



## RESEARCH SUMMARY

Date Compiled: November 2019

### Key Takeaways from Included Research

- Firearm purchasers with prior DUI convictions (and no other criminal history) had close to three times the risk of subsequent arrest for an intimate partner violence offense than did those with no criminal history at the time of the index firearm purchase.
- The amount of money spent advertising beer brands was positively correlated with adolescents' brand awareness, preference, use, and loyalty behavior. Beer advertising-related variables predicted adolescents' intention to drink and actual alcohol consumption, independent of peer and parent alcohol-related behavior and attitudes.
- Alcohol metabolism influences epigenetic regulation in the brain. Alcohol and other drugs can cause genetic changes that may reinforce addiction and affect future generations.
- Students were far less likely to underestimate alcohol content for 8% alcohol-by-volume (abv) Four Loko cans compared to those with higher alcohol concentrations. Policies restricting supersized alcopops' abv may help consumers better estimate their alcohol content.
- Adolescent recall of alcohol marketing across channels was significantly associated with underage drinking.
- Alcohol industry-funded websites omit and misrepresent the evidence on key risks of alcohol consumption during pregnancy.

## **ALCOHOL-RELATED CRIMES AND RISK OF ARREST FOR INTIMATE PARTNER VIOLENCE AMONG CALIFORNIA HANDGUN PURCHASERS**

October 2019

### **Abstract**

Intimate partner violence is a major public health problem in the US. Both firearms and alcohol have been documented to contribute to the risk and severity of this violence. Yet there has been little research examining the nexus of the two risk factors.

This study sought to determine whether alcohol-related problems, as indicated by a history of conviction for offenses such as driving under the influence (DUI), were associated with risk for future intimate partner violence among authorized purchasers of handguns in California. Using a longitudinal cohort design, we found that purchasers with prior DUI convictions (and no other criminal history) had close to three times the risk of subsequent arrest for an intimate partner violence offense than did those with no criminal history at the time of the index firearm purchase. The regulation of firearm ownership among people with alcohol use problems may represent an important opportunity to reduce intimate partner violence and the escalation of firearm-related harm.

**Source:** Laqueur et al. (2019). Alcohol-related crimes and risk of arrest for intimate partner violence among California handgun purchasers. *Health Affairs*. 38(10).

<https://www.healthaffairs.org/doi/10.1377/hlthaff.2019.00608>

## **BEER ADVERTISEMENTS AND ADOLESCENT DRINKING KNOWLEDGE, EXPECTANCIES, AND BEHAVIOR**

October 2019

### **Abstract**

**Objective:** (1) To examine the degree to which overall beer advertising expenditure is related to youth brand awareness, preferences, and drinking behavior, and (2) to use multiple methods, including individual brand awareness and expectancies, to gain a broader understanding of the effects of alcohol advertising on youth alcohol-related expectancies and behavior.

**Method:** Mixed psychological and advertising methods were used to examine how beer advertising is related to adolescents' beer brand awareness, expectancies, and behavior. 1588 7–12th graders were surveyed in two U.S. states.

**Results:** The amount of money spent advertising beer brands was positively correlated with adolescents' brand awareness, preference, use, and loyalty behavior (all correlations above 0.65). Moreover, beer advertising-related variables predicted adolescents' intention to drink and actual alcohol consumption, independent of peer and parent alcohol-related behavior and attitudes.

**Conclusions:** The results show that overall levels of advertising expenditures were strong predictors of adolescents' beer brand awareness, preferences, use, and brand loyalty. Advertising-related variables were substantial predictors of adolescents' intention to drink as an adult and current underage drinking behavior. Together, the present findings suggest that previous work may have underestimated the relationship between alcohol advertising and adolescents' drinking behavior.

### **Free full text:**

<https://reader.elsevier.com/reader/sd/pii/S2352853219301403?token=A2A7A1646D3B74DB27BFB4B25CF11DD2EC78723C2FF566717AD9FF0D8C25C5801985E280F38A0D2E27D478C661EC327A>

## **ALCOHOL METABOLISM CONTRIBUTES TO BRAIN HISTONE ACETYLATION**

October 2019

### **Extract**

The breakdown of alcohol in the liver leads to a rapid increase in levels of blood acetate, and alcohol is therefore a major source of acetate in the body. Histone acetylation in neurons may thus be under the influence of acetate that is derived from alcohol, with potential effects on alcohol-induced gene expression in the brain, and on behavior. Using in vivo stable-isotope labelling in mice, researchers show that the metabolism of alcohol contributes to rapid acetylation of histones in the brain, and that this occurs in part through the direct deposition of acetyl groups that are derived from alcohol onto histones in an ACSS2-dependent manner.

**Source:** Mews et al. (2019). Alcohol metabolism contributes to brain histone acetylation. *Nature*. 717–721. <https://www.nature.com/articles/s41586-019-1700-7>

**News Release:** <https://www.pennmedicine.org/news/news-releases/2019/october/drinking-to-remember-consuming-alcohol-leads-to-epigenetic-changes-in-brain-memory-centers>

**Additional Media Coverage:** [Drinking triggers brain changes that teach you to want more alcohol, Penn researchers find](#)

## **THE FEDERAL TRADE COMMISSION'S MANDATED FOUR LOKO LABELING FAILS TO FACILITATE ACCURATE ESTIMATION OF ALCOHOL CONTENT BY COLLEGE STUDENTS**

October 2019

### **Abstract**

**Background:** Four Loko, the leading supersized alcopop brand, is a pre-mixed alcoholic beverage containing up to 5.5 standard alcoholic drinks in a can. In 2013, the Federal Trade Commission (FTC) mandated the addition to Four Loko cans of a label indicating its alcohol content in standard drinks, presented as "alcohol per serving" and "servings per container."

