# Brand-Specific Consumption of Flavored Alcoholic Beverages among Underage Youth in the United States 

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#### Abstract

Background—Although several studies have identified flavored alcoholic beverages (FABs) as being popular among underage drinkers, no previous study has ascertained the prevalence of brand-specific FAB consumption among a national sample of underage youth.

Objectives-To ascertain the brand-specific consumption prevalence and consumption share of FABs among a national sample of underage drinkers in the United States.

Methods-In 2012, we conducted an online, self-administered survey of a national sample of 1,031 underage drinkers, ages 13-20, to determine the prevalence of past 30 -day consumption for each of 898 alcoholic beverage brands, including 62 FABs, and each brand's youth consumption share, based on the estimated total number of standard drinks consumed. There were three brandspecific outcome measures: prevalence of consumption, prevalence of consumption during heavy episodic drinking, and consumption share, defined as the percentage of the total drinks consumed by all respondents combined that was attributable to a particular brand. Results-The FAB brands with the highest prevalence of past 30-day consumption were Smirnoff Malt Beverages, $17.7 \%$; Mike's, $10.8 \%$; Bacardi Malt Beverages, $8.0 \%$; and Four Loko/ Four MaXed, $6.1 \%$. Just five brands accounted for almost half ( $49.1 \%$ ) of the total consumption share by volume within the FAB category.

Conclusion-Flavored alcoholic beverages are highly popular among underage drinkers, and their FAB brand preferences are highly concentrated among a small number of brands. To decrease the consumption of FABs by underage youth, all states should re-classify these beverages as distilled spirits rather than beer.


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## INTRODUCTION

Consumption of alcohol among youth is a serious public health problem in the United States. About $70 \%$ of high school students have consumed alcohol, and more than half of $12^{\text {th }}$ graders have been drunk (1-4). Flavored alcoholic beverages (FABs) are popular among underage drinkers (5-11), with about $43 \%$ of high school students reporting that they have consumed at least one beverage from this category (2).

To the best of our knowledge, only one other study has measured FAB use at the brand level (11). Monitoring the Future and other surveys ask about FAB consumption without clarifying the term or providing a list of specific brands (2), in effect assuming that youth can accurately categorize the alcohol they consume when asked about this alcohol category.

In fact, there is no standard definition of FABs, nor is there a generally accepted list of what types of drinks belong in the category. Further complicating matters, several terms are used to describe these drinks, including "alcopops," "designer drinks," "flavored malt beverages," "low alcohol coolers," "low alcohol refreshers," "malt beverages," "malternatives," "ready-to-drink beverages (RTDs)," and "wine coolers" (7,11,12). Moreover, alcohol companies capitalize on their well-established distilled spirits brands by extending those brands to the FAB market. For example, Smirnoff Vodka shares its brand name and logo with the FAB Smirnoff Ice (7). Ambiguity about what constitutes a FAB makes it likely that youth incorrectly categorize many brands and, therefore, that existing estimates of FAB consumption are inaccurate.

To avoid the limitations of past research, we conducted a national survey of underage drinkers-defined as youth, ages 13-20, who had consumed at least one alcoholic beverage during the past 30 days-to determine which brands they consumed. Here, we present the brand-specific prevalence of consumption for FABs among underage drinkers. We also present each brand's "consumption share," meaning the percentage of the total number of standard drinks consumed during the past 30 days by all respondents combined that was attributable to that brand.

## METHODS

## Design Overview

Here we provide a brief summary of the survey methodology; complete details are provided elsewhere (13). Using a pre-recruited internet panel maintained by Knowledge Networks of Palo Alto, California (14), we obtained a sample of 1,031 underage youth, ages 13-20, who had consumed at least one drink of alcohol during the past 30 days. We conducted an online, self-administered survey, to learn what brands of alcohol respondents had consumed during the past 30 days, the number of days on which each brand was consumed, and the typical number of drinks of each brand that were consumed on those days. We defined each brand's consumption share among underage drinkers as the percentage of the total number of standard drinks consumed during the past 30 days by all respondents combined that was attributable to that brand.

