is a more debatable point. Any effects that do occur as a result of exposure to advertising might be indirect rather than direct.

Binge drinking can change the brain in ways that make it more difficult to have self-control and not drink later. And every day, more than 4, American kids aged 15 and younger take their first full drink of this drug. And the problem is not just that this consumption is illegal. Kids who start drinking before age 15 also are five times more likely to become alcoholics or abuse alcohol than are people who wait until adulthood for their first sip. Another big problem for kids who experiment with this drug is that they are more likely than adults are to consume too much alcohol over a short period of time. This is known as binge drinking. What few people realize is that binge drinking poses many risks that go well beyond getting drunk and acting irresponsibly. It appeared in the August 30 issue of Pediatrics. She studies teen alcohol use and helped write the new Pediatrics report. They are looking for new experiences. Teens also drink when many of their friends do. More than one in five kids 12 and younger has consumed alcohol. By high school, two out of three teens has, a new study reports. A drink is one beer, one glass of wine or one shot of hard liquor. For adolescents, it takes less alcohol to constitute a binge. Downing just three drinks in a row is binging for boys 9 to 13 or for any girl under More adults drink alcohol than teens do. But among drinkers, teens are more likely than adults to binge, Siqueira notes. Some 28 to 60 percent of teens who drink report binge drinking, she says. Indeed, 9 out of 10 drinks downed by those under age 21 are in a binge-drinking episode, according to the U. Teens often start drinking because they are curious and experimenting, Siqueira says. Not surprisingly, they can get dangerously drunk very fast. That occurs even though alcohol has a stronger effect in adolescents than it does in adults. The really sad outcome: Teens who binge drink are more likely to become alcoholics, she reports. Binge drinking leads people to get very drunk. Normally, the liver helps remove alcohol from the blood. But when the liver cannot keep up, the alcohol then circulates through the bloodstream and brain while waiting to be removed by the liver. About half of high school seniors have been drunk at least once, according to recent research. Some 10 percent of eighth graders have too. For one, auto accidents. One in every 5 teen drivers involved in fatal car crashes has alcohol in their bloodstream, according to the CDC. More than 80 percent have blood-alcohol levels above the legal limit for adults. Teens can get depressed and injure themselves or hurt someone else. A teen might black out, forgetting what happened when he or she was drunk. Some teens drink so much that alcohol poisoning stops them from breathing. The risks of teen drinking are so high, Siqueira says, that even a single episode may prove to be one too many. Long-term effects on the brain People forget what happens when they are drunk because alcohol makes it harder for the brain to turn short-term memories into long-term ones. A new rodent study finds that alcohol can lead to long-term â€" and harmful â€" changes to the brain. In the new study, scientists gave 10 doses of alcohol to adolescent rats over 16 days. The amounts led to blood-alcohol levels that might model a binge-drinking teen. After these exposures, the rats never tasted alcohol again. Called the hippocampus, this region controls memory and learning. Nerve cells in that part of the brain communicated abnormally, the scientists found. The cells also looked more immature than usual. Branches coming off of nerve cells should look like short mushrooms. Instead, here they looked long and thin. Again, this damage showed up in that part of the brain linked with learning and memory. Her team published it in the June issue of Alcoholism: Clinical and Experimental Research. The white matter allows messages to shuttle quickly, even over relatively long distances in the brain. Alcohol also can hurt a portion of gray matter in a region known as the prefrontal cortex, Faden says. This area is used for attention, concentration, self-control and making decisions. Those kinds of skills work together to create what brain scientists refer to as executive function. Poor executive function makes it harder for individuals to control their behavior. And it makes it more difficult for them to stop doing something that know could hurt them. A

person with poor executive function may be less likely to turn down the chance to drink alcohol or may get behind the wheel of a car when it would be dangerous to drive. As alcohol makes a teen less likely to turn down alcohol, the risk of binging grows. This drinking can create a cycle of inappropriate behavior. Worst of all, this cycle may lead to alcoholism in some teens, Faden notes. The bottom line, she says: It results from an illness triggered by brain changes that occur after using some drugs or engaging in some extremely pleasurable activities. People with an addiction will feel a compelling need to use a drug which can be alcohol, the nicotine in tobacco, a prescription drug or an illegal chemical such as cocaine or heroin, even when the user knows that doing so risks severe health or legal consequences. For instance, even though 35 million Americans try to quit smoking each year, fewer than 15 out of succeed. Most begin smoking again within a week, according to the National Institute on Drug Abuse. Symptoms include confusion, vomiting, seizures, slow or irregular breathing, pale or blue-colored skin, low body temperature and not being able to wake up. At a minimum, this would be five servings by an adult within a single day, usually within a short period of time. For teens, it could take far less alcohol to constitute binging. Executive function requires good working memory to hold several pieces of information in the brain at once. It also includes multi-tasking, prioritizing, reasoning, focus, concentration, goal setting and controlling impulses. It is thought to be the center of emotion, memory and the involuntary nervous system. These specialized cells transmit information to other neurons in the form of electrical signals. Located behind the forehead, it plays a role in making decisions and other complex mental activities, in emotions and in behaviors. It consists mainly of bundles of nerve fibers.

### Chapter 4: Does Alcohol Advertising have an Effect on Youth? - Forums

Recently, exposure to some forms of alcohol advertising has been linked to drinking onset. 28 On the other hand, drinkers like alcohol advertisements more than nondrinkers like the advertisements, 24,26 have greater brain responses to alcohol advertisements, 29 and may remember them better. 25,30 An association between advertising exposure and.

