



Published in final edited form as:

Addict Res Theory. 2016 ; 24(1): 32–39. doi:10.3109/16066359.2015.1051039.

Brands matter: Major findings from the Alcohol Brand Research Among Underage Drinkers (ABRAND) project

Sarah P. Roberts^a, Michael B. Siegel^a, William DeJong^a, Craig S. Ross^b, Timothy Naimi^c, Alison Albers^a, Margie Skeer^d, David L. Rosenbloom^e, and David H. Jernigan^f

^aBoston University School of Public Health, Department of Community Health Sciences, 801 Massachusetts Ave., Boston MA 02118

^bFiorente Media, Boston, MA 02111

^cBoston University Schools of Medicine and Public Health, Department of Community Health Sciences and Section of General Internal Medicine, 801 Massachusetts Ave., Boston MA 02118

^dTufts University School of Medicine, 136 Harrison Avenue, Boston MA 02111

^eBoston University School of Public Health, Department of Health Policy and Management, 715 Albany Street, Boston MA 02118

^fDepartment of Health, Behavior, and Society and Center on Alcohol Marketing and Youth, Johns Hopkins Bloomberg School of Public Health, Baltimore, MD, 21205

Abstract

Background—Alcohol research focused on underage drinkers has not comprehensively assessed the landscape of brand-level drinking behaviors among youth. This information is needed to profile youth alcohol use accurately, explore its antecedents, and develop appropriate interventions.

Methods—We collected national data on the alcohol brand-level consumption of underage drinkers in the United States and then examined the association between those preferences and several factors including youth exposure to brand-specific alcohol advertising, corporate sponsorships, popular music lyrics, and social networking sites, and alcohol pricing. This paper summarizes our findings, plus the results of other published studies on alcohol branding and youth drinking.

Results—Our findings revealed several interesting facts regarding youth drinking. For example, we found that: 1) youth are not drinking the cheapest alcohol brands; 2) youth brand preferences differ from those of adult drinkers; 3) underage drinkers are not opportunistic in their alcohol consumption, but instead consume a very specific set of brands; 4) the brands that youth are heavily exposed to in magazines and television advertising correspond to the brands they most often report consuming; and 5) youth consume more of the alcohol brands to whose advertising they are most heavily exposed.

Corresponding Author: Ms. Sarah P. Roberts, MPH. Phone: 802-338-1708; sarah.phoebe.roberts@gmail.com.

Declaration of Interest: The authors report no conflicts of interest.

Conclusion—The findings presented here suggests that brand-level alcohol research will provide important insight into youth drinking behaviors, the factors that contribute to youth alcohol consumption, and potential avenues for effective public health surveillance and programming.

Keywords

Alcohol; Underage drinking; Brands; Marketing; Adolescents

Introduction

Epidemiological studies have consistently demonstrated that youth drinking is an important predictor of negative social, developmental, and behavioral health effects (Swahn, Simon, Hammig, & Guerrero, 2004; Hingson, Heeren, & Winter, 2006; Gil & Molina, 2007; The Lancet, 2008; Committee on Substance Abuse, 2010; Kim, Asrani, Shah, Kim, & Schneekloth, 2012; Rehm et al., 2014). Recent survey data indicate that despite declining trends in overall past-month drinking prevalence, roughly 70% of U.S. high school seniors have ever consumed alcohol, while about 25% of American youth ages 12–20 have done so in the past 30 days (Johnston, O’Malley, Bachman, & Schulenberg, 2011; Chen, Yi, & Faden, 2013; Substance Abuse and Mental Health Services Administration, 2013; Center on Alcohol Marketing and Youth, 2014).

Substantial research has been conducted to identify the causes of youth drinking, with numerous studies focused on the potential influence of exposure to alcohol advertising on youth drinking intentions and behaviors. The findings have been mixed. While some studies have shown a strong association between advertising exposure and subsequent alcohol consumption (Ellickson, Collins, Hambarsoomians, & McCaffrey, 2005; Anderson, de Bruijn, Angus, Gordon, & Hastings, 2009; Smith & Foxcroft, 2009), other research has found only weak, partial evidence or no significant relationship at all (Franke & Wilcox, 1987; Smart, 1988; B. Lee & Tremblay, 1992; Edward, Moran, & Nelson, 2001; Bonnie et al., 2004; Nelson, 2011). One potential flaw of these studies is that they typically describe the relationship between youth exposure to alcohol marketing and alcohol consumption at either the aggregate level (e.g., using data on per capita alcohol consumption or alcohol sales) or the beverage category level (e.g., using self-reported beer, wine, and spirits consumption).

Since alcohol advertising, pricing, and consumption occur at the brand level, assessing the impact of alcohol marketing on adolescents using global rather than brand-specific variables could be masking any true effect of advertising on youth alcohol behavior. Presently, to the best of our knowledge, there are no comprehensive data on youth drinking available at the level of specific brands. It is important to eliminate this information gap first and foremost because considerable evidence indicates that alcohol brands are marketed to youth and that this marketing is engineered to build brand capital—that is, the positive, compelling characteristics that consumers associate with a particular brand—by way of carefully-designed advertising content (Saffer, 2002; Collins, Ellickson, McCaffrey, & Hambarsoomians, 2005; Hastings, Anderson, Cooke, & Gordon, 2005; Kessler, 2005; Saffer

& Dave, 2006; Henriksen, Feighery, Schleicher, & Fortmann, 2008; Ross, Ostroff, & Jernigan, 2014). Second, research on adolescents' cigarette brand preferences and their exposure to youth-oriented marketing was instrumental to the development of stricter advertising regulations intended to protect youth. This line of work suggests that brand-level alcohol research is not only relevant but may indeed be one of the keys to reducing alcohol-related use among youth drinkers (Pucci & Siegel, 1999; King & Siegel, 2001; Cummings, Morley, Horan, Steger, & Leavell, 2002; R. Lee, Taylor, & McGetrick, 2004; Hafez, 2005; Krugman, Quinn, Sung, & Morrison, 2005; Ibrahim, 2010).

Consider the case of Camel brand cigarettes, manufactured by R. J. Reynolds. Introduced in the late 1980s, the brand's Joe Camel ("Smooth Character") marketing campaign was heavily criticized for using cartoon illustrations that public health advocates argued were appealing to youth (Cohen, 2000; Fischer, Schwartz, Richards, Goldstein, & Rojas, 1991; Pierce et al., 1991; Pierce, Gilpin, & Choi, 1999). Due to concerns about Camel's marketing strategy, several research studies examined the relationship between tobacco brand advertising and youth cigarette use. These studies demonstrated that the Joe Camel logo was highly recognizable, even to very young children (Fischer et al., 1991; Pierce et al., 1991); that the Camel brand was one of the most popular cigarette brands among youth (Centers for Disease Control and Prevention (CDC), 1994; Pierce et al., 1991; Pucci & Siegel, 1999); and that youth initiation of Camel cigarette smoking directly mirrored the timing of the Joe Camel campaign's ten-year run from 1988 to 1998 (Pierce et al., 1999).