## Sample

We identified youth respondents ages 13-17 by asking adult panelists if they had children in that age range whom Knowledge Networks could invite-with their permission-to participate in a survey. We directly contacted youth respondents ages 18-20. Potential respondents who accepted an email invitation to participate in our survey received a link to a secure website with a screening questionnaire in order to determine if they consumed alcohol during the past 30 days and were therefore eligible for the survey. Participants who
completed the online consent form and survey received a $\$ 25$ gift, credited to their panel account. The Institutional Review Board of the Boston University Medical Center approved this protocol.

The response rates were $43.4 \%$ for 18 - to 20 -year-olds and $44.4 \%$ for 13 - to 17 -year-olds. We dropped a single respondent who reported drinking more than 15 drinks per day of more than 20 different alcohol brands, resulting in a final sample of 1,031 individuals.

To assess the possibility of non-response bias, we compared 18- to 20 -year-old respondents and non-respondents on basic demographic factors, using a chi-square test to assess the significance of observed differences. The non-respondents were slightly older ( $\mathrm{p}<0.05$ ), but similar in gender $(\mathrm{p}=0.41)$. Non-respondents were more likely to be Black ( $\mathrm{p}<0.0001$ ), to come from lower income households ( $\mathrm{p}<0.01$ ), and not to have internet access ( $\mathrm{p}<0.0001$ ). There were no substantial differences by region ( $p=0.11$ ).

## Survey Instrument and Measures

The survey ascertained brand-specific alcohol consumption among underage drinkers for 898 major brands of alcohol, including 62 FABs (Table 1). Prior research on FAB consumption has not specified the specific brands included in this category, nor has it clearly identified what types of beverages are considered to be FABs. We defined FABs as brands belonging to one of three categories of alcoholic beverages: (1) malt-based flavored beverages ( $\mathrm{N}=10$ ); (2) spirits-based pre-mixed and ready-to-drink cocktails ( $\mathrm{N}=44$ ); and (3) supersized alcopops, which are sold in 16-ounce or greater containers and contain at least $10 \%$ alcohol by volume $(\mathrm{N}=8)$. These distinctions are important: all 62 of these brands are widely considered to be FABs, but they differ in terms of serving size (the supersized alcopops can contain two to three times the volume of other brands) and average alcohol content by volume (flavored malt beverages, $7.8 \%$; pre-mixed and ready-to-drink cocktails, $14.2 \%$; and supersized alcopops, $10.8 \%$ ).

To define a "drink," we used the National Institute on Alcohol Abuse and Alcoholism's (NIAAA) definition of a "standard drink," which is one that contains 14 grams of pure alcohol (15). Since FAB brands differ in average alcohol by volume and we wanted to estimate the number of FAB drinks consumed as conservatively as possible, we chose the lowest alcohol content of the FAB brands ( $7.1 \%$ ), by which we pegged one FAB standard drink at 8.5 ounces ( 8.5 ounces times $7.1 \%$ pure alcohol per ounce times 23.3 grams per ounce of pure alcohol = 14 grams of pure alcohol).

To help respondents accurately report the number of standard drinks they consumed, the survey included a visual aid with pictures of various types of alcoholic beverages and the number of ounces that constitute one standard drink (a 12-ounce can of beer, an 8.5-ounce bottle of a FAB, a 1.5 ounce shot of liquor, and a five-ounce cup of wine). This picture was available on each page of the survey, and instructions reminded respondents of the volume size representing one standard drink as they answered questions about each type of alcoholic beverage.

Respondents misclassified 90 brands as "other." We assigned those brands to the correct type (e.g., spirits) or category (e.g., vodka), as appropriate. However, we did not re-calculate the reported number of standard drinks because we could not be sure that respondents used the wrong conversion measure.

There were three primary outcome measures: prevalence of past 30-day consumption of each brand, defined as the percentage of respondents who reported consuming that brand during the past 30 days; consumption prevalence during heavy episodic drinking, defined as
consuming five drinks or more in a row; and each brand's consumption share, defined as the percentage of the total number of standard drinks consumed during the past 30 days by all respondents combined that was attributable to that brand, relative to all FAB brands and all alcohol brands.