Alcohol advertising on college campuses and Alcohol consumption by youth in the United States In the United States, spirits advertising has self-regulatory bodies that create standards for the ethical advertising of alcohol. The special concern is where advertising is placed. Advertising cannot promote brands based on alcohol content or its effects. Advertising must not encourage irresponsible drinking. Another issue in media placement is whether media vendors will accept alcohol advertising. The decision to accept an individual ad or a category of advertising is always at the discretion of the owner or publisher of a media outlet. Surgeon General Antonia Novello criticized alcoholic beverage companies for "unabashedly targeting teenagers" with "sexual imagery, cartoons, and rock and rap music" in television and print ads. However, this investigation and those of some scholars have not found evidence of such targeting. On Malaysian television, alcohol advertising is not shown before However, non-Malay newspapers and magazines are allowed to continue alcohol advertising. Supermarkets and hypermarkets have also been criticized for advertising alcohol products on trolleys, which is controversial because Islam is the state religion of the country. After the ban of alcohol advertising on Malaysian radio and televisions, they continued to build the brands with sponsorships of concerts and entertainment events. In Singapore, alcohol advertisement is not allowed to be shown during programmes intended for children and young persons and during Malay-language programmes. In the Philippines, alcohol advertising is allowed. Alcohol warning is also shown in the end of the advertisement explaining with the words: In , the warning was changed to "Drink Responsibly". In Thailand, alcohol advertisements are still allowed, but must accompanied by a warning message. See Alcohol advertising in Thailand. In Sri Lanka, public advertising on alcohol is banned totally since Europe edit In Russia, advertising alcohol products is banned from almost all media including television and billboards since January In Sweden, since advertisements are legal for wine and beer, but not on television and radio. Before that alcohol advertisements were forbidden, except for "class 1 beer" or " light beer. In Finland, Parliament of Finland decided to ban alcohol outdoor advertising, except during sport events. This new law is going to take place in January In September, Facebook announced it would allow users to hide all alcohol advertisements. The legislation will take effect November The Portman Group, an association of leading drinks producers in the UK, are responsible for various such campaigns. These include responsible drinking, drink driving and designated drivers, proof of age cards. The Drink Aware campaign, [46] for example, aims to educate people about how to drink sensibly and avoid binge drinking. The web site address is displayed as part of all of the adverts for products made by members of the group. The Century Council, financially supported by a group of alcoholic beverage distillers in the United States, promotes responsible decision-making regarding drinking or non-drinking and works to reduce all forms of irresponsible consumption. Since its founding in, it has invested over million dollars in its programs. Many campaigns by the alcoholic beverage industry that advocate responsible drinking presuppose that drinking for recreational purposes is a positive activity and reinforce this idea as an example of sensible consumption. Persons who believe alcohol can never simultaneously be used "sensibly" and recreationally would obviously disagree with the focus or direction of these campaigns. A controversial anti-drunk driving advertisement in South Africa has threatened the public with rape in prison. The campaign is still underway with no reported complaints to the advertising standards authorities. However, such sponsorship is still common in other areas, such as the United States, although such sponsorship is controversial as children are often a target audience for major professional sports leagues. One major example of this was the Busch Series now known as the Xfinity Series, sponsored by a brand of beer sold by Anheuser-Busch. One team, Petty Enterprises, refuses to participate in alcohol advertising and

forfeits all alcohol monies and bonuses. For distilled spirits, teams must run a responsible drinking sticker clearly visible on the car. For Crown Royal, the television ads feature the car with the slogan "Be a champion, Drink Responsibly" and it acting as a pace car to drivers, warning them of responsibility. None of the three, however, is a full-time sponsor, as they alternate sponsorship with other products unrelated to their firm on the car. Although tobacco companies have been the main source of financial backing in Formula One, some alcohol brands have also been associated with the sport. Anheuser-Busch, being a conglomerate with non-alcoholic properties, complies with the French alcohol advertising ban in Formula One by placing their Busch Entertainment theme park logos mostly SeaWorld where their Budweiser logo would appear on the Williams F1 car at races where alcohol advertising is banned and in Middle Eastern countries, where alcohol advertising is discouraged. Some stadiums, particularly in the U. Diageo are a major sponsor of many sporting events through their various brands. Cricket is a sport with a large amount of alcohol sponsorship. Rugby union also has a substantial amount of alcohol sponsorship. The All Blacks feature Steinlager sponsorship prominently. The Scotland national team has a long-established relationship with The Famous Grouse, a brand of Scotch whisky. Wales has a more recent relationship with the Brains brewery But wear "Brawn" when playing in France, and the Springboks of South Africa agreed for South African Breweries to put the Lion Lager, then, the Castle Lager brand on their shirt until Magners was the title sponsor of the Celtic League, the top competition in Ireland, Scotland and Wales, Guinness is the title sponsor of the Guinness Premiership, the top competition in England, and the beer brand Tooheys New was the Australian sponsor of the Southern Hemisphere Super 14 competition through the season. Bundaberg Rum is one of the sponsors of the Australia national rugby union team.

#### Chapter 5: Alcohol advertising - Wikipedia

11 Alcohol in the Media: Drinking Portrayals, Alcohol Advertising, and Alcohol Consumption Among Youth Joel W. Grube \* W idespread concern exists about the potential effects that media portrayals of drinking, alcohol product placements, and alcohol advertising may have on alcohol consumption and problems among young people.