This body of evidence played a role in convincing the United States Department of Justice—in a civil litigation process that began in 1999 and lasted until the trial decision was issued in 2006—that tobacco companies had violated the Racketeer Influenced and Corrupt Organizations Act (RICO) (Judge Gladys Kessler, 2006; United States Department of Justice, 2014). In conjunction with more recent litigation, notably the 2009 Family Smoking Prevention and Tobacco Control Act (Rep. Henry A. Waxman, 2009), these successful lawsuits led to the U.S. Government being granted greater control over the regulation of tobacco and other nicotine-containing products, including their marketing. Were it not for the brand-level research conducted on youth smoking, these regulations might not exist.

While the field of tobacco control can draw upon data on brand-specific youth smoking data going back to 1989, little comparable information exists on brand-specific alcohol use among youth. To address this gap, our study team launched the Alcohol Brand Research Among Underage Drinkers (ABRAND) project to collect national data on the alcohol brand-level consumption of underage drinkers in the U.S. and then examine the association between those preferences and several factors including youth exposure to brand-specific alcohol advertising, corporate sponsorships, popular music lyrics, and social networking sites, and alcohol pricing. This paper summarizes our major findings, plus the results of other published studies on alcohol branding and youth drinking. Please note that the legal drinking age in the U.S. is 21, and while the minimum legal drinking age varies internationally, we believe the findings discussed in this article are relevant to any public health professional interested in reducing the harms related to adolescent alcohol use.

Methods

To date, this four-year project has generated a total of 23 manuscripts that are published or currently in press. Summaries of each paper may be viewed at www.youthalcoholbrands.com. Our team's research (the ABRAND project) can be categorized into four major topic areas: 1) surveillance and epidemiology; 2) pricing and purchasing expenditures; 3) social and popular media; and 4) advertising and marketing. Although categories three and four both relate to media depictions of alcohol brands, here the term "social and popular media" refers specifically to our team's analysis of U.S. music lyrics and U.S. and international Facebook page content. In contrast, category four (advertising and marketing) refers to paid, brand-sponsored television and magazine advertising and marketing.

Surveillance and Epidemiology

From December 2011 through May 2013, we surveyed a national sample of 1032 underage drinkers in the United States between the ages of 13 and 20 using a pre-recruited Internet panel maintained by Knowledge Networks, Inc. Each respondent had consumed at least one alcoholic drink in the past 30 days. The online, self-administered survey assessed respondents' overall and brand-specific alcohol consumption during that time period, based on a comprehensive list of 898 brands compiled by our team. Additionally, respondents answered questions regarding risky alcohol-related behavior (such as heavy episodic drinking, fights, and injuries), the source of their most recently consumed alcohol (parents, an underage friend, a liquor store, etc.), and their role in selecting the brand of their most recent drink.

Pricing and Purchasing Expenditures

Our team assembled data on alcohol brand prices and purchasing expenditures in both control and license states through a number of strategies, but primarily by reviewing brand-specific prices and other beverage characteristics that U.S.-based alcohol vendors posted online in 2011.

Social and Popular Media

We collected social and popular media data from a number of different sources. For our analysis of alcohol brand mentions in music lyrics, we searched Billboard Magazine's year-end charts from 2009 to 2011 to identify the most popular songs in four genres: Urban, Pop, Country, and Rock. Our research on Facebook involved systematically reviewing brand-specific, company-sponsored pages for content potentially viewable by underage drinkers.

Advertising and Marketing

We used data obtained from Nielsen Monitor-Plus (New York, NY) and Kantar Media (New York, NY) to identify the brand-specific advertising that appeared in the full-run, national editions of 124 magazines published in the U.S. in 2011. Next, through a licensing agreement with GfK MRI (Growth from Knowledge, Mediamark Research & Intelligence, New York, NY), we acquired data on the demographics of each magazine's readership. With this information, we could determine the extent to which underage youth were exposed

to magazine advertising for each alcohol brand, which we then related to the brand-specific consumption levels reported by our youth survey respondents.

To examine youth exposure to alcohol advertising on television, our survey asked respondents to indicate which of 20 television programs they had viewed in the past 30 days. For each survey respondent, we calculated a standard measure of cumulative exposure to each brand's advertising that aired on those shows during the preceding 12 months, based on Nielsen estimates of the youth audience for each show's telecasts. Our primary analysis related this exposure data to each survey respondent's reported consumption of the advertised brands.

Literature Search

To identify additional published studies on alcohol brand-related behaviors among underage drinkers, we conducted a literature search via Web of Science using the following keywords and word stems: alcohol, brand*, underage, youth*, and adolescent*. We included studies conducted domestically and internationally as long as the authors described a comprehensive and systematic approach to studying underage alcohol use in relationship to specific alcohol brands. Studies were excluded if they examined only a small number of selected alcohol brands (such as the top 10 most advertised brands in their country) or if they asked participants brand-related questions but did not name the brands when presenting their results.

In this paper, we present the findings from our team's research augmented with additional evidence from the literature (Gentile, Walsh, Bloomgren, Atti, & Norman, 2001; Kearns, James, & Smyth, 2011; Tanski, McClure, Jernigan, & Sargent, 2011; Primack, Nuzzo, Rice, & Sargent, 2012).

Results

Please see Table 1 for a summary of our overall findings and corresponding references.

Surveillance and Epidemiology

We used two methods to estimate the survey respondents' total alcohol consumption during the past 30 days. The first was a frequency-quantity measure, which asked respondents to report how many days they drank during a certain time period and then how many drinks they typically had on a day when they drank. While this traditional measure is easy to administer, past research has suggested that it may underestimate respondents' actual alcohol consumption (Rehm, 1998; Dawson, 2003; Bloomfield, Hope, & Kraus, 2013). In addition to this measure, our survey asked respondents to report how many drinks of each alcohol brand they had drunk in the past 30 days. This second method allowed us to determine the total number of drinks a respondent reported having across his or her list of consumed brands. Compared to the traditional measure, respondents reported an average of 11 additional drinks per month (a 62% increase) when asked to report their brand-specific alcohol consumption. Status as a recent heavy episodic ("binge") drinker—defined in our study for both males and females as consuming five or more drinks in a row—and

consuming a greater number of alcohol brands significantly predicted the disparity between the two measures (Roberts, Siegel, DeJong, & Jernigan, 2014).