To estimate the number of standard drinks of each brand consumed by individual respondents, we multiplied the number of days they reported drinking that brand by the typical number of standard drinks of that brand they reported consuming on those days. We then summed the total number of drinks across all brands and across all respondents. In calculating consumption shares, we included drinks for alcoholic beverages reported as "Other."

We recoded or "winsorized" the data for 12 respondents. Winsorization is defined as the replacement of extreme values with a given, less-extreme value. In our data, the 99th percentile for maximum number of drinks per brand per day was 20. Thus, for each alcohol brand, we winsorized the reported number of drinks per day at $20(16,17)$. Fourteen respondents failed to report the number of days or number of drinks per day for one or more alcohol brands. While these omissions did not affect consumption prevalence estimates, we could not use these cases in determining brand consumption shares and excluded them from that set of calculations.

In order to render the sample representative of the underlying population of 13 - to 20 -yearolds, Knowledge Networks applied statistical weighting adjustments to account for the different selection probabilities associated with the random digit dialing and address-based samples, the oversampling of minority communities, non-response to panel recruitment, and panel attrition (18). Post-stratification adjustments based on demographic distributions from the Current Population Survey (CPS) conducted by the U.S. Bureau of the Census adjusted for gender, age, race/ethnicity, census region, household income, home ownership status, metropolitan area, and household size.

## RESULTS

The final sample, with 1,031 individuals ages $13-20$, was slightly over-representative of females ( $58.5 \%$ ). In addition, the sample was noticeably over-representative of older adolescents (ages 16-18: 44.7\%) and college-age youth (ages 19-20: 43.9\%) compared to younger adolescents (ages 13-15: 11.4\%), due to the fact that the frequency of drinking, and thus survey eligibility, was much lower among younger panelists. The distributions of respondents by race/ethnicity, household income, geographic region, and internet access were approximately representative of youth nationally.

## Prevalence of FAB Consumption among Underage Drinkers

Nearly half of the respondents ( $49.9 \%$ ) consumed a FAB during the past 30 days (Table 2), making these beverages second only to beer among all alcoholic beverage types. Consumption prevalence was higher among females (61.5\%) than males. Consumption was most prevalent among Black, Non-Hispanics $(75.6 \%)$ and least prevalent among White, Non-Hispanics $(41.9 \%)$. There was no significant difference in FAB consumption by age, although consumption prevalence did increase from $43.0 \%$ among 13-15 year-olds to $48.9 \%$ among 16-18 year-olds and $52.1 \%$ among 19-20 year-olds. Income was inversely associated with FAB consumption, which declined from $55.0 \%$ among the lowest income group to $42.2 \%$ among the highest income group.

Consumption prevalence was greatest for flavored malt beverages (33.8\%) followed by premixed and ready-to-drink cocktails (23.9\%) and supersized alcopops (8.6\%). Almost one quarter of the respondents ( $24.5 \%$ ) had consumed at least one FAB during a heavy drinking episode.

## Top FAB Brands among Underage Drinkers

Examination of the consumption prevalence of all alcohol brands in all alcoholic beverage categories revealed that the FAB brand Smirnoff Malt Beverages was the second most commonly consumed brand (13), in addition to being the most popular FAB brand. Within the FAB category, underage drinkers' brand preferences were concentrated among a small number of brands (Table 3). Relative to all FAB brands, only the four most commonly consumed FAB brands had greater than 5\% consumption prevalence: Smirnoff Malt Beverages, $17.7 \%$; Mike's, $10.8 \%$; Bacardi Malt Beverages, $8.0 \%$; and Four Loko/Four MaXed, 6.1\%.

There were only five brands with greater than $5 \%$ consumption share by volume (Table 4), but they accounted for almost half ( $49.1 \%$ ) of the total consumption share within the FAB category: Smirnoff Malt Beverages, 19.7\%; Mike's, 11.9\%; Jack Daniel's Cocktails, 6.1\%; Four Loko/Four MaXed, 6.1\%; and Bacardi Malt Beverages, 5.3\%. Looking across all brands in all alcoholic beverage categories, the top two of these five brands were the only FAB brands that had greater than $1 \%$ consumption shares.