In the United States, marketing is a crucial part of the alcohol supply chain. According to the Federal Trade Commission FTC, alcohol producers spend two to three times their measured media expenditures in unmeasured promotions such as sponsorships, Internet advertising, point-of-sale materials, product placement, items with brand logos, and other means. Growth in measured alcohol advertising has outstripped inflation by 20 percent since Impact Databank, a; Taylor Nelson Sofres, ; U. Department of Labor, One effect of this marketing is to create high barriers to entry Jain, , which in turn contributes to the concentration of market share in the hands of a small number of companies. These companies face a market that, until recently, essentially had been declining or flat for most of the past two decades. To maintain their markets, alcohol companies must continue to invest heavily in advertising and promotion; to expand the market, they must encourage drinkers to switch brands or increase their consumption, or persuade nondrinkers to begin drinking. Young people are one audience for their efforts. Although the precise effects of this marketing on individuals are difficult to calibrate, it is increasingly ubiquitous, and benefits from technologies that are at the cutting edge of information societies. The regulatory frameworks for alcohol marketing, in contrast, were developed in the first part of the previous century and have changed little in the interim. This chapter will begin with a brief summary of the shape of and trends in the alcohol market in the United States, with particular attention to youth consumption. It will then describe the nature of and trends in alcohol marketing, particularly as these pertain to young people; the structure of the alcohol industry and key players in it; and the shape and effectiveness of regulatory and self-regulatory frameworks within which those players operate. The paper will conclude with a discussion of needs for further developments both in research and in public policies. Per capita alcohol consumption among Americans peaked in It is now 16 percent lower than it was in see Figure, although it has begun to increase again in recent years. Per capita consumption of alcohol has also fallen relative to other consumer beverages: World Health Organization, According to the National Household Survey, fewer than half of Americans age 12 or older are current drinkers had a drink in the past 30 days, and fewer than 5. Of United States drinkers, the heaviest drinking 5 percent those who average 4. More than half of all alcoholic beverages in the United States and 76 percent of beer are consumed at high-risk levels, that is, when drinkers had five or more drinks on a single occasion Rogers and Greenfield, Consumption among young people is even more concentrated in a small group of heavy users. Young people under age 21 account for an estimated 12 percent of the total market U. These binge drinkers consume the vast majority of the alcohol drunk by young people: Department of Justice, The number of new teenage drinkers appears to be increasing. According to the National Household Survey on Drug Abuse NHSDA, between and the latest year for which data are available, the total number of people who began drinking alcohol increased significantly from 3. The majority of those initiates were teens: At the same time, the average age of initiation of alcohol use has generally decreased since National Institute on Drug Abuse, Growing the Alcohol Market: Whereas in earlier eras, alcohol may have been marketed based on the quality, purity, and price of the product, now the identity of the brand is paramount Jernigan, Marketing is what creates brands and brand images. In the past 20 years, viewing alcohol marketing as confined to advertising has become more inaccurate. A total marketing strategy has five steps: Pricing the product so that it is affordable to the target consumer and making it available wherever those consumers may be are important parts of the marketing mix that are beyond the scope of this chapter. Following a brief discussion of market segmentation and targeting, this chapter will focus on the areas of new product development and advertising and promotion. Market segmentation and target marketing are standard business practices that assist in expanding the number of consumers in the

population Kotler, Nonwhites and other lower consuming groups are thus particularly important to the growth of the market Scott et al. Notably, recent research suggests that alcohol availability and advertising, particularly billboard and point-of-purchase advertising, are becoming significantly more prevalent in African-American and Latino communities Altman et al. Women are also a critical area for market growth because prevalence of alcohol use is lower among women for all groups except to year-olds, and heavy use is more common in all age groups among males. Finally, evidence shows that young people are also a target audience for the marketers. This will be discussed in greater detail. Product Development New product development has been a particularly active area in recent years. Of particular interest to the prevention of youth alcohol problems have been several categories with apparent and some demonstrated appeal to youth. Like the wine cooler craze of the s, sales of malternatives at least initially took off rapidly: Wine coolers, alcopops, and malternatives share certain product attributes, resembling soft drinks in their fruity, sweet flavoring and their colorful single-serving sized packaging. Their bright colors, cartoon spokes-characters, and confusing labels have drawn criticism from others in the industry and from government regulators for having youth appeal and for being misleading to consumers Blackwell, ; Bureau of Alcohol Tobacco and Firearms, Their sweet flavorings may also be particularly suited to convincing nondrinkers to drink. Since the late s, a substantial body of studies on rats has found that the use of sweeteners can affect rates of initiation of alcohol use. Sweeteners have been used in laboratory experiments to induce alcohol initiation in rat strains bred both to prefer and not to prefer alcohol see, e. Epidemiological research on underage drinking in the United States has not, for the most part, broken out these drinks as a separate category. Monitoring the Future asks about wine cooler consumption, but only in a subsample of high school seniors. Annual prevalence figures range from The only data available on alcopop consumption is anecdotal, from a national poll conducted in the United States in the spring of The poll found teens and adults in agreement that alcopops were more popular among teens than adults. According to self-reports, teens were three times as likely to be aware of alcopops and nearly twice as likely to have tried them Center for Science in the Public Interest, Research from other western countries may shed some light on the impact of these products on youthful alcohol consumption. Research done on a sample of 1, Canadian teens between the ages of 12 and 18 in, during the heyday of wine coolers, found that wine coolers were the alcoholic beverage of choice in general and for initiation into alcohol use for all teens and more markedly so in the case of the younger teens Goldberg et al. Alcopops were introduced into the United Kingdom in The Welsh Youth Survey, developed in collaboration with the World Health Organization-sponsored Health Behavior in School-aged Children study, was conducted every other year from to The Welsh survey added questions about alcopops consumption to its questionnaire. Results showed that 17 percent of to year-olds in Wales in drank alcopops at least weekly. Many of these appeared to be new drinkers. Researchers found that alcopops consumption matched the entire increase in weekly drinking of alcohol between and among and year-olds, half the increase for and year-olds, and most of the increase for and year-old girls Roberts et al. Swedish surveys have found that alcopops and sweet ciders accounted for more than half the recorded increase in alcohol consumption among and year-old boys between and, and two-thirds of the increase in consumption among girls, at a time when alcohol consumption among Swedish adults remained stable while youth consumption was increasing Romanus, Alcopops and malternatives tend to have an alcohol content of approximately 5 percent, as opposed to 4. This growth in the importance of nonmeasured marketing expenditures and activities is in keeping with a trend among consumer product producers in the United States in general. Corporations as diverse as Nike, Kraft, and Intel have demonstrated to the business world the value of brands, as opposed to manufacturing facilities or processes or other hard assets. According to the United Nations Human Development Report, global advertising spending is now outpacing the growth of the world economy by a third Klein, By the latter year, only 25 percent of total spending went to direct advertising, while 75 percent went to other promotional activities, such as sponsorships, product tie-ins and placements, contests and sweepstakes, and special promotions. The FTC estimate that the costs of non-measured alcohol marketing activities are two to three times the costs of