In the first published study on underage drinkers' brand-level consumption patterns, Gentile and colleagues found that the beer brands most heavily advertised in 1998 and 1999 (including Budweiser and Bud Light, Miller Genuine Draft and Miller Lite, Coors and Coors Light, Corona and Corona Extra, and Heineken) were also the brands that youth in the U.S. reported preferring and drinking most often (Gentile et al., 2001). More recently, a nationwide telephone survey of U.S. youth ages 16–20 found that two-thirds of the underage drinkers surveyed had a preferred alcohol brand, with Smirnoff vodka and Budweiser beer being ranked as their favorites (Tanski et al., 2011). Data from a 2011 pilot study conducted among Irish youth ages 14–18 also identified Smirnoff vodka and Budweiser beer as favorite brands, despite the availability of less expensive brands (Kearns et al., 2011).

In line with this small pool of past studies, our research team found that the alcohol brands with the highest past 30-day consumption prevalence were Bud Light beer (consumed by 27.9% of underage drinkers), Smirnoff malt beverages (17.0%) and Budweiser beer (14.6%) (Siegel, DeJong, et al., 2013). We discovered that the top 25 brands preferred by underage drinkers accounted for nearly half of the total market share (48.9%), defined as the proportion of total drinks consumed by the entire sample attributable to a specific brand (Siegel, DeJong, et al., 2013).

We also examined demographic differences in underage drinkers' alcohol brand preferences (Siegel, Ayers, DeJong, Naimi, & Jernigan, 2014). Two brands of beer, Bud Light and Budweiser, were popular among underage youth regardless of their demographic characteristics. A preference for liquor brands (e.g., Smirnoff vodka, Jack Daniel's whiskey) appeared to increase with age. We also found that some flavored alcoholic beverages (e.g., Smirnoff malt beverages) and wine coolers (e.g., Bartles & Jaymes) were substantially more popular among females than males. In contrast, liquor brands tended to be more popular among males than females, although some were popular among both sexes (e.g., Absolut vodka, Smirnoff vodka, Bacardi rum).

Finally, we found the most variability in alcohol brand preferences when we stratified our analyses by race/ethnicity. Nearly half of the top 25 alcohol brands popular among Black youth did not appear on the list of top 25 preferred brands among non-Hispanic White Youth. The 12 alcohol brands found to be uniquely popular among Black respondents were Hennessy cognac, Ciroc vodka, 1800 tequila, Seagram's gin, E & J Gallo brandy, 1800 margaritas and cocktails, Bud Ice beer, Andre champagne, Gallo wines, Miller High Life beer, Christian Brothers brandy, and Colt 45 malt liquor.

Further investigation revealed that underage youth also exhibit strong brand preferences when engaging in binge drinking. We found that two-thirds of the total alcohol consumed by our sample was drunk during binge drinking episodes (Naimi, Siegel, DeJong, O'Doherty, & Jernigan, 2014). We identified 25 brands that accounted for almost half (46.2%) of all reported heavy episodic drinking, with Bud Light beer, Jack Daniel's whiskey, and Smirnoff malt beverages topping the list. In a separate analysis, we also found that respondents who

reported engaging in heavy episodic drinking had significantly higher odds of experiencing alcohol-related fights and injuries (Roberts, Siegel, DeJong, Naimi, & Jernigan, 2015). Furthermore, we identified eight brands that were significantly more popular among youth who had experienced fights and injuries: Jack Daniel's whiskeys, Absolut vodkas, Heineken, Bacardi rums, Bacardi malt beverages, Hennessy cognacs, Jack Daniel's Cocktails, and Everclear 190 (grain alcohol).

In another investigation, we analyzed our survey data on where and from whom underage drinkers obtain alcohol and whether they themselves select the brands they consume (Roberts, Siegel, DeJong, Naimi, & Jernigan, 2014). We found that most underage drinkers typically obtain alcohol from passive sources such as an underage peer or an adult of legal drinking age. When we stratified the data according to respondents' cited source of alcohol and their role in brand choice, the lists of consumed brands were extremely similar.

To assess whether the youth alcohol brand preferences identified in our research simply reflect the preferences of adult drinkers, we compared our national survey data on adolescent brand preferences to data on the brand preferences of adults aged 21 and older (Siegel, Chen, et al., 2014), as measured via the Gfk MRI's Survey of the Adult Consumer. We found that while most brands of alcohol popular among adolescents were also top brands among adult drinkers, a total of 15 brands were found to have a disproportionately high prevalence and market share ratio among youth, with Smirnoff malt beverages, Jack Daniel's whiskey, Mike's malt beverages, and Absolut vodka topping the list.

Of note, we found that over half of underage drinkers in our sample reported using caffeinated alcoholic beverages (CABs) in the past 30 days (Kponee, Siegel, & Jernigan, 2014). We categorized CABs into "traditional" (alcohol mixed with coffee, tea, or soda) and "non-traditional" types (pre-packaged alcoholic energy drinks or alcoholic beverages mixed with caffeine pills, energy drinks, or energy shots). Older respondents (ages 19–20) were significantly more likely to drink CABs of both types compared to younger respondents (ages 13–17). Respondents who reported CAB use, especially non-traditional CAB use, were more likely to report drinking greater volumes of alcohol and drinking more days per month, while also being more likely to report heavy episodic drinking in the past 30 days.

Replicating data from our pilot study (Giga, Binakonsky, Ross, & Siegel, 2011), our national survey of underage drinkers revealed that flavored alcoholic beverages (FABs) are very popular among youth, with nearly half of our respondents having drunk FABs in the past 30 days (Fortunato et al., 2014). Smirnoff malt beverages, Mike's, Bacardi malt beverages, and Four Loko/Four MaXed were the most frequently consumed FABs (Fortunato et al., 2014). The five most popular FAB brands accounted for nearly half of the respondents' total FAB consumption.

Finally, we found that approximately 1 in 5 underage drinkers ages 16–20 reported consuming Jello shots in the past 30 days. Jello shots are typically self-made (rather than purchased pre-packaged) from sweetened, flavored gelatin mixed with alcohol, typically spirits. The mix is cooled in a refrigerator and served in small containers as a "shot." For these drinkers, Jello shots comprised an average of nearly 20% of their overall monthly

alcohol consumption, with this figure rising to 95% for some respondents (Binakonsky, Giga, Ross, & Siegel, 2011; Siegel, Galloway, Ross, Binakonsky, & Jernigan, 2014). Compared to the other respondents, youth who reported consuming Jello shots were more likely to report heavy episodic drinking (1.5 times more), higher alcohol consumption overall (1.6 times greater), and experiencing alcohol-related fights/injuries (1.7 times more) (Siegel, Galloway, et al., 2014).