The FAB brand preferences of underage drinkers during heavy episodic drinking (Table 3) were similar to those for general consumption and again, were concentrated among only a few brands.

## Consumption Shares among Underage Drinkers

The consumption share for all FAB brands combined among underage drinkers was $16.1 \%$. By age, the consumption share for all FAB brands combined decreased from $19.6 \%$ among 13 - to 15 -year-olds to $17.2 \%$ among 16 - to 18 -year-olds and $15.2 \%$ among 19 - to 20 -yearolds, although these differences were not statistically significant.

Across all alcoholic beverage categories, five brands had consumption shares of one percent or higher among 13- to 20-year-olds: Smirnoff Malt Beverages, 3.2\%; Mike's, 1.9\%; Jack Daniel's Cocktails, $1.0 \%$; Four Loko/Four MaXed, $1.0 \%$; and Bacardi Malt Beverages, $0.9 \%$.

## Misclassification of FAB Brands

Examination of the brands respondents listed as "Other" in each alcoholic beverage type category revealed that the most common misclassifications involved FABs. They were misclassified as spirits 11 times and as beer 33 times, accounting for 44 of the overall total of 90 misclassifications.

## DISCUSSION

Consistent with past studies, our survey confirmed that FABs are relatively popular among underage drinkers, with about half of respondents reporting past 30-day FAB consumption. Comparably, the 2012 Monitoring the Future data revealed that slightly more than half $(57.5 \%)$ of students in grades 8,10 , and 12 who reported past 30-day alcohol use had consumed at least one FAB during that time period (2). By revealing which FAB brands are most heavily consumed by underage youth, our survey results provide critical information for policymakers, enforcement agencies, public health advocates, and researchers.

The dearth of data on FAB brand preferences among youth has been problematic for at least a decade. In 2003, the Federal Trade Commission (FTC) examined the impact of an increase in FAB advertisements on underage drinkers. Explaining the limitations of its report, the FTC stated, "There [were]... no reliable survey data on the brands that teens drink and thus there [were] no data on whether or how many teens drink FMBs [flavored malt beverages], or the impact of FMB advertising on such drinking" (19). Presently, with our brand-specific data in hand, the Commission will be much better equipped to analyze the impact of FAB advertising on underage drinking.

Our study produced two major findings with important policy implications. First, approximately half of underage drinkers consume FABs, including 43\% of 13- to 15-yearold drinkers and $52 \%$ of 19 - to 20-year-old drinkers. Our data make it clear that to protect underage youth we must appropriately classify and enforce regulations related to FABs.

Proper classification is challenging, due in part to the FAB manufacturing process. It is possible to create FABs from distilled spirits, but the process typically begins with a beer base $(7,11,20)$. Producers extract most of the alcohol and other ingredients from that base, leaving mostly water, and then add distilled spirits and flavorings to create the final product, which often has a very high alcohol concentration $(11,20,21)$.

States have the authority to classify and regulate FABs independent of federal guidelines. In fact, more than half of states legally classify FABs as distilled spirits (20). In 2005, however, the U.S. Treasury's Trade and Tax Bureau (TTB), the federal agency with regulatory authority over alcoholic beverages, ruled that FABs with up to $50 \%$ of their alcohol originating from distilled spirits can be treated as beer $(20,22)$, thus creating a conflict between federal and state laws and regulatory practices (20).

Because alcoholic beverages regulated as distilled spirits are subject to higher taxes and limited retail availability-policy measures known to decrease alcohol consumption-the alcohol industry strongly advocates for FABs to be classified as beer (11,21-26). For example, when classified as beer, these products may often be sold at gas stations and convenience stores, which are open later into the night and tend to have weaker compliance with minimum purchase age laws (27). Unfortunately, many state statutes requiring FABs to be treated as distilled spirits are not enforced (20-23). To protect youth, TTB should classify these beverages at the federal level as distilled spirits, and states should enforce their own statutes that properly classify and regulate FABs. Re-classification of FABs as distilled spirits by the TTB is also necessary since many states have not enacted their own statutes.

