

Sugary drink advertising to youth: Continued barrier to publichealth progress

## UCONN

RUDD CENTER
FOR FOOD POLICY \& OBESITY

## Sugary Drink FACTS 2020

## Sugary drink advertising to youth:

## Continued barrier to public health progress

## Authors:

Jennifer L. Harris, PhD, MBA
Frances Fleming-Milici, PhD
Ahmad Kibwana-Jaff
Lindsay Phaneuf, MPH

UConn Rudd Center for Food Policy \& Obesity June 2020

## ACKNOWLEDGEMENTS

We would like to thank the following researchers for their valuable assistance with data collection, analysis, and report preparation:

Yoon Young Choi, Pranulin Phrommavanh, and Haley Gershman.

Special thanks to our colleagues at the Rudd Center, especially Kristin Messina, Sally Mancini, and Michelle Bates. We thank Adam Zimmerman and Burness Communications for their communications support and Bernardesign for designing the report. Finally, we thank the leadership and staff at the Robert Wood Johnson Foundation, with special thanks to Tina Kauh and Katherine Hempstead.

This work was supported by a grant from the Robert Wood Johnson Foundation, Princeton, NJ. The