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Sugar-sweetened Beverage Consumption among Adults in St. Louis City & County, MO, 2017

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Key Findings

- **On average, St. Louis adults aged 18-64 consume SSBs 1.5 times per day in a month.**
- **Over eight in ten adults (85.0%) consume at least one SSB in a month, approximately one in three (34.6%) consume SSBs at least one time per day in a month, and nearly one in four (22.2%) consume SSBs two or more times per day in a month.**
- **Frequent SSB consumption is less prevalent in adults aged 50-64 (11.3%) compared to adults aged 18-34 (27.0%) and aged 35-49 (29.0%).**
- **Non-Hispanic black adults are more likely to be frequent SSB consumers (34.1%) compared to non-Hispanic white (17.2%) and Hispanic adults (23.3%).**
- **Lower-educated adults are more likely to be frequent SSB consumers. The prevalence of SSB consumption falls as education levels increase.**

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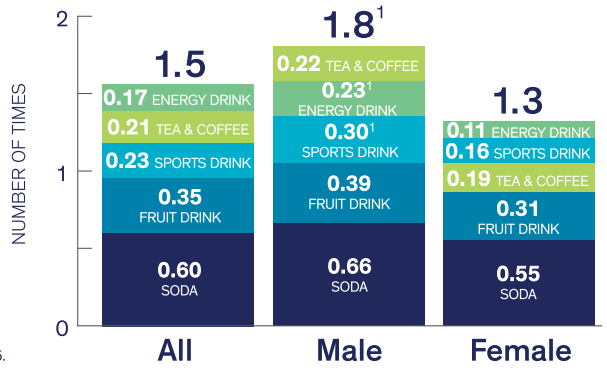
Sugar-sweetened beverages (SSBs) are the largest contributor of added sugar in the American diet[1] and are associated with obesity as well as type 2 diabetes, cardiovascular disease, dental caries, and osteoporosis.[2-4] In Missouri, approximately 32% of residents are obese and 67% are overweight or obese.[5] The City of St. Louis and the County of St. Louis closely mirror state obesity rates at 33% and 29%, respectively.[6] Additionally, 12% of Missouri residents have diabetes and 34% have hypertension.[5] A report including all Missouri counties and the City of St. Louis (115 jurisdictions in total), ranks the City of St. Louis unfavorably at 112/115 and 113/115 for health correlates (e.g., diet and exercise, smoking, education, income) and health outcomes (e.g., quality of life, length of life), respectively.[7]

While there have been recent reductions in SSB consumption, half of United States (U.S.) adults and 60% of U.S. youth consumed at least one SSB on a given day in 2013-14.[8] In fact, from 2011 to 2014, 6.5% of U.S. adults' daily energy intake came from SSBs.[9] Decreasing SSB consumption is a key strategy and policy focus recommended by the Institute of Medicine and the World Health Organization for reducing obesity and risk of related adverse health outcomes.[10,11] This research brief presents information on the frequency of SSB consumption among a sample of 2,473 adults aged 18-64 living in St. Louis City and County (hereafter referred to as St. Louis), MO in June, 2017, including by SSB type: soda, fruit drinks, sports drinks, energy drinks, and tea/coffee. Consumption estimates are also presented by age, race/ethnicity, and education for all adults, as well as separately for males and females.

Number of times per day SSBs are consumed

- On average, adults aged 18-64 consume SSBs 1.5 times per day in a month.
- On average, adults consume soda 0.6 times per day in a month, followed by fruit drinks (0.4 times), and each of sports drinks, tea/coffee, and energy drinks (0.2 times).
- Soda is the most frequently consumed type of SSB for both males (on average, 0.7 times per day in a month) and females (on average, 0.6 times per day in a month).
- Males consume SSBs more frequently than females (on average, 1.8 versus 1.3 times per day in a month). In particular, males consume energy and sports drinks about twice as many times per day in a month than females.

FIGURE 1
Number of times adults aged 18-64 consume sugar-sweetened beverages, on average, per day in a month, by beverage type and gender, St. Louis City & County, MO, 2017