Our study's second major finding is that the FAB brand preferences of underage drinkers are highly concentrated among a very small number of brands. Indeed, the top five brands account for nearly half of all FAB consumption.

Future research can build on this finding by examining the relationship between the underage consumption prevalence of FAB brands and advertising overexposure of youth to those brands. Youth are "overexposed" to television advertisements that appear on programs whose audiences have a greater proportion of youth than is found in the general population (28). Previous research conducted by the Center on Alcohol Marketing and Youth found that the FAB brands that most overexposed youth in 2007 were Smirnoff Ice Malt Beverages and Mike's Beverages, brands we found to be very popular with underage drinkers in 2012 (28). While this observation does not establish a causal relationship, it does provide an impetus for further brand-specific research.

There are four key limitations of this study. First, there is the possibility of non-response bias, given the response rates of $43.4 \%$ among young adults and $44.4 \%$ among youth. Based
on a comparison of respondents and non-respondents, the primary concern is that both Black and lower-income youth were less likely to have responded. To reduce the potential for nonresponse bias, we adjusted our estimates, via post-stratification, by weighting the survey responses from Black and lower-income respondents more heavily. Even with this weighting procedure, it remains possible that the under-representation of Black and lowerincome respondents has led us to underestimate overall FAB use in the population since both Blacks and lower income respondents have higher levels of FAB consumption.

Second, the consumption shares of some FAB brands may not be estimated correctly, due to the wide variations in alcohol content and container sizes found in this category. Using NIAAA's definition of a standard drink, we defined one FAB standard drink as 8.5 ounces. Recall that the average alcohol content by volume for pre-mixed and ready-to-drink cocktails was $14.2 \%$, and for supersized alcopops was $10.8 \%$. This means that the survey may have produced underestimates of total consumption for these particular brands. In addition, supersize alcopop FABs sold in large containers can hold the equivalent of more than four standard drinks. Moreover, although respondents were instructed to define one standard drink of a FAB as an 8.5-ounce serving, it is still possible that some respondents inaccurately reported a single can of a supersized alcopop as one standard FAB drink. If so, then this would have resulted in an underestimate of FAB consumption.

Third, it is possible that respondents did not use the correct volumes to report the number of standard drinks for misclassified brands. For example, if a respondent reported a FAB brand in the beer category, the respondent may have used 12 ounces as one standard drink instead of 8.5 ounces, thus underestimating the actual number of standard drinks consumed.

Fourth, the weighting procedure adjusted the sample to the population demographics of all 13-20 year-olds, not specifically to the population of 13-20 year-olds who drink alcohol.

Even with these limitations, these data do reveal the popularity of specific FAB brands among youth. Armed with these data, public health practitioners and policymakers will be better positioned to take steps to dramatically decrease the consumption of FABs by underage drinkers.

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## TABLE 1

Flavored alcoholic beverage (FAB) brands classified as flavored malt beverages, pre-mixed/ready-to-drink cocktails, and supersized alcopops.