Pricing and Purchasing Expenditures

We found greater price variation between brands within beverage categories than between the overall beverage categories. Moreover, we found that percent of alcohol by volume varied greatly between brands within each beverage category (DiLoreto et al., 2012). Because of these variations in alcohol content and price, 21 of the 25 least expensive alcohol brands were priced at less than \$1.00 per standard drink (Albers et al., 2013).

We found a general relationship between lower brand prices and drinking preference among youth, but the brands our survey respondents reported consuming most frequently were not the cheapest available (Albers, DeJong, William, Naimi, Siegel, & Jernigan, 2014). Among the 951 brands for which we obtained both price and youth consumption data, the three most popular brands among underage drinkers were Bud Light beer (\$1.60/ounce of alcohol), Smirnoff malt beverages (\$2.38/ounce), and Budweiser beer (\$1.29/ounce). In terms of the relative cost of these top brands (where 1 = least expensive per ounce of alcohol and 951 = most expensive), Bud Light beer was ranked 253rd cheapest, Smirnoff malt beverages was ranked 455th cheapest, and Budweiser beer was 186th cheapest.

Social and Popular Media

Primack and colleagues found that music popular among youth in the U.S. between 2005 and 2007 contained lyrics with frequent alcohol references, with about one-quarter of alcohol mentions citing a specific brand (Primack et al., 2012). The top three most frequently mentioned alcohol brand names were Patron tequila, Grey Goose vodka, and Hennessy cognac. Our review of 720 popular songs listed in Billboard Magazine's U.S.-based year-end charts for 2009 to 2011 revealed that nearly one-quarter of the song lyrics include an alcohol reference, with 6.4% of all songs specifying a particular alcohol brand (Siegel, Johnson, et al., 2013). The contexts for these references were overwhelmingly positive, with few popular songs associating alcohol with any undesirable consequences. Patron tequila, Grey Goose vodka, Hennessy cognac, and Jack Daniel's whiskey were among the most-mentioned alcohol brands.

Alcohol companies have a substantial presence on social networking sites, but until recently no study has systematically assessed the frequency of company-sponsored alcohol brand sites on Facebook, a popular site among youth (Nhean et al., 2014). Our research team found over 1,000 company-sponsored alcohol brand pages, excluding user-generated content such as fan pages or individual users' posts about an alcohol brand. Led by spirits (554 total sites) and followed by beer (230 total sites), wine (212 sites) and alcopops (flavored alcoholic beverages; 21 total sites), it appears that alcohol companies are frequently utilizing social networking platforms as a strategy to reach consumers.

Advertising and Marketing

Substantial research has examined the association of youth exposure to alcohol marketing and drinking behavior (Ellickson et al., 2005; Snyder, Milici, Slater, Sun, & Strizhakova, 2006; Anderson et al., 2009; McClure, Stoolmiller, Tanski, Worth, & Sargent, 2009; Smith & Foxcroft, 2009; Grenard, Dent, & Stacy, 2013). Using data from our survey, our research team analyzed this relationship at the brand level. We found that any exposure to brand-specific alcohol advertising on television programs popular among adolescents was significantly associated with brand-specific alcohol use among youth (Ross, Maple, et al., 2014). This relationship was significant even after controlling for individual- and brand-level variables such as demographic characteristics, reported media consumption patterns, status as a recent binge drinker, brand prices, and overall national brand market share. Importantly, we also discovered a significant association between exposure to brand advertising and the *number of drinks* of the corresponding brand youth consumed in the past 30 days (Ross, Maple, et al., 2014).

In a similar study, we assessed the relationship between underage drinkers' reported alcohol brand preferences (Siegel, DeJong, et al., 2013) and their brand-specific marketing exposure in magazines. We examined the alcohol advertising content of 124 nationally distributed magazines and readership data for male and female youth audiences aged 12–20 (Ross, Ostroff, Siegel, et al., 2014). Male youth ages 18–20 were the demographic group most heavily exposed to advertisements for 11 of the top 25 brands preferred by underage male drinkers, plus another six alcohol brands. Strikingly, females ages 18–20 were the group most heavily exposed to advertisements for 16 of the 25 most popular brands among female underage drinkers, plus two additional brands.

In addition to studying mainstream advertising channels, our team identified 945 brand-specific corporate sponsorships between 2010 and 2013 for the 75 most popular alcohol brands among underage drinkers (Belt et al., 2014). The five brands with the most sponsorships were Miller beer (including Miller Lite, Miller Genuine Draft, and Miller High Life), Twisted Tea hard iced teas, Jim Beam bourbon, Jack Daniel's (including Jack Daniel's whiskey and Jack Daniel's cocktails), and Pabst Blue Ribbon beer.

Discussion

This paper presents the first review of research on underage drinkers' brand-specific alcohol preferences and consumption patterns, with a primary focus on findings from the Alcohol Brand Research Among Underage Drinkers (ABRAND) project. It should be noted that the ABRAND studies were cross-sectional in nature, and therefore we cannot infer a causal relationship between any of the variables of interest and youth alcohol consumption. While further research is necessary to determine whether a causal relationship exists, the ABRAND project has several important implications for research on youth alcohol consumption, prevention programming, and policy..

Research Implications

Not only did we determine that it is feasible to comprehensively assess brand-specific adolescent alcohol use, this method may actually generate more complete self-reports of alcohol use. We believe this could have important implications for conducting survey research on youth alcohol consumption, as a more nuanced measure of alcohol use may provide additional insight into what influences drinking behavior. Collecting and monitoring brand-level data seems particularly important in light of our findings that 1) there are alcohol brands disproportionately preferred by adolescents compared to adults; and 2) underage drinkers are viewing a substantial amount of brand-specific advertisements placed in both traditional and non-traditional media channels. Additionally, it is worth noting that we found Jello shot consumption to be prevalent among underage youth and associated with negative alcohol-related health consequences, which suggests that this form of alcohol use may be an important addition to alcohol survey measures.

Program Implications

Those involved in public health programming and practice could utilize these findings to tailor alcohol education in school and community settings. For example, in 2014 author Dr. Michael Siegel designed and conducted a media literacy learning module with high school students in a suburban U.S. city. The module incorporated brand-specific data on alcohol use among youth, but focused on empowering adolescents to deconstruct and analyze alcohol branding and its implications for health behavior. Inspired by the American Legacy Foundation's U.S.-based "truth®" campaign to discourage cigarette smoking among youth (Farrelly, Nonnemaker, Davis, & Hussin, 2009), a similar tactic could be replicated for alcohol counter-advertising campaigns.