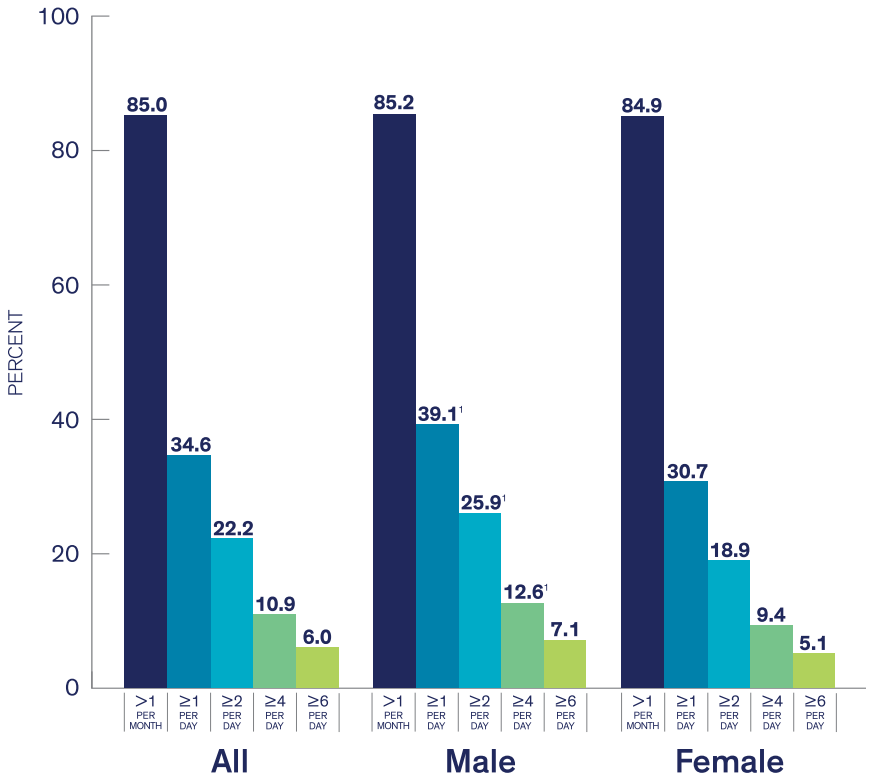


[1]Significantly different from female, $p \leq 0.05$.

Frequency of SSB consumption

- 85.0% of adults consume SSBs at least one time in a month.
- Over one third of adults (34.6%) consume SSBs daily (≥1 time per day in a month).
- More than two in ten adults (22.2%) are frequent SSB consumers (≥2 times per day in a month), one in ten adults (10.9%) are heavy SSB consumers (≥4 times per day in a month), and one in sixteen adults (6.0%) are very heavy SSB consumers (≥6 times per day in a month).
- Approximately one in four male adults (25.9%), compared to nearly one in five female adults (18.9%), are frequent SSB consumers.
- Daily consumption among adults is 16.2% for soda, 8.8% for fruit drinks, 4.7% for tea/coffee, 4.9% for sports drinks, and 3.8% for energy drinks (not shown in figures).
- Frequent consumption among adults is 12.4% for soda, 5.8% for fruit drinks, 3.0% for tea/coffee, 2.8% for sports drinks, and 2.5% for energy drinks (not shown in figures).

FIGURE 2 **Percentage of adults aged 18-64 who consume sugar-sweetened beverages at least one time in a month and consume SSBs one or more, two or more, four or more, and six or more times per day in a month by gender, St. Louis City & County, MO, 2017**

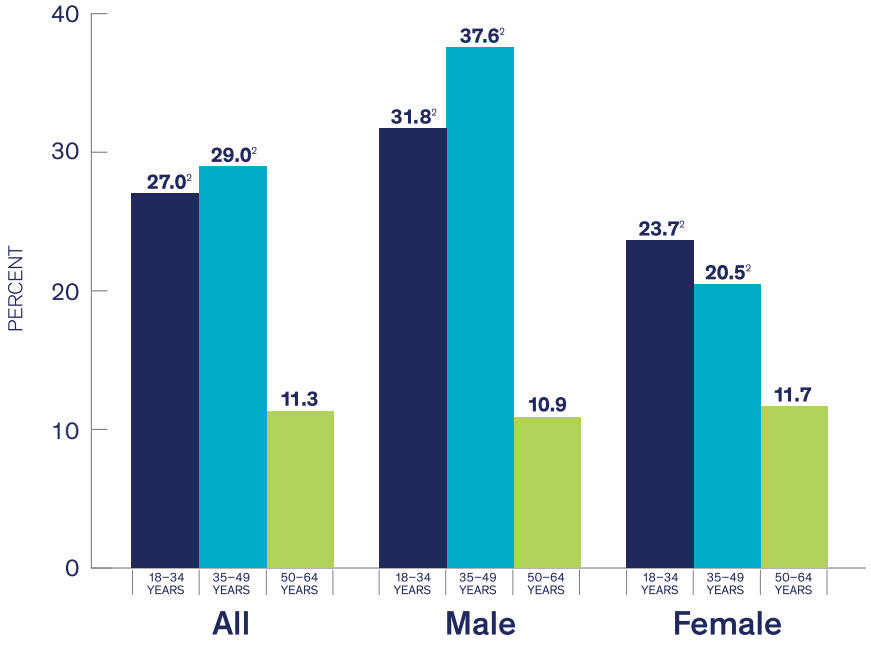


[1]Significantly different from female, $p \leq 0.05$.