measured expenses suggests that alcohol companies are not an exception to this trend. Alcohol marketers themselves speak in the language of intimacy and relationships when they describe what they are doing. That whole area carries a set of values that works extremely well across borders quoted in Fleming and Zwiebach, Thus it is not a whisky but a set of values that is being marketed. In Malaysia, this led to a Johnnie Walker-sponsored and branded campaign where consumers were asked to choose their favorite role model from among six major world figures. The list included Martin Luther King, Jr. This example illustrates the new form that marketing is increasingly taking. As described by Canadian journalist Naomi Klein The old paradigm had it that all marketing was selling a product. In the new model, however, the product always takes a back seat to the real product, the brand, and the selling of the brand acquires an extra component that can only be described as spiritual. Advertising is about hawking product. The brand as experience, as lifestyle. As described, these marketing techniques seek to create a unique experience that consumers identify with the product. For many products, including beer, this experience is also quintessentially a youth experience. Across products, the ubiquity of the global mass media has contributed to the emergence of a global mass youth culture, or rather, a set of youth subcultures. The branding is done by combining a commercial trademark with one or another subcultural motif, a subculture the buyer belongs to or wants to join â€! The brand is the price of your admission to this subculture. Successful youth brands not only attach themselves to the subculture, but as Seabrook indicates, position themselves to be among its defining features. Some of the newest alcohol products attach themselves to the all-night clubbing scene. Energy drinks, loaded with caffeine, help young people to stay awake through all-night activities such as clubbing. Premixed energy drinks were a natural successor to the common practice of mixing nonalcoholic energy drinks such as Red Bull with vodka or other distilled spirits. In, a U. Months later, the makers of the hypercaffeinated Jolt Cola in the United States introduced another new category, alcoholic spring water. Finally, the popularity of premixed cocktails such as the Kahlua drinks Mudslide and B prompted Brown-Forman Beverages to introduce Jack Daniels Hard Cola in the summer of, with a Web site that includes online games, music samples, and free downloads. Although the alcoholic beverage industry is not the only industry to develop and employ such marketing strategies, some brewers have been early adopters of these strategies. For example the Internet has become an important channel for alcohol companies. Marketing beer to young people via the Internet made headlines in the United States in, when a media watchdog group charged that 82 percent of beer industry sites were using marketing tactics attractive to youth, such as contests, games, slang, and cartoons Center for Media Education, Little research has been done to date on the impact of such marketing on young people. However, according to Marketing Week, young people are the heaviest Internet users in developed countries Buckley, placements of products in films, television, books, and video games is another way to embed alcoholic beverages in the daily lives of young people. Anheuser-Busch established its own placement firm in , becoming the first company and the first brewery to do so.

### Chapter 6 : Alcohol can rewire the teenage brain | Science News for Students

The claim: The chief executive of the Brewers Association, Denita Wawn, says there is no or very little link between alcohol advertising and alcohol misuse, including underage drinking.

Linked-In Media literacy techniques can help teens view alcohol marketing with a critical eye. These days, advertising is almost everywhere we go â€" on television, in the bus, on the street, and on the Internet. Alcohol advertising is no exception. And, as is the case with most advertising, alcohol advertising makes the product look great! Alcohol ads typically associate a brand with cool, sexy people and a fun activity. Ultimately, these concepts come together to suggest: So what can a parent to do? Use "media literacy" techniques to help your teen view ads critically. From time to time, when your family sits down to watch television, use the occasion as a teachable moment. Pick an ad, and draw out their thoughts by asking questions like: Who created or paid for the ad, and why? What do they want you to do? What techniques are being used to make the scene and the product look attractive? For example, Who are the people in the ad and how do they look? What are they doing, and where? Does the ad try to associate the brand with fun, or sports, or humor? Does the ad suggest that alcohol somehow makes the situation better? How does this ad make you feel? Is this an accident, or did the advertiser intend it? What message is the ad trying to get you to believe? What values and lifestyles are represented by this ad? Does it show anything bad about alcohol? Educators call it learning to read between the lines, and it is relevant to all media messages, both commercial and noncommercial. For this reason, the Federal Trade Commission has long encouraged the alcohol industry to adopt and comply with self-regulatory standards to reduce the extent to which alcohol advertising targets teens, whether by placement or content. Most alcohol advertisers have pledged to comply with one of three voluntary self-regulatory codes designed to limit targeting of teens. Among other provisions, these codes direct that no more than The Federal Trade Commission monitors compliance with these codes formally and informally. It has published the results of three major studies on alcohol advertising and industry self-regulation. The Alcohol Report is the most recent report. You can submit a complaint with: In addition, the Federal Trade Commission collects complaints about potentially deceptive business practices, identity theft, and privacy violations to identify patterns of wrongdoing and determine how best to allocate FTC resources. The FTC does not, however, resolve individual consumer complaints.

### Chapter 7: Alcohol Advertising | Consumer Information

To minimize underage ad exposure, alcohol companies have self-imposed guidelines intended to keep TV ads out of programming with more than a 30 percent underage viewership. As the maturity of popular TV programming increases, adolescents are more easily exposed to "mature" content.