Policy Implications

We found that alcohol advertising in magazines reached underage youth more effectively than it did adults, and that the alcohol brand advertisements youth are heavily exposed to correspond to the brands that underage drinkers prefer. Additionally, we found that exposure to brand-specific alcohol advertising on television is associated with brand-specific alcohol consumption among youth, and that higher amounts of brand advertising exposure on television are related to increased levels of consumption of those brands. These findings underscore the emphasis that alcohol companies place on brand-level rather than beverage-category marketing. In light of this, one policy recommendation relevant to the U.S. policy landscape would be for the Federal Trade Commission take steps to explore the nature of brand-specific alcohol advertising placement and content. Such data could also be used to develop recommendations for government action (both in the U.S. and internationally) to ensure that youth health behavior surveillance systems capture data on brand-level alcohol consumption.

Conclusion

We found that brand-level alcohol use is an important aspect of youth drinking behavior that deserves further study. We hope to see future research comprehensively assess the relationship between underage drinking and brand-specific factors. We are particularly

interested in further exploration of adolescent drinkers' brand-level alcohol use patterns and related risk behaviors among internationally representative samples. Our globalized economy is driven by the advertising, marketing, and personalization of an enormous array of goods and services. Brands affect our lives, and our children's lives. Why wouldn't they affect our health?

Acknowledgments

Grant Support: This research was supported by a grant from the National Institute on Alcohol Abuse and Alcoholism (R01 AA020309-01). The authors have no relevant commercial relationships to disclose.

References

- Albers AB, DeJong William, Naimi TS, Siegel MB, Jernigan DH. The relationship between alcohol price and brand choice among underage drinkers: are the most popular alcoholic brands consumed by youth the cheapest? *Substance Use & Misuse*. 2014; 49(13):1833–1843. <http://doi.org/10.3109/10826084.2014.935790>. [PubMed: 25183436]
- Albers AB, DeJong W, Naimi TS, Siegel MB, Shoaff JR, Jernigan DH. Minimum financial outlays for purchasing alcohol brands in the U.S. *American Journal of Preventive Medicine*. 2013; 44(1):67–70. <http://doi.org/10.1016/j.amepre.2012.08.026>. [PubMed: 23253652]
- Anderson P, de Bruijn A, Angus K, Gordon R, Hastings G. Impact of alcohol advertising and media exposure on adolescent alcohol use: A systematic review of longitudinal studies. *Alcohol and Alcoholism*. 2009; 44(3):229–243. <http://doi.org/10.1093/alcalc/agn115>. [PubMed: 19144976]
- Belt O, Stamatakos K, Ayers AJ, Fryer VA, Jernigan DH, Siegel MB. Vested interests in addiction research and policy. Alcohol brand sponsorship of events, organizations and causes in the United States, 2010–2013: Alcohol brand sponsorship. *Addiction*. 2014; 109(12):1977–1985. <http://doi.org/10.1111/add.12727>. [PubMed: 25384933]
- Binakonsky J, Giga N, Ross C, Siegel M. Jello shot consumption among older adolescents: A pilot study of a newly identified public health problem. *Substance Use & Misuse*. 2011; 46(6):828–835. <http://doi.org/10.3109/10826084.2010.538886>. [PubMed: 21174500]
- Bloomfield K, Hope A, Kraus L. Alcohol survey measures for Europe: A literature review. *Drugs: Education, Prevention, and Policy*. 2013; 20(5):348–360. <http://doi.org/10.3109/09687637.2011.642906>.
- Bonnie, RJ.; O'Connell, ME. National Research Council (U.S.), Committee on Developing a Strategy to Reduce and Prevent Underage Drinking, National Research Council (U.S.), & Board on Children, Y., and Families. *Reducing underage drinking a collective responsibility*. Washington, DC: National Academies Press; 2004. Retrieved from <http://www.myilibrary.com?id=17972>
- Center on Alcohol Marketing and Youth. Prevalence of Underage Drinking - Factsheets - CAMY.pdf. 2014 Mar 10. Retrieved from http://www.camy.org/factsheets/sheets/Prevalence_of_Underage_Drinking.html.
- Centers for Disease Control and Prevention (CDC). Changes in the cigarette brand preferences of adolescent smokers--United States, 1989–1993. *MMWR. Morbidity and Mortality Weekly Report*. 1994; 43(32):577–581. [PubMed: 8047055]
- Chen, CM.; Yi, H.; Faden, VB. Surveillance report #96: Trends in underage drinking in the United States, 1991–2011. 2013. Retrieved from <http://pubs.niaaa.nih.gov/publications/surveillance96/Underage11.pdf>
- Cohen JB. Playing to win: Marketing and public policy at odds over Joe Camel. *Journal of Public Policy & Marketing*. 2000; 19(2):155–167. <http://doi.org/10.1509/jppm.19.2.155.17123>.
- Collins RL, Ellickson PL, McCaffrey DF, Hambarsoomians K. Saturated in beer: Awareness of beer advertising in late childhood and adolescence. *Journal of Adolescent Health*. 2005; 37(1):29–36. <http://doi.org/10.1016/j.jadohealth.2004.08.011>. [PubMed: 15963904]
- Committee on Substance Abuse. Alcohol use by youth and adolescents: A pediatric concern. *Pediatrics*. 2010; 125(5):1078–1087. <http://doi.org/10.1542/peds.2010-0438>. [PubMed: 20385640]