Frequent SSB consumption, by age

- Nearly 3 out of 10 adults aged 18-34 (27.0%) and 35-49 (29.0%) are frequent SSB consumers compared to just over one in ten (11.3%) adults aged 50-64 years.
- Both older female and older male adults are less likely to be frequent SSB consumers: for females, 11.7% for ages 50-64 versus 23.7% for 18-34 and 20.5% for 35-49; and for males, 10.9% for ages 50-64 versus 31.8% for 18-34 and 37.6% for 35-49.
- Heavy SSB consumption is also significantly less prevalent among older adults (4.3% for ages 50-64) compared to young adults (14.1% for ages 18-34) and middle-aged adults (14.6% for ages 35-49)(not shown in figures).

FIGURE 3 **Percentage of adults aged 18–64 who consume sugar-sweetened beverages frequently (≥2 times per day in a month), by gender and age, St. Louis City & County, MO, 2017**

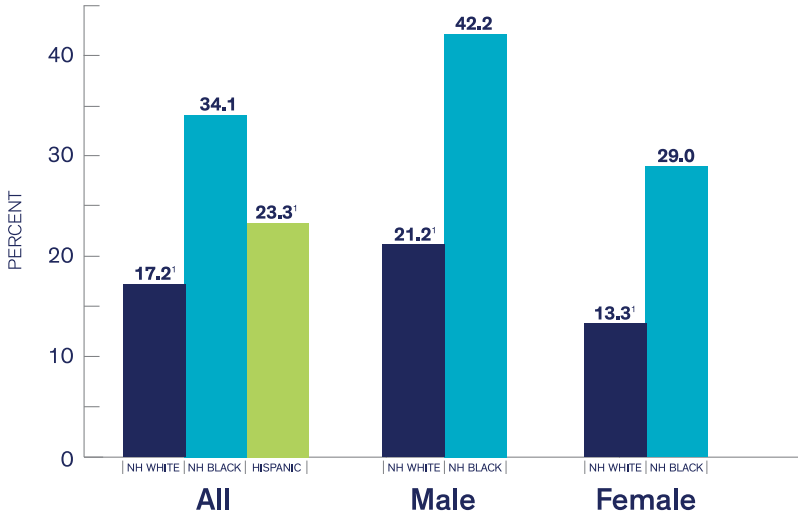


[1]Significantly different from ages 35–49, $p \leq 0.05$.
[2]Significantly different from ages 50–64, $p \leq 0.05$.

Frequent SSB consumption, by race/ethnicity

- 34.1% of non-Hispanic black adults are frequent SSB consumers. This is nearly twice the rate of non-Hispanic white adults (17.2%), and nearly 50% greater than the rate for Hispanic adults (23.3%).
- For males, frequent SSB consumption is 42.2% among non-Hispanic black adults compared to 21.2% among non-Hispanic white adults. Similarly, for females, a higher percentage of non-Hispanic black adults (29.0%) are frequent SSB consumers than non-Hispanic white adults (13.3%).

FIGURE 4 **Percentage of adults aged 18-64 who consume sugar-sweetened beverages frequently (≥2 times per day in a month), by gender and race/ethnicity,[a] St. Louis City & County, MO, 2017**



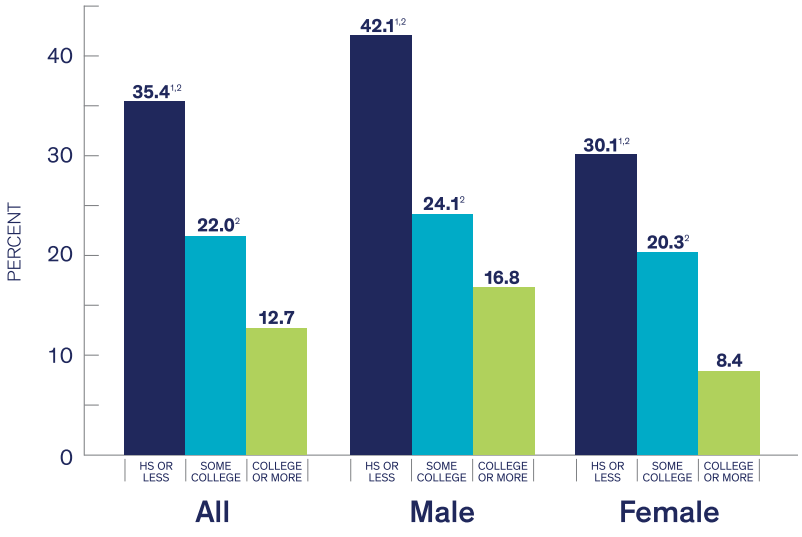
[1]Significantly different from non-Hispanic black, p ≤ 0.05.
[a]Data on Hispanic not reported by gender due to insufficient sample size.