This concern has been reinforced by large-scale surveys of national youth samples that have indicated that many teenagers experiment with alcohol and significant minorities drink on a regular basis. While some signs have emerged that more young people are starting to drink later, by the time they reach their mid teens around one in two consume alcohol at least occasionally. Furthermore, growing numbers of teenage drinkers periodically drink to excess to the point of drunkenness. A number of factors have been identified as underpinning the onset of alcohol consumption among children and adolescents. These include the influences of parents and peer groups. The advertising of alcoholic products has also been identified as having a significant part to play in shaping youth drinking. One view is that it can create a climate in which alcohol consumption is regarded as normal and serves to trigger an interest in alcohol. New Research A multi-faceted enquiry reviewed research literature on the nature and impact of alcohol advertising, analysed alcohol advertising on television and print media in the UK before and after code of practice changes introduced at the start of, analysed point-of-sale display of alcohol, and surveyed a sample of young adults about their alcohol drinking habits and exposure to alcohol advertising. It also conducted a review of alcohol advertising codes of practice within the United Kingdom. Key Findings Advertising Expenditure Effects Evidence from macro-level econometric analyses has been equivocal. While some analyses have indicated statistical links between the amount of expenditure on advertising and subsequent consumption levels, others failed to replicate these findings. When attempting to track relationships between advertising expenditure and volumes of product consumption over time, it has often been difficult to unravel which factor is the causal agent. Advertising Ban Effects Research on the effectiveness of advertising bans has generally found that such restrictions only work when they are either complete or at least comprehensive. Partial bans tend to be ineffective because advertisers react to restrictions upon advertising in one medium by increasing investment in advertising in other media. In the context of alcohol advertising, bans have so far been found to have limited impact upon per capita consumption of alcoholic drinks. Advertising Exposure Effects Exposure to alcohol advertising can raise familiarity with brands among young people, but whether it has a direct link to the onset of drinking is a more debatable point. Any effects that do occur as a result of exposure to advertising might be indirect rather than direct. Exposure to alcohol advertising can cause young people to think about drinking. Alcohol-related thoughts might eventually contribute towards a decision to start drinking. Evidence is less clear-cut on whether exposure to alcohol advertising invariably serves as a direct trigger young people to consume. Since the code of practice changes in , the use of celebrities and themes of drinking and sexual success have virtually disappeared. Humour, though still present, is again more narrowly represented with the use of animation â€" following its known appeal to under-age drinkers â€" have largely disappeared. Only a few potential rule breaches or use of themes that stretched the spirit of revised codes were detected. Other retails outlets tended to have limited displays and promotions that were also situated only at display sites and rarely elsewhere in the store. Floor level product displays for alcoholic beverages were more widely used by supermarkets than other store types. Advertising did not feature at all as a predictor of frequency of drinking. Exposure to cinema advertising was a negative predictor of frequency of getting drunk. This finding implied that regular cinema-goers are less likely to get drunk even though they experience higher levels of exposure to cinema-based alcohol advertising. Respondents who reported higher levels of exposure to television alcohol advertising, however, were more likely to report getting drunk. Reported frequencies of consumption of major brands of cider and alcopop were both significantly predicted by reported exposure to televised alcohol advertising. No significant advertising exposure predictors emerged in respect of reported consumption of the

most advertised brands of beer, wine or spirits. Adherence to Codes of Advertising Practice All alcohol advertisements in the UK must abide by the requirements of the advertising codes of practice published by the Office of Communications for broadcast ads and Advertising Standards Authority for non-broadcast ads. At the beginning of , revised codes of practice for alcohol advertising on television were issued that required advertisers to tighten up even further on the kinds of appeals they are permitted to use in promoting alcohol brands. It was found that both television and print advertisements were found to be largely compliant with the advertising codes of practice in both periods under examination Overall, 40 violations were detected, 25 of which occurred in and 15 in The numbers of violations indicated the number of times a code was breached. rather than the number of advertisements that were found in breach, since certain advertisements contained more than one violation. It emerged that the most commonly violated rule regarded the explicit or subtle link of the advertised brand with the success of a social occasion such as a wedding, Such behaviour included swimming, diving and use of dangerous machinery. Other violated rules included the connection of the advertised brand with daring and aggressive behaviour It also emerged that the majority of violations were found in the Bacardi and Budweiser campaigns followed by Smirnoff and WKD. Alcohol advertising is effectively regulated and advertisers seem mostly to comply with codes of practice. Many psycho-social factors predict alcohol consumption among young people, and advertising is not invariably a key factor. Nonetheless, while advertising may not be the most powerful predictor of overall drinking or drunkenness, more subtle relationships may exist between advertising exposure and consumption of specific categories of alcoholic drink. Although alcopops may be displaying signs of a waning market, cider consumption has grown dramatically. It may be no coincidence that the category of alcoholic drink that has shown the most significant growth in consumption also emerged here as the one for which the most significant link exists between advertising exposure and reported consumption.

### Chapter 8: Alcohol marketing and children - IAS

The promotion of alcohol can be the first influence in an underage viewer's attitude towards drinking, showing the glamorous association, and leading them to begin drinking at a young age. What this advertising does not do is show the negative aspects of drinking, which can lead to drinking at dangerous levels.

Alcohol advertising expenditures, Center for Science in the Public Interest Images in Alcohol Advertising Content analysis suggests that many alcohol advertisements link drinking with valued personal attributes such as sociability, elegance, and physical attractiveness and with desirable outcomes such as success, relaxation, romance, and adventure e. Moreover, young people find some alcohol advertising appealing and are attracted to it. In a recent study Chen and Grube, ; Martin et al. Overall, soft drink advertisements were rated more favorably than beer advertisements. Nonetheless, the young people identified some beer advertisements as being among their favorites in the 20 Figure More than 90 percent of the young people liked this advertisement. Other beer advertisements were also popular, including a Bud Light advertisement featuring a computer-animated mouse 76 percent and a Budweiser advertisement featuring the Clydesdale horses and Dalmatian dogs 84 percent. In general, children and adolescents find alcohol advertising with celebrity endorsers, humor, animation, and popular music to be particularly appealing Atkin and Block,; Chen and Grube, ; Martin et al. Adolescent boys are especially attracted to alcohol advertisements depicting sports Slater et al. In general, adolescents and adults find lifestyle or image-oriented alcohol advertising to be more appealing than alcohol advertisements that promote only product quality Covell, Dion, and Dion, ; Kelly and Edwards, ; Kelly, Slater, and Karan, Image advertising is especially preferred among younger adolescents e. Lifestyle or image-oriented advertising also appears to result in more favorable attitudes toward alcohol brands and products among young people when compared with strictly product-oriented or informational advertising Kelly et al. Does alcohol advertising increase alcohol consumption and problems among youth? This question is addressed here by reviewing the recent research on alcohol advertising and by critically considering the evidence about the effects that exposure to these advertisements may have on alcohol beliefs and attitudes and on the prevalence of drinking and drinking problems among young people. Earlier reviews have concluded that the evidence for the effects of alcohol advertising on drinking beliefs and behaviors is limited at best e. The available research on the effects of alcohol advertising can be grouped into three types of studies: Each of these types of studies will be considered in turn. Experimental Studies Experimental studies investigate the effects that short-term exposure to alcohol advertising under controlled conditions has on drinking beliefs and behaviors. The drinking beliefs or behaviors of this experimental group are then compared to a control group that watches the same program, sees the same collection of advertisements, or reads the same booklet, but without the embedded alcohol advertisements. The results of earlier experimental studies have been mixed with some studies finding no effects e. Apparently only a single recent study has been published that experimentally manipulated exposure to alcohol advertising Lipsitz, Brake, Vincent, and This study was intended to investigate the effects of television beer advertising on alcohol expectancies among young people who were not yet regular drinkers. Groups of fifth and eighth graders were exposed to videotapes containing five beer commercials, the same five beer commercials plus two antidrinking public service advertisements, or five soft drink commercials. Results of a memory task indicated that the children paid attention to the advertisements and remembered seeing the beer and soft drink commercials. Despite the attention given to the advertisements, however, neither exposure to the beer advertisements alone nor to the beer advertisements in combination with the antidrinking PSAs affected scores on the alcohol expectancy scales. The results of these experimental studies offer only very limited evidence that alcohol advertising promotes more favorable drinking beliefs or increases consumption. Laboratory studies of alcohol advertising effects, however, can be criticized on at least four grounds cf. Atkin, ; Grube, ; Lastovicka, ; Thorson, First, although laboratory experimental studies can control for extraneous factors and allow for