- Cummings KM, Morley CP, Horan JK, Steger C, Leavell N-R. Marketing to America's youth: evidence from corporate documents. *Tobacco Control*. 2002; 11(suppl 1):i5–i17. [PubMed: 11893810]
- Dawson DA. Methodological issues in measuring alcohol use. *Alcohol Research & Health: The Journal of the National Institute on Alcohol Abuse and Alcoholism*. 2003; 27(1):18–29. [PubMed: 15301397]
- DiLoreto JT, Siegel MB, Hinchey D, Valerio H, Kinzel K, Lee S, DeJong W. Assessment of the average price and ethanol content of alcoholic beverages by brand-United States, 2011. *Alcoholism: Clinical and Experimental Research*. 2012; 36(7):1288–1297. <http://doi.org/10.1111/j.1530-0277.2011.01721.x>.
- Edward, CN.; Moran, JR.; Nelson, JP. *Advances in Applied Microeconomics*. Vol. 10. Bingley: Emerald (MCB UP); 2001. The long-run demand for alcoholic beverages and the advertising debate: A cointegration analysis. In; p. 31-54. Retrieved from [http://www.emeraldinsight.com/10.1016/S0278-0984\(01\)10003-9](http://www.emeraldinsight.com/10.1016/S0278-0984(01)10003-9)
- Ellickson PL, Collins RL, Hambarsoomians K, McCaffrey DF. Does alcohol advertising promote adolescent drinking? Results from a longitudinal assessment. *Addiction (Abingdon, England)*. 2005; 100(2):235–246. <http://doi.org/10.1111/j.1360-0443.2005.00974.x>.
- Farrelly MC, Nonnemaker J, Davis KC, Hussin A. The Influence of the National truth Campaign on Smoking Initiation. *American Journal of Preventive Medicine*. 2009; 36(5):379–384. <http://doi.org/10.1016/j.amepre.2009.01.019>. [PubMed: 19211213]
- Fischer PM, Schwartz MP, Richards JW, Goldstein AO, Rojas TH. Brand logo recognition by children aged 3 to 6 years. Mickey Mouse and Old Joe the Camel. *JAMA: The Journal of the American Medical Association*. 1991; 266(22):3145–3148. [PubMed: 1956101]
- Fortunato EK, Siegel M, Ramirez RL, Ross C, Dejong W, Albers AB, Jernigan DH. Brand-specific consumption of flavored alcoholic beverages among underage youth in the United States. *The American Journal of Drug and Alcohol Abuse*. 2014; 40(1):51–57. <http://doi.org/10.3109/00952990.2013.841712>. [PubMed: 24266600]
- Franke G, Wilcox G. Alcoholic beverage advertising and consumption in the United States, 1964–1984. *Journal of Advertising*. 1987; 16(3):22–30. <http://doi.org/10.1080/00913367.1987.10673082>.
- Gentile, DA.; Walsh, DA.; Bloomgren, BW.; Atti, JA.; Norman, JA. *Frogs Sell Beer: The Effects of Beer Advertisements on Adolescent Drinking Knowledge, Attitudes, and Behavior*. Washington, DC: 2001. Retrieved from <http://eric.ed.gov/?id=ED461777>
- Giga NM, Binakonsky J, Ross C, Siegel MB. The nature and extent of flavored alcoholic beverage consumption among underage youth: Results of a national brand-specific survey. *The American Journal of Drug and Alcohol Abuse*. 2011; 37(4):229–234. <http://doi.org/10.3109/00952990.2011.568558>. [PubMed: 21517708]
- Gil AI, Molina JA. Human development and alcohol abuse in adolescence. *Applied Economics*. 2007; 39(10):1315–1323. <http://doi.org/10.1080/00036840701346238>.
- Grenard JL, Dent CW, Stacy AW. Exposure to alcohol advertisements and teenage alcohol-related problems. *Pediatrics*. 2013; 131(2):e369–e379. <http://doi.org/10.1542/peds.2012-1480>. [PubMed: 23359585]
- Hafez N. How Philip Morris built Marlboro into a global brand for young adults: implications for international tobacco control. *Tobacco Control*. 2005; 14(4):262–271. <http://doi.org/10.1136/tc.2005.011189>. [PubMed: 16046690]
- Hastings G, Anderson S, Cooke E, Gordon R. Alcohol marketing and young peoples drinking: a review of the research. *Journal of Public Health Policy*. 2005; 26(3):296–311. [PubMed: 16167558]
- Henriksen L, Feighery EC, Schleicher NC, Fortmann SP. Receptivity to alcohol marketing predicts initiation of alcohol use. *Journal of Adolescent Health*. 2008; 42(1):28–35. <http://doi.org/10.1016/j.jadohealth.2007.07.005>. [PubMed: 18155027]
- Hingson RW, Heeren T, Winter MR. Age at drinking onset and alcohol dependence: age at onset, duration, and severity. *Archives of Pediatrics & Adolescent Medicine*. 2006; 160(7):739. <http://doi.org/10.1001/archpedi.160.7.739>. [PubMed: 16818840]

- Ibrahim JK. The tobacco tug-of-war: Advertising and counteradvertising tobacco products to youth. *Pediatric Allergy, Immunology, and Pulmonology*. 2010; 23(2):105–111. <http://doi.org/10.1089/ped.2010.0025>.
- Johnston, LD.; O'Malley, PM.; Bachman, JG.; Schulenberg, JE. Monitoring the Future National Results on Adolescent Drug Use: Overview of Key Findings, 2010. Institute for Social Research. 2011. Retrieved from <http://eric.ed.gov/?id=ED528077>
- Judge Gladys Kessler. United States of America v. Philip Morris USA, Inc.. Amended Final Opinion, No. Civil Action No. 99-2496 (GK). United States District Court; 2006 Aug 17. Retrieved from <http://publichealthlawcenter.org/sites/default/files/resources/doj-final-opinion.pdf>
- Kearns C, James P, Smyth BP. Drinking patterns and preferences among Irish substance abusing teenagers: A pilot study. *Journal of Addictions Nursing*. 2011; 22(3):124–129. <http://doi.org/10.3109/10884602.2011.585720>.
- Kessler DA. Alcohol marketing and youth: the challenge for public health. *Journal of Public Health Policy*. 2005; 26(3):292–295. [PubMed: 16167557]
- Kim JY, Asrani SK, Shah ND, Kim WR, Schneekloth TD. Hospitalization for underage drinkers in the United States. *Journal of Adolescent Health*. 2012; 50(6):648–650. <http://doi.org/10.1016/j.jadohealth.2011.10.250>. [PubMed: 22626495]
- King C, Siegel M. The Master Settlement Agreement with the tobacco industry and cigarette advertising in magazines. *New England Journal of Medicine*. 2001; 345(7):504–511. [PubMed: 11519505]
- Kponee KZ, Siegel M, Jernigan DH. The use of caffeinated alcoholic beverages among underage drinkers: Results of a national survey. *Addictive Behaviors*. 2014; 39(1):253–258. <http://doi.org/10.1016/j.addbeh.2013.10.006>. [PubMed: 24161375]
- Krugman DM, Quinn WH, Sung Y, Morrison M. Understanding the role of cigarette promotion and youth smoking in a changing marketing environment. *Journal of Health Communication*. 2005; 10(3):261–278. <http://doi.org/10.1080/10810730590934280>. [PubMed: 16036733]
- Lee B, Tremblay VJ. Advertising and the US market demand for beer. *Applied Economics*. 1992; 24(1):69–76. <http://doi.org/10.1080/00036849200000104>.
- Lee R, Taylor V, McGetrick R. Toward reducing youth exposure to tobacco messages: Examining the breadth of brand and nonbrand communications. *Journal of Health Communication*. 2004; 9(5): 461–479. <http://doi.org/10.1080/10810730490504288>. [PubMed: 15513792]
- McClure AC, Stoolmiller M, Tanski SE, Worth KA, Sargent JD. Alcohol-branded merchandise and its association with drinking attitudes and outcomes in US adolescents. *Archives of Pediatrics & Adolescent Medicine*. 2009; 163(3):211. [PubMed: 19255387]
- Naimi TS, Siegel MB, DeJong W, O'Doherty C, Jernigan DH. Beverage- and brand-specific binge alcohol consumption among underage youth in the US. *Journal of Substance Use*. 2014; 1–7. <http://doi.org/10.3109/14659891.2014.920054>.
- Nelson JP. Alcohol marketing, adolescent drinking and publication bias in longitudinal studies: A critical survey using meta-analysis. *Journal of Economic Surveys*. 2011; 25(2):191–232. <http://doi.org/10.1111/j.1467-6419.2010.00627.x>.
- Nhean S, Nyborn J, Hinchey D, Valerio H, Kinzel K, Siegel MB, Jernigan DH. The frequency of company-sponsored alcohol brand-related sites on facebook™ -2012. *Substance Use & Misuse*. 2014; 49(7):779–782. <http://doi.org/10.3109/10826084.2014.880177>. [PubMed: 24499464]
- Pierce JP, Gilpin EA, Choi WS. Sharing the blame: smoking experimentation and future smoking-attributable mortality due to Joe Camel and Marlboro advertising and promotions. *Tobacco Control*. 1999; 8(1):37–44. [PubMed: 10465814]
- Pierce JP, Gilpin E, Burns DM, Whalen E, Rosbrook B, Shopland D, Johnson M. Does tobacco advertising target young people to start smoking? Evidence from California. *JAMA: The Journal of the American Medical Association*. 1991; 266(22):3154–3158. [PubMed: 1956103]
- Primack BA, Nuzzo E, Rice KR, Sargent JD. Alcohol brand appearances in US popular music: Alcohol brand appearances. *Addiction*. 2012; 107(3):557–566. <http://doi.org/10.1111/j.1360-0443.2011.03649.x>. [PubMed: 22011113]