**Objective:** The current study investigated whether college students accurately estimate the alcohol content in cans of Four Loko bearing the FTC mandated labels.

**Method:** Undergraduate student drinkers ( $n = 833$ ; 51.6% women) in three states (Florida, Montana, and Virginia) were provided an empty Watermelon Four Loko can and asked to determine the number of standard drinks it contained, using 12-ounce regular beer (Budweiser) equivalents. In Florida and Virginia, Watermelon Four Loko contains 4.70 standard alcoholic drinks; in Montana, it contains 3.13.

**Results:** More than 60% of Florida students and more than 70% of Virginia students underestimated Four Loko's alcohol content by one or more standard drinks, compared to 45% of Montana students. Multivariable logistic regression analysis found the following variables were associated with greater odds of underestimating Four Loko's alcohol content by one or more standard alcoholic drinks: being female (AOR = 2.2), having never seen nor heard of Four Loko (AOR = 1.9), and residing in Florida (AOR = 1.7) or Virginia (AOR = 2.8) versus Montana.

**Source:** Rossheim et al. (2019). The Federal Trade Commission's mandated Four Loko labeling fails to facilitate accurate estimation of alcohol content by college students. *The American Journal of Drug and Alcohol Abuse*. 8:1-8. <https://www.ncbi.nlm.nih.gov/pubmed/31592678>

## **A NEW RECALL OF ALCOHOL MARKETING SCALE FOR YOUTH: MEASUREMENT PROPERTIES AND ASSOCIATIONS WITH YOUTH DRINKING STATUS**

September 2019

### **Abstract**

**Objective:** Adolescents are exposed to alcohol marketing through traditional advertising and through newer digital media channels. Cumulative marketing exposure across channels is of concern but has been insufficiently studied. This study explores the measurement of alcohol marketing exposure across channels and whether cumulative recalled exposure is independently associated with underage drinking.

**Method:** Two hundred two New England adolescents (ages 12-17 years) were recruited from a general pediatrics clinic and completed an online survey. Recall of alcohol marketing across channels (e.g., Internet, magazines) was assessed, along with drinking behavior and relevant covariates (i.e., demographics, parental/peer drinking, smoking status, sensation seeking, Internet use, social media use, television use, and parental Internet monitoring). Confirmatory factor analysis was used to establish a latent construct of alcohol marketing exposure recall. Logistic regression tested associations between alcohol marketing recall and adolescent drinking, with covariates controlled for.

**Results:** Adolescents reported recall of alcohol marketing across all marketing channels. Alcohol marketing recall items were significantly correlated, with  $\alpha = .83$ . Adjusted cross-sectional logistic regression analyses demonstrated that the latent alcohol marketing recall construct was significantly associated with underage drinking (adjusted odds ratio = 4.08, 95% CI [1.15, 14.46]) when relevant covariates were accounted for.

**Conclusions:** The final measurement model provided support for construct validity of a novel alcohol marketing recall construct assessing cumulative cross-channel marketing exposure. Adolescent recall of alcohol marketing across channels was significantly associated with underage drinking, while associated factors such as peer/parental drinking were accounted for.

**Source:** Gabrielli et al. (2019). A new recall of alcohol marketing scale for youth: Measurement properties and associations with youth drinking status. *Journal of Studies on Alcohol and Drugs*. 80(5):563-571. <https://www.ncbi.nlm.nih.gov/pubmed/31603759>

## **PREGNANCY, FERTILITY, BREASTFEEDING, AND ALCOHOL CONSUMPTION: AN ANALYSIS OF FRAMING AND COMPLETENESS OF INFORMATION DISSEMINATED BY ALCOHOL INDUSTRY-FUNDED ORGANIZATIONS**

September 2019

### **Abstract**

**Objective:** Alcohol use during pregnancy can harm the developing fetus. The exact amount, pattern, and critical period of exposure necessary for harm to occur are unclear, although official guidance often emphasizes precautionary abstention. The impacts on fertility and breastfeeding are also unclear. Information on alcohol and pregnancy is disseminated by the alcohol industry-funded organizations, and there are emerging concerns about its accuracy, suggesting the need for detailed analysis.

**Method:** Information on alcohol consumption in relation to fertility, pregnancy, and breastfeeding was extracted from the websites of 23 alcohol industry-funded bodies (e.g., Drinkaware [United Kingdom] and DrinkWise [Australia]), and 19 public health organizations (e.g., Health.gov and NHS Choices). Comparative qualitative and quantitative analysis of the framing and completeness of this information

was undertaken.

**Results:** Alcohol industry-funded organizations were statistically significantly less likely than public health websites to provide information on fetal alcohol spectrum disorder and less likely to advise that no amount of alcohol is safe during pregnancy. They were significantly more likely to emphasize uncertainties and less likely to use direct language (e.g., "don't drink"). Some alcohol industry-funded (and no public health) websites appear to use "alternate causation" arguments, similar to those used by the tobacco industry, to argue for causes of alcohol harms in pregnancy other than alcohol.

**Conclusions:** Alcohol industry-funded websites omit and misrepresent the evidence on key risks of alcohol consumption during pregnancy. This may "nudge" women toward continuing to drink during pregnancy. These findings suggest that alcohol industry-funded bodies may increase risk to pregnant women by disseminating misinformation. The public should be made widely aware of the risks of obtaining health information from alcohol industry-funded sources.

**Source:** Lim et al. (2019). Pregnancy, Fertility, breastfeeding, and alcohol consumption: An analysis of framing and completeness of information disseminated by alcohol industry-funded organizations. *Journal of Studies on Alcohol and Drugs*, 80(5):524-533.

<https://www.ncbi.nlm.nih.gov/pubmed/?term=pregnacy+fertility+alcohol+funded+organizations>