| Flavored malt beverages ( $\mathrm{N}=10$ brands) | Pre-mixed/ready-to-drink cocktails ( $\mathrm{N}=44$ brands) | Supersized alcopops $(\mathrm{N}=8 \text { brands })^{1}$ |
| :---: | :---: | :---: |
| Bacardi Malt Beverages | 1800 Margaritas and Cocktails | Blast by Colt 45 |
| Bartles \& Jaymes Wine | American Sweetheart | Evil Eye |
| Coolers and Malt Beverages | Cocktails | Four Loko |
| Charge/Liquid Charge | Bad Juanita's Margaritas | Four MaXed |
| Mike's | Bartenders Cocktails | Joose |
| Peels Malt Beverages | Barton Long Island Iced Tea | Max |
| Seagram's Malt Beverages | Boones Farm Cocktails | Sparks Malt Beverages |
| Smirnoff Malt Beverages | Burnett's Cocktails | Tilt |
| Smirnoff Raw Tea Malt | Captain Morgan's Cocktails |  |
| Beverages | and Malt Beverages |  |
| Twisted Tea Hard Iced Teas | Chi-Chi's Cocktails |  |
| Zima Malt Beverages | Christian Brothers Holiday |  |
|  | Nog |  |
|  | Cocktails by Jenn |  |
|  | Cruzan Mojito |  |
|  | Dailys Cocktails |  |
|  | Dekuyper Ready to Drink |  |
|  | Shots |  |
|  | Desert Island Long Island Iced |  |
|  | Tea |  |
|  | Dirty Blonde Cocktails |  |
|  | El Jimador New Mix Tequila |  |
|  | Cocktails |  |
|  | Evan Williams Egg Nog |  |
|  | Everclear Purple Passion |  |
|  | Evil Spirits Cocktails |  |
|  | Firefly Cocktails |  |
|  | Hula Girl Cocktails |  |
|  | Icebox Cocktails |  |
|  | Jack Daniel's Cocktails |  |
|  | Jeremiah Weed Half and Half |  |
|  | Jose Cuervo Margaritas |  |
|  | Kahlua Cocktails |  |
|  | Malibu Cocktails |  |
|  | Margarita King Margaritas |  |
|  | Margaritaville Cocktails |  |
|  | McCormick Long Island Iced |  |
|  | Tea |  |
|  | Montebello Long Island Iced |  |
|  | Tea |  |
|  | Mr. Boston Egg Nog |  |
|  | Potter's Long Island Iced Tea |  |
|  | Salvador's Margaritas and |  |
|  | Cocktails |  |
|  | Sauza Margaritas and |  |
|  | Cocktails |  |
|  | Skinnygirl Margaritas |  |
|  | Southern Comfort Cocktails |  |
|  | Sweet Magnolia Cocktails |  |
|  | T.G.I. Friday's Cocktails |  |
|  | Tarantula Cocktails |  |
|  | The Club Cocktails |  |
|  | Trader Vic's Cocktails |  |
|  | UV Cocktails |  |

[^1]Table 2
Prevalence of past 30-day consumption of flavored alcoholic beverages (FABs) among 13- to 20-year-old underage drinkers.

| FAB Types | Consumption Prevalence |  |
| :---: | :---: | :---: |
|  | $\begin{gathered} \text { Overall }{ }^{1} \\ \%(95 \% \text { CI) } \end{gathered}$ | Heavy Episodic Drinking ${ }^{2}$ \% (95\% CI) |
| Total all FAB brands ( $\mathrm{N}=62$ brands) | 49.9 (44.9-54.9) | 24.5 (20.2-28.8) |
| Flavored malt beverages ( $\mathrm{N}=10$ brands) | 33.8 (29.1-38.5) | 13.5 (10.2-16.8) |
| Pre-mixed/ready-to-drink cocktails ( $\mathrm{N}=44$ brands) | 23.9 (19.7-28.0) | 11.2 (8.2-14.2) |
| Supersized alcopops ( $\mathrm{N}=8$ brands) | 8.6 (6.2-10.9) | 5.2 (3.3-7.0) |
| Gender |  |  |
| Male | 38.8 (31.5-46.1) | 22.2 (16.0-28.5) |
| Female | 61.5 (55.0-67.9) | 26.9 (21.0-32.8) |
| Age (years) |  |  |
| 13-15 | 43.0 (31.2-54.7) | 18.3 (8.8-27.8) |
| 16-18 | 48.9 (42.7-55.0) | 22.5 (17.2-27.7) |
| 19-20 | 52.1 (43.9-60.4) | 27.3 (20.2-34.5) |
| Race/Ethnicity |  |  |
| White/Non-Hispanic | 41.9 (35.6-48.1) | 21.7 (16.6-26.8) |
| Black/Non-Hispanic | 75.6 (65.1-86.1) | 36.2 (20.8-51.7) |
| Hispanic | 55.2 (44.6-65.8) | 24.7 (14.8-34.7) |
| Other | 56.9 (40.0-73.8) | 28.4 (14.6-42.3) |
| Median household income |  |  |
| Less than \$15,000 | 55.0 (43.5-66.5) | 34.5 (23.8-45.3) |
| \$15,000-\$39,999 | 59.5 (49.4-69.6) | 31.2 (20.7-41.8) |
| \$40,000-\$99,999 | 48.1 (40.3-55.8) | 21.6 (15.3-28.0) |
| \$100,000 or more | 42.2 (30.9-53.4) | 17.8 (9.3-26.3) |