- Pucci LG, Siegel M. Exposure to brand-specific cigarette advertising in magazines and its impact on youth smoking. *Preventive Medicine*. 1999; 29(5):313–320. <http://doi.org/10.1006/pmed.1999.0554>. [PubMed: 10564621]
- Rehm J. Measuring quantity, frequency, and volume of drinking. *Alcoholism: Clinical and Experimental Research*. 1998; 22(S2):4s–14s.
- Rehm J, Dawson D, Frick U, Gmel G, Roerecke M, Shield KD, Grant B. Burden of disease associated with alcohol use disorders in the United States. *Alcoholism: Clinical and Experimental Research*. 2014; 38(4):1068–1077. <http://doi.org/10.1111/acer.12331>.
- Rep. Henry A. Waxman. Family Smoking Prevention and Tobacco Control Act, Pub. L. No. H.R. 1256. 2009. Retrieved from <http://www.gpo.gov/fdsys/pkg/PLAW-111publ31/pdf/PLAW-111publ31.pdf>
- Roberts SP, Siegel MB, DeJong W, Jernigan DH. A comparison between brand-specific and traditional alcohol surveillance methods to assess underage drinkers' reported alcohol use. *The American Journal of Drug and Alcohol Abuse*. 2014; 40(6):447–454. <http://doi.org/10.3109/00952990.2014.938160>. [PubMed: 25062357]
- Roberts SP, Siegel MB, DeJong W, Naimi TS, Jernigan DH. The Relationships Between Alcohol Source, Autonomy in Brand Selection, and Brand Preference Among Youth in the USA. *Alcohol and Alcoholism*. 2014; 49(5):563–571. <http://doi.org/10.1093/alcalc/agu034>. [PubMed: 25113176]
- Roberts SP, Siegel MB, DeJong W, Naimi TS, Jernigan DH. Brand Preferences of Underage Drinkers Who Report Alcohol-Related Fights and Injuries. *Substance Use & Misuse*. 2015 150122114649009. <http://doi.org/10.3109/10826084.2014.997392>.
- Ross CS, Maple E, Siegel MB, DeJong W, Naimi TS, Ostroff J, Jernigan DH. The relationship between brand-specific alcohol advertising on television and brand-specific consumption among underage youth. *Alcoholism, Clinical and Experimental Research*. 2014; 38(8):2234–2242. <http://doi.org/10.1111/acer.12488>.
- Ross CS, Ostroff J, Jernigan DH. Evidence of underage targeting of alcohol advertising on television in the United States: Lessons from the Lockyer v. Reynolds decisions. *Journal of Public Health Policy*. 2014; 35(1):105–118. <http://doi.org/10.1057/jphp.2013.52>. [PubMed: 24424494]
- Ross CS, Ostroff J, Siegel MB, DeJong W, Naimi TS, Jernigan DH. Youth alcohol brand consumption and exposure to brand advertising in magazines. *Journal of Studies on Alcohol and Drugs*. 2014; 75(4):615–622. [PubMed: 24988260]
- Saffer H. Alcohol advertising and youth. *Journal of Studies on Alcohol and Drugs*. 2002; (14):173.
- Saffer H, Dave D. Alcohol advertising and alcohol consumption by adolescents. *Health Economics*. 2006; 15(6):617–637. <http://doi.org/10.1002/hec.1091>. [PubMed: 16475245]
- Siegel MB, Ayers AJ, DeJong W, Naimi TS, Jernigan DH. Differences in alcohol brand consumption among underage youth by age, gender, and race/ethnicity – United States, 2012. *Journal of Substance Use*. 2014; 1–9. <http://doi.org/10.3109/14659891.2014.942402>.
- Siegel MB, Chen K, DeJong W, Naimi TS, Ostroff J, Ross CS, Jernigan DH. Differences in alcohol brand consumption between underage youth and adults—United States, 2012. *Substance Abuse*. 2014 140131231718004. <http://doi.org/10.1080/08897077.2014.883344>.
- Siegel MB, DeJong W, Naimi TS, Fortunato EK, Albers AB, Heeren T, Jernigan DH. Brand-specific consumption of alcohol among underage youth in the United States. *Alcoholism, Clinical and Experimental Research*. 2013; 37(7):1195–1203. <http://doi.org/10.1111/acer.12084>.
- Siegel MB, Galloway A, Ross C, Binakonsky J, Jernigan DH. Jello shot consumption among underage youth in the United States. *Journal of Child & Adolescent Substance Abuse*. 2014 *In press*.
- Siegel MB, Johnson RM, Tyagi K, Power K, Lohsen MC, Ayers AJ, Jernigan DH. Alcohol brand references in U.S. popular music, 2009–2011. *Substance Use & Misuse*. 2013; 48(14):1475–1484. <http://doi.org/10.3109/10826084.2013.793716>. [PubMed: 23971875]
- Smart RG. Does alcohol advertising affect overall consumption? A review of empirical studies. *Journal of Studies on Alcohol*. 1988; 49(4):314–323. [PubMed: 3050281]
- Smith LA, Foxcroft DR. The effect of alcohol advertising, marketing and portrayal on drinking behaviour in young people: systematic review of prospective cohort studies. *BMC Public Health*. 2009; 9(1):51. <http://doi.org/10.1186/1471-2458-9-51>. [PubMed: 19200352]