NH: non-Hispanic
Other/mixed: not shown

Frequent SSB consumption, by education

- Frequent SSB consumption is significantly greater for lower versus higher educated adults. 35.4% of adults with high school education or less, 22.0% of adults with some college, and 12.7% of adults with a college degree or more are frequent SSB consumers.
- Frequent SSB consumption is also significantly different by education level for both males and females.
- Percentage of frequent SSB consumption is 3.6 times greater for low-educated (high school or less) versus high-educated (college degree or more) females and 2.5 times greater for low-educated versus high-educated males.

FIGURE 5 **Percentage of adults aged 18-64 who consume sugar-sweetened beverages frequently (≥2 times per day in a month), by gender and education, St. Louis City & County, MO, 2017**



[1]Significantly different from some college, p ≤ 0.05.
[2]Significantly different from college degree or more, p ≤ 0.05.

HS: high school

Summary

On average, adults aged 18-64 in St. Louis, MO, consume SSBs 1.5 times per day in a month, with significantly higher consumption frequency among male compared to female adults. A number of differences in the frequency of SSB consumption exist by demographic and socioeconomic characteristics. Frequent SSB consumption is significantly more prevalent among adults aged 18-34 and 35-49, compared to adults aged 50-64. Adults aged 18-49 are consistently more likely to be very heavy SSB consumers compared to adults 50-64. Frequent SSB consumption is higher among non-Hispanic black adults compared to non-Hispanic white and Hispanic adults, and for lower- compared to higher-educated adults. These differences in SSB consumption may contribute to disparities in obesity and related health outcomes.

Definitions

Sugar-sweetened beverages (SSBs):
SSBs include the following categories of calorically sweetened beverages: soda, fruit drinks, sports drinks, energy drinks, and bottled iced tea/coffee.

Any SSB Consumption:
SSBs are consumed at least one time in the past month.

Daily Consumption:
SSBs are consumed ≥1 time per day in the past month.

Frequent SSB Consumption:
SSBs are consumed ≥2 times per day in the past month.

Heavy SSB Consumption:
SSBs are consumed ≥4 times per day in the past month.

Very Heavy SSB Consumption:
SSBs are consumed ≥6 times per day in the past month.

Data and Methods

The data for this study were drawn from an online survey of St. Louis, MO, adults 18-64 years of age administered by Qualtrics, Provo, UT, in June 2017.[12] Data were collected on food and beverage consumption and on demographic and socioeconomic characteristics. Data were weighted to be representative of the demographic and socioeconomic composition of adults in St. Louis, MO.[13,14]

The final analytic sample consisted of 2,473 people. Consumption data were collected using frequency measures based on the Dietary Screener Questionnaire (DSQ) in the NHANES 2009-2010[15,16] for five types of SSBs: soda, fruit drinks, sports drinks, energy drinks and bottled iced tea/coffee. Specifically, the following question was used for each SSB type: *During the past month, how often did you drink [SSB type] that contains sugar? Do not include diet [SSB type]. Respondents were able to choose one of the following responses: Never; 1 time last month; 2-3 times last month; 1 time per week; 2 times per week; 3-4 times per week; 5-6 times per week; 1 time per day; 2-3 times per day; 4-5 times per day; 6 or more times per day.* An overall SSB consumption measure was constructed by aggregating the number of times per day in the past month each of the five types of SSBs were consumed. Means were reported for the number of times per day SSBs were consumed in the past month, including by SSB type. The prevalence of SSB consumption at least one time in the past month and the prevalence of daily, frequent, heavy, and very heavy SSB consumption in the past month were reported.

Summary statistics were reported for the full sample and by gender, and also by age, race/ethnicity, and education for the full sample and separately for male and female samples. Data on Hispanic is not reported by gender due to insufficient sample size.[17] The estimates by gender, and by age, race/ethnicity and education within the male and female samples were tested using t-tests (for the number of times consumed) and z-tests (for frequency prevalence) to determine statistically significant ($p \leq 0.05$) differences.

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