[^2]
## Table 3

Prevalence of past 30-day brand-specific consumption of flavored alcoholic beverages (FABs) overall and during heavy episodic drinking among 13- to 20-year-old underage drinkers.

|  | Consumption Prevalence |  |
| :--- | :---: | :---: |
| Brand | Overall <br> $\boldsymbol{\%}(\mathbf{9 5 \%} \mathbf{C I})$ | Heavy Episodic Drinking <br> $\boldsymbol{\%}(\mathbf{9 5 \%} \mathbf{~ C I})$ |
| Smirnoff Malt Beverages | $17.7(13.6-21.8)$ | $7.5(4.6-10.3)$ |
| Mike's | $10.8(7.9-13.6)$ | $3.4(1.9-5.0)$ |
| Bacardi Malt Beverages | $8.0(5.1-11.0)$ | $2.6(1.2-4.0)$ |
| Four Loko/Four MaXed | $6.2(4.1-8.2)$ | $3.5(2.0-5.0)$ |
| Bartles \& Jaymes | $4.8(2.6-7.0)$ | $1.3(0.4-2.2)$ |
| Jack Daniel's Cocktails | $4.4(2.4-6.5)$ | $2.1(0.9-3.3)$ |
| Captain Morgan's Cocktails | $4.2(2.5-5.9)$ | $1.1(0.3-1.9)$ |
| 1800 Margaritas and Cocktails | $3.4(1.5-5.3)$ | $1.2(0.4-1.9)$ |
| Seagram's Flavored Malt Beverages | $3.2(1.7-4.6)$ | $1.2(0.3-2.0)$ |
| Malibu Cocktails | $3.0(1.2-4.8)$ | $1.6(0.0-3.1)$ |
| Jose Cuervo Margaritas | $2.8(1.0-4.5)$ | $0.9(0.1-1.6)$ |
| Bartenders Cocktails | $2.5(0.8-4.2)$ | $0.6(0.1-1.2)$ |
| Twisted Tea Hard Iced Teas | $2.4(1.2-3.7)$ | $1.0(0.4-1.6)$ |
| UV Cocktails | $2.2(1.0-3.5)$ | $0.9(0.2-1.6)$ |
| Boones Farm Cocktails | $2.1(1.0-3.3)$ | $0.5(0.0-0.9)$ |
| Kahlua Cocktails | $1.8(0.6-3.0)$ | $0.2(0.0-0.3)$ |
| Blast by Colt 45 | $1.5(0.3-2.8)$ | $0.6(0.0-1.3)$ |
| T.G.I. Friday's Cocktails | $1.5(0.6-2.4)$ | $0.5(0.0-1.0)$ |
| Everclear Purple Passion | $1.5(0.4-2.5)$ | $0.5(0.0-1.1)$ |
| Dailys Cocktails | $1.3(0.4-2.2)$ | $0.5(0.0-1.1)$ |
| Sparks Malt Beverages | $1.3(0.4-2.2)$ | $0.9(0.1-1.7)$ |
| Barton Long Island Iced Tea | $1.1(0.3-2.0)$ | $0.7(0.0-1.4)$ |
| Southern Comfort Cocktails | $1.1(0.0-2.6)$ | $0.2(0.0-0.4)$ |
|  | $0.6(0.0-1.1)$ |  |
|  | $4.7(2.6-6.8)$ |  |

${ }^{1}$ Percentage of respondents who reported consuming at least one brand-specific FAB during heavy episodic drinking, defined as having five or more drinks in a row.