strong causal inferences, they often lack realism. In the typical study, respondents will be exposed to alcohol advertising in an artificial setting e. Second, it has been noted that advertisers target specific audiences with particular advertisements Thorson, If the stimulus advertisements do not contain images, themes, or music that appeal to the participants in a specific study, then it is unlikely that any effects will be observed. Third, laboratory experiments on the effects of alcohol advertising can only address the effects of short-term exposure to a limited number of advertisements. The relevance of such studies for understanding the cumulative effects of exposure to hundreds or thousands of alcohol advertisements over many years is questionable. Laboratory studies may be more appropriate for studying short-term disinhibitory or priming effects than ascertaining if advertising has long-term effects on beliefs or behaviors. That is, this research paradigm may be most relevant to understanding if exposure to alcohol advertising elicits immediate and short-term increases in consumption among those already favorably predisposed to drinking e. Fourth, it may be naive to expect alcohol advertising experiments, as typically implemented, to produce significant effects on beliefs or behaviors. In particular, it seems unlikely that exposure to a handful of alcohol advertisements in a laboratory setting could produce a measurable effect against the high background rates of such advertising to which respondents are already exposed in their everyday lives. Ecological Studies Generally, ecological or econometric studies have focused on the relationship between alcohol industry advertising expenditures and aggregated e. A few studies have investigated the effects of alcohol advertising restrictions or bans. Advertising Expenditures In a recent study Saffer, , the relationship between variations in local television, radio, and outdoor alcohol advertising and motor vehicle fatalities was investigated using data for the years to in the top 75 media markets in the United States. Alcohol advertising was represented as the sum of expenditures over media types television, radio, outdoor weighted for relative media impact based on the estimated number of people exposed to each. Alcohol advertising was found to be significantly related to total and nighttime vehicle fatalities, although the effects appeared to be greater for older than for younger to year-old drivers. The effect of variations in the cost of advertising on motor vehicle fatalities was also investigated in separate analyses. The cost of advertising was found to be negatively related to motor vehicle fatalities, presumably because higher costs reduce the amount of advertising and thus consumption. This study has a number of strengths and offers the strongest ecological evidence that alcohol advertising might influence drinking problems. The investigation of local variations in advertising and including a consideration of different media types are important innovations that have not been duplicated in other ecological studies. They are important because the lack of variation in advertising expenditures when aggregated across media at the national level may make it difficult to detect advertising effects e. Nonetheless, making causal inferences based on this study is problematic. Even though important background and demographic variables were controlled, the possibility that the relationship between alcohol advertising and motor vehicle fatalities is spurious and results from some third variable such as differences in regional drinking norms cannot be entirely discounted. The remaining recent ecological studies of alcohol advertising expenditures have generally produced null findings regarding the effects of advertising on overall consumption and problems. Thus, for example, using annual data from the United States from to, Nelson and Moran investigated the effects of real advertising expenditures for beer, wine, and spirits on consumption of these beverages. Although the results varied somewhat among estimation procedures, none of the same beverage advertising coefficients were significant for beer or spirits. The same-beverage coefficients for wine, however, were significant and positive. That is, wine advertising was related to increased wine consumption. All of the advertising effects, however, were quite small. Moreover, wine advertising decreased spirits consumption while spirits advertising decreased wine consumption. Alcohol advertising expenditures were unrelated to total alcohol consumption once income, price, age structure, and advertising for all other goods were controlled. Overall, these results were interpreted as indicating that alcohol advertising does not increase total consumption, but rather reallocates market shares among brands and beverages. Similar conclusions were reached in a study of the effects of brand-level advertising on spirits consumption in the United States from to Gius, Specifically, it