- Snyder LB, Milici FF, Slater M, Sun H, Strizhakova Y. Effects of alcohol advertising exposure on drinking among youth. *Archives of Pediatrics & Adolescent Medicine*. 2006; 160(1):18. [PubMed: 16389206]
- Substance Abuse and Mental Health Services Administration. Results from the 2012 National Survey on Drug Use and Health: Summary of National Findings. Rockville, Maryland: Substance Abuse and Mental Health Services Administration; 2013. (No. NSDUH Series H-46, HHS Publication No. (SMA) 13-4795). Retrieved from <http://www.samhsa.gov/data/NSDUH/2012SummNatFindDetTables/NationalFindings/NSDUHresults2012.htm#ch3.2>
- Swahn MH, Simon TR, Hammig BJ, Guerrero JL. Alcohol-consumption behaviors and risk for physical fighting and injuries among adolescent drinkers. *Addictive Behaviors*. 2004; 29(5):959–963. <http://doi.org/10.1016/j.addbeh.2004.02.043>. [PubMed: 15219342]
- Tanski SE, McClure AC, Jernigan DH, Sargent JD. Alcohol brand preference and binge drinking among adolescents. *Archives of Pediatrics & Adolescent Medicine*. 2011; 165(7):675–676. <http://doi.org/10.1001/archpediatrics.2011.113>. [PubMed: 21727284]
- The Lancet. Calling time on young people’s alcohol consumption. *The Lancet*. 2008; 371(9616):871. [http://doi.org/10.1016/S0140-6736\(08\)60386-4](http://doi.org/10.1016/S0140-6736(08)60386-4).
- United States Department of Justice. [Retrieved April 5, 2015] *Litigation Against Tobacco Companies*. 2014 Dec 2. from <http://www.justice.gov/civil/case-4>

Finding	References
<p>Youth tend to prefer a fairly narrow set of alcohol brands.</p>	<ul style="list-style-type: none"> • Gentile, D. A., et al. (2001). <i>Frogs Sell Beer: The Effects of Beer Advertisements on Adolescent Drinking Knowledge, Attitudes, and Behavior</i>. • Tanski, S. E., et al. (2011). Alcohol brand preference and binge drinking among adolescents. <i>Archives of Pediatrics & Adolescent Medicine</i>. • Siegel, M. B., et al. (2013). Brand-specific consumption of alcohol among underage youth in the United States. <i>Alcoholism, Clinical and Experimental Research</i>. • Siegel, M. B., et al. (2014). Differences in alcohol brand consumption among underage youth by age, gender, and race/ethnicity – United States, 2012. <i>Journal of Substance Use</i>.
<p>While there is overlap in the brands that are popular among adult drinkers and underage youth, youth do prefer some brands that adults consume far less frequently.</p>	<ul style="list-style-type: none"> • Siegel, M. B., et al. (2014). Differences in alcohol brand consumption between underage youth and adults—United States, 2012. <i>Substance Abuse</i>. • Siegel, M. B., et al. (2013). Brand-specific consumption of alcohol among underage youth in the United States. <i>Alcoholism, Clinical and Experimental Research</i>.
<p>Youth often consume alcohol brands that are not the cheapest available, despite more affordable alcohol options present in every beverage category.</p>	<ul style="list-style-type: none"> • Albers, A. B., et al. (2014). The relationship between alcohol price and brand choice among underage drinkers: are the most popular alcoholic brands consumed by youth the cheapest? <i>Substance Use & Misuse</i>. • DiLoreto, J. T., et al. (2012). Assessment of the average price and ethanol content of alcoholic beverages by brand—United States, 2011. <i>Alcoholism, Clinical and Experimental Research</i>.
<p>Youth drink a wide range of alcoholic beverages, from beer to spirits to malt beverages, and including caffeinated alcoholic beverages, flavored alcoholic beverages, and novelty drinks like Jello shots.</p>	<ul style="list-style-type: none"> • Kponee, K. Z., et al. (2014). The use of caffeinated alcoholic beverages among underage drinkers: Results of a national survey. <i>Addictive Behaviors</i>. • Fortunato, E. K., et al. (2014). Brand-specific consumption of flavored alcoholic beverages among underage youth in the United States. <i>The American Journal of Drug and Alcohol Abuse</i>. • Binakovsky, J., et al. (2011). Jello shot consumption among older adolescents: A pilot study of a newly identified public health problem. <i>Substance Use & Misuse</i>. • Siegel, M. B., et al. (2014). Jello shot consumption among underage youth in the United States. <i>Journal of Child & Adolescent Substance Abuse, In press</i>. • Siegel, M. B., et al. (2013). ddBrand-specific consumption of alcohol among underage youth in the United States. <i>Alcoholism, Clinical and Experimental Research</i>.
<p>Youth may be heavily exposed to brand-specific alcohol references in music and social media, through television and magazine advertisements, and via corporate sponsorships.</p>	<ul style="list-style-type: none"> • Primack, B. A., et al. (2012). Alcohol brand appearances in US popular music: Alcohol brand appearances. <i>Addiction</i>. • Siegel, M. B., et al. (2013). Alcohol brand references in U.S. popular music, 2009-2011. <i>Substance Use & Misuse</i>. • Nhean, S., et al. (2014). The frequency of company-sponsored alcohol brand-related sites on Facebook™ -2012. <i>Substance Use & Misuse</i>.
<p>There is an association between the specific alcohol brands underage drinkers are exposed to in magazine and television advertisements, the alcohol brands they prefer, and the number of drinks they consume of those brands.</p>	<ul style="list-style-type: none"> • Ross, C. S., et al. (2014). The relationship between brand-specific alcohol advertising on television and brand-specific consumption among underage youth. <i>Alcoholism, Clinical and Experimental Research</i>.

Author Manuscript

Author Manuscript

Author Manuscript

Author Manuscript

Finding	References <ul style="list-style-type: none">Ross, C. S., et al. (2014). Youth alcohol brand consumption and exposure to brand advertising in magazines. <i>Journal of Studies on Alcohol and Drugs</i>.
----------------	---