2 The 36 FAB brands with less than $1 \%$ overall consumption prevalence.

Table 4
Consumption shares for specific brands of flavored alcoholic beverages (FABs) among 13to 20-year-old underage drinkers

| Brand | Percent Consumption Share by Volume |  |
| :---: | :---: | :---: |
|  | $\begin{aligned} & \text { Relative to FAB Brands }{ }^{1} \\ & \%(95 \% \text { CI) }) \end{aligned}$ | $\begin{aligned} & \text { Relative to All Alcohol Brands }{ }^{2} \\ & \%(95 \% \mathrm{CI}) \end{aligned}$ |
| Smirnoff Malt Beverages | 19.7 (12.2-27.2) | 3.2 (2.0-4.4) |
| Mike's | 11.9 (5.6-18.3) | 1.9 (0.9-2.9) |
| Jack Daniel's Cocktails | 6.1 (3.4-8.8) | 1.0 (0.6-1.4) |
| Four Loko/Four MaXed | 6.1 (2.9-9.2) | 1.0 (0.5-1.5) |
| Bacardi Malt Beverages | 5.3 (3.6-7.0) | 0.9 (0.6-1.1) |
| Dailys Cocktails | 3.2 (0.4-5.9) | 0.5 (0.1-1.0) |
| Bartles \& Jaymes | 3.0 (1.2-4.8) | 0.5 (0.2-0.8) |
| Bartenders Cocktails | 2.8 (0.0-5.6) | 0.5 (0.0-0.9) |
| UV Cocktails | 2.7 (1.0-4.4) | 0.4 (0.2-0.7) |
| Captain Morgan's Cocktails | 2.6 (1.1-4.0) | 0.4 (0.2-0.6) |
| Twisted Tea Hard Iced Teas | 1.9 (0.4-3.5) | 0.3 (0.1-0.6) |
| Seagram's Malt Beverages | 1.9 (0.7-3.0) | 0.3 (0.1-0.5) |
| 1800 Margaritas and Cocktails | 1.8 (0.5-3.0) | 0.3 (0.1-0.5) |
| Malibu Cocktails | 1.5 (0.7-2.2) | 0.2 (0.1-0.4) |
| Boones Farm Cocktails | 1.4 (0.1-2.8) | 0.2 (0.0-0.4) |
| Jose Cuervo Margaritas | 1.4 (0.6-2.1) | 0.2 (0.1-0.3) |
| Sparks Malt Beverages | 1.3 (0.3-2.4) | 0.2 (0.0-0.4) |
| Southern Comfort Cocktails | 1.1 (0.4-1.9) | 0.2 (0.1-0.3) |
| Kahlua Cocktails | 1.1 (0.4-1.8) | 0.2 (0.1-0.3) |
| Blast by Colt 45 | 1.1 (0.3-1.9) | 0.2 (0.0-0.3) |
| Tilt | 1.0 (0.1-1.9) | 0.2 (0.0-0.3) |
| Everclear Purple Passion | 0.9 (0.4-1.4) | 0.1 (0.1-0.2) |
| T.G.I. Friday's Cocktails | 0.8 (0.0-1.6) | 0.1 (0.0-0.3) |
| Barton Long Island Iced Tea | 0.6 (0.1-1.2) | 0.1 (0.0-0.2) |
| $\text { Other }{ }^{3} \text { ( } n=36 \text { brands) }$ | 18.8 (9.9-27.7) | 3.0 (1.6-4.5) |

${ }^{1}$ Calculated by dividing the total number of drinks of each brand during the past 30 days by the total number of drinks of all FAB brands during the past 30 days.
${ }^{2}$ Calculated by dividing the total number of drinks of each brand during the past 30 days by the total number of drinks of all brands from all alcoholic beverage categories during the past 30 days.
${ }^{3}$ The 36 FAB brands with less than $1 \%$ overall consumption prevalence


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    Declaration of Interest
    The authors report no conflicts of interest.

[^1]:    $I$ supersized alcopops are flavored alcoholic beverages ( FABs ) sold in 16-ounce or greater containers that contain at least $10 \%$ alcohol by volume.

[^2]:    ${ }^{1}$ Percentage of respondents who reported consuming at least one FAB during the past 30 days.
    ${ }^{2}$ Percentage of respondents who reported consuming at least one FAB during heavy episodic drinking, defined as having five or more drinks in a row.