was found that brand advertising was positively related to own-brand consumption for spirits, whereas rival brand advertising was not significantly related to own-brand consumption. This pattern was interpreted as indicating that alcohol advertising does not change overall consumption of spirits, but rather leads simply to a reallocation of market shares. The effects of advertising on alcohol consumption and on spirits consumption also have been investigated using national data from the United States for the years through Goel and Morey, That is, advertising appeared to decrease consumption. These effects were interpreted by the authors as indicating that alcohol advertising leads to a redistribution of market shares without increasing overall demand. One further possibility is that the alcohol manufacturers may increase advertising when demand begins to decrease. That is, advertising may be a function of sales as well as sales being a function of advertising cf. Saffer, , , Beer, wine, and spirits advertising were investigated using quarterly data from to for the United Kingdom Duffy, This study did not consider cross-beverage advertising effects, but did allow for the possibility that changes in advertising do not immediately affect consumption, but rather may have lagged or delayed effects. Advertising was represented in this study by quarterly per capita expenditures on television, radio, and press. Alcohol consumption was measured by quarterly consumer expenditures on beer, wine, and spirits. The effects for wine and spirits advertising were occasionally positive and significant in some models, but were small and most often nonsignificant. The advertising effects for beer advertising were not significant and positive in any of the models, although a small negative effect was found in one model. When the most stable and best predictive model was considered, one advertising coefficient for spirits was significant and positive, but small. Although this study has many strengths, aggregating advertising across media types and the lack of consistency among the models raise some issues. Fisher and Cook, using U. Considering the cross-sectional analyses first, they found that expenditures on magazine advertising were associated with increased spirits consumption. This finding is consistent with the fact that spirits advertising in the U. They also found that total wine and spirits advertising across all media increased wine, spirits, beer, and total consumption. Interestingly, total beer advertising decreased spirits consumption, as would be expected if market shares were being shifted. Overall, the authors concluded that these findings provided some support for the effects of advertising on consumption, and in some cases the observed advertising effects were substantial. When models of change, rather than static models, were considered, no evidence that changes in advertising expenditures were related to changes in consumption was found. Spirits advertising, however, was found to decrease wine market share. The findings of this study provide little or no evidence that changes in alcohol advertising increase overall alcohol consumption, although it may realign market shares. Other recent ecological studies reach similar conclusions. Thus Coulson, Moran, and Nelson report a series of analyses using quarterly advertising expenditures, taking into account the relative audience reach of different media types. Some significant effects of alcohol advertising were found, although they were quite small. Thus, spirits advertising had a positive effect on spirits consumption one quarter 3 months later, and a contemporaneous positive effect on wine consumption. Wine advertising, however, had a negative effect on spirits consumption after one quarter and a positive contemporaneous effect on wine consumption. It was concluded that the effects of alcohol advertising on overall consumption were negligible. Although the results were unstable and varied considerably depending on model specification, they suggested that spirits consumption was positively related to advertising expenditures, whereas beer and wine consumption were negatively related to advertising expenditures. On the basis of similar data for the United Kingdom and United States, respectively, Duffy and Nelson conclude that a percent increase in alcohol advertising would result in a 1 percent increase in total consumption. Advertising Restrictions In addition to considering alcohol advertising expenditures, some ecological studies have attempted to ascertain if restrictions on alcohol advertising have a discernible effect on drinking and drinking problems. Early studies in this area concluded that advertising restrictions have little, if any, overall effect on increasing consumption. Thus, for example, a study of state-level alcohol control laws in the United States Ornstein and Hanssens, indicated that allowing outdoor billboard advertising was actually related to decreased spirits consumption and had no effect on beer consumption. However, allowing price

advertising, especially on billboards, significantly increased both spirits and beer consumption.

### Chapter 9: How alcohol advertising impacts underage drinking - CNN

A new study finds the more exposure to alcohol ads, the greater the amount of alcohol kids consumed. A new study finds the more exposure to alcohol ads, the greater the amount of alcohol kids.

Sample sizes per wave were , , , and Data on alcohol advertising expenditures on television, radio, billboards, and newspapers were collected. Examining only youth younger than the legal drinking age of 21 years, alcohol advertisement exposure and expenditures still related to drinking. Youth in markets with more alcohol advertisements showed increases in drinking levels into their late 20s, but drinking plateaued in the early 20s for youth in markets with fewer advertisements. Control variables included age, gender, ethnicity, high school or college enrollment, and alcohol sales. The causes of alcohol use among youth, including older children, adolescents, and young adults, are a major public health concern. Drinking among youth can result in a panoply of negative consequences, including poor grades, risky sex, alcohol addiction, and car crashes. The alcohol industry is not subject to federal restrictions on their advertising practices but has voluntary advertising codes created by the major alcohol trade groups. In , the US Congress asked the National Institutes of Health for more scientific evidence on the relationship between advertising and alcohol use among those younger than the legal drinking age. Recently, exposure to some forms of alcohol advertising has been linked to drinking onset. It is also possible that advertisements induce drinkers to drink more. Another approach to research on alcohol advertising has shown that bans lead to a reduction in aggregate alcohol consumption, 31, 32 but it is unknown how bans would affect youth. We examined a national cohort of youth longitudinally to assess the effects of alcohol advertising on drinking amounts over time. The first hypothesis was that youth who reported greater exposure to alcohol advertising would have increased alcohol use over time. The second hypothesis concerned the effect of living in an environment with comparatively greater or fewer alcohol advertisements. By examining market-level measures of advertising expenditures per capita, we avoid the potential self-reporting bias among drinkers. We predicted that greater alcohol advertising expenditures per capita are correlated with greater youth drinking. Methods A random sample of youth aged 15 to 26 years from 24 US Nielsen media markets were interviewed 4 times during 21 months. Interviews were conducted in April through July, December through January, May through June, and December through January, using computer-aided telephone interviewing. Sampling Twenty-four media markets were sampled to enable comparisons of advertising incidence across markets. To select markets, we conducted a cluster analysis in each of 6 US census geographic regions based on population size; population ethnic and religious composition; average income; annual state consumption of beer, wine, and liquor; state laws prohibiting sales of beer and liquor for off-premise consumption from restaurants, bars, grocery stores, gas stations, or drugstores; and percentage of households with cable television. Priority was given to markets with industry data on radio and billboard advertising, but otherwise selection was random. The selected 24 markets in the aggregate were not statistically different from the markets not selected on any of the measured criteria. Households within markets were systematically sampled from a list of randomly selected households with telephones in the selected markets. The mobility of the to year-old segment of the population contributed greatly to sample attrition. Compared with youth who remained in the sample, youth who dropped out by the fourth interview were slightly older Having greater attrition among drinkers is similar to other longitudinal youth alcohol use studies. The data were weighted at baseline by age, gender, and market to reflect the US population aged 15 to 26 years in the top 75 media markets. Weighting to a known population distribution adjusts for sampling fluctuations, nonresponse, and noncoverage. The study received approval from the University of Connecticut institutional review board. Study participants and the parents of study participants younger than 18 years gave their oral consent before the baseline interview. Outcome measure Respondents were asked 3 questions about alcohol use: Alcohol use was computed by multiplying drinking frequency by the mean of the average and maximum quantity of drinking. Thus, the measure estimated the number of

alcoholic drinks consumed in the past month. Advertising measures Advertising exposure was measured using 2 questions that assessed self-reported beer or liquor and premixed drink eg, Smirnoff Ice advertising exposure in the past month on each of 4 media television, radio, magazines, and billboards for a total of 8 items. The 8 items were summed to make an index. Ten was the modal response for the continuous response format for answers of 7 or greater. Market alcohol advertising expenditures per capita Industry data on the amount spent on alcohol advertisements in thousands on television, radio, newspaper, and outdoors mostly billboards in each market in and were purchased from TNS Media Intelligence formerly, Competitive Media Reporting. Other measures Data collection took place for several months for each wave. Time of the interview per individual and per wave was measured as the number of months past the start of the study April that the interview took place. Thus, for someone interviewed in December, the time was 8 months. Alcohol sales per capita The total number of beer, wine, and liquor cases in hundreds sold per adults in each state in was purchased from an industry source. In addition, adults who consume more on average may have an influence on youth drinking through tolerant attitudes and modeling. It is estimated that four fifths of all alcoholic beverages are consumed by adults. Other demographic variables included the dummy variables of female, gender, current school status in high school, in college, or not in school, and ethnicity African American, Hispanic, or neither. Statistical analysis We used multilevel modeling to handle the complex sample and repeated-measures design. The software used was HLM 6. We modeled growth in drinking over time by including month of interview in the model at level 1. The model examined the impact on alcohol use of alcohol advertising at the 3 levels: We added an interaction term between time and age and market advertising expenditures to test for differential growth in drinking over time by differences in market advertising expenditures and as youth age. The model controlled for several potential confounders, including gender, age, ethnicity, and school status, all of which are known to vary with alcohol use. Another potential confounder, alcohol sales per capita, was entered at level 3. Alcohol sales, market advertising expenditures, time, and age were centered around the grand mean to aid in interpretation of the coefficients. Centering is particularly useful when dealing with interaction terms. Among the level 1 variables, the intercept and time were allowed to randomly vary. If more than 2 factors were treated as randomly varying, the model would not converge. The model tested was as follows: The analysis was repeated for the subset of the sample younger than 21 years because of the importance of underage drinking. The sample sizes were at level 1, at level 2, and 24 at level 3. The intercept was the only random factor among the level 1 variables. The results show the unit-specific models and the event rate ratios. The event rate ratio, which for a Poisson model is the exponential of a coefficient, can be interpreted as the percentage change in the dependent variable associated with an increase of 1 unit in the independent variable, holding other factors constant. Drinkers younger than 21 years had 29 drinks on average at baseline, with 4. Individuals reported seeing an average of There was an interaction effect between time and age and market advertising expenditures. In markets with high levels of advertising expenditures per capita, growth in drinking over time is steepest among older youth, reaching close to 50 drinks a month for year-olds Figure 1. In markets with low levels of advertising expenditures per capita, the initial drinking rates were lower than in markets with high levels of advertising expenditures per capita Figure 2. Younger age groups show an increase in drinking over time but at a slower rate than peers in markets with high levels of advertising expenditures per capita. Around the age of 22 years, growth flattens out, with little increase in drinking over time. Above age 23 years, drinking declines over time in the markets with low levels of advertising expenditures per capita, declining most steeply in older age groups. The figures depict growth curves, assuming mean levels of continuous factors and zero values for dummy variables, including male, not in school, not black, and not Hispanic. Alcohol use over time by age in markets with high alcohol advertising expenditures per capita. View Large Download Alcohol use over time by age in markets with low alcohol advertising expenditures per capita. To better illustrate the effects of the main variables of interest, Figure 3 depicts the relationship among alcohol use, mean levels of advertising exposure, advertising expenditures per capita, and gender. We held constant the other factors in the model; therefore, the figure shows predicted

drinking levels for a year-old who is not currently a student, neither African American nor Hispanic, and living in a market with an average amount of alcohol sales per capita measured at the mean date of the study and who reported, in the prior month, exposure to his or her average number of advertisements. The results indicate that a year-old man who saw few alcohol advertisements 5 and lived in a market with minimal alcohol advertising expenditures per capita was predicted to have 9 alcoholic drinks in the past month compared with 16 drinks if he saw many advertisements A man with the same profile but living in a market with the highest advertising spending per capita was predicted to have 15 drinks if he reported little advertising exposure and 26 drinks if he saw many advertisements. View Large Download Alcohol use by mean advertising exposure, market advertising expenditures per capita, and gender. We tested the same hierarchical linear model for the subset of the sample younger than the legal drinking age. The results were similar to those for the sample as a whole. Drinking was greater among underage youth who reported higher mean levels of alcohol advertising exposure Table 3. Drinking levels were higher among underage youth living in markets with greater per capita advertising expenditures event rate ratio, 1. A 3-way interaction effect still occurred among time, age, and market advertising expenditures, following similar growth curves to those in Figure 1 and Figure 2. Youth younger than the legal drinking age displayed a similar pattern of advertising effects as the entire age range, which is important because there is often a greater policy interest in protecting underage youth from harmful communications than in protecting youth older than 21 years. Greater alcohol advertising expenditures in a market were related to both greater levels of youth drinking and steeper increases in drinking over time. Youth who lived in markets with more alcohol advertising drank more, increased their drinking levels more over time, and continued to increase drinking levels into their late 20s. Youth who lived in markets with less alcohol advertising drank less and showed a pattern of increasing their drinking modestly until their early 20s, when their drinking levels started to decline. The results are consistent with findings from studies of advertising bans 31, 32 and extend them by linking alcohol advertising expenditures per capita directly with individual youth behavior. The effect of market advertising spending on youth drinking was not attributable to differences in alcohol sales, which was controlled for statistically in the model. The results are consistent with theories of cumulative effects of media exposure. Youth reporting greater amounts of exposure to alcohol advertising over the long term drank more than youth who saw fewer ads. Alcohol consumption was less sensitive to short-term differences in alcohol advertising exposure than to the long-term effects of exposure. Given that there was an impact on drinking using an objective measure of advertising expenditures, the results are inconsistent with the hypothesis that a correlation between advertising exposure and drinking could be caused entirely by selective attention on the part of drinkers. The results also contradict claims that advertising is unrelated to youth drinking amounts: Alcohol advertising was a contributing factor to youth drinking quantities over time. The strength of the study was the relatively large national sample, the use of an objective measure of advertising expenditures to complement the subjective measure of advertising exposure, and the matching of expenditure data with individual behavior. The study was limited by the industry data used to measure advertising exposure, which largely reflects the most expensive medium for advertisingâ€"television. During this period, data on outdoor advertising was spotty and may have been incomplete in some markets. It is also possible that using a measure of likely advertising exposures such as gross rating points would increase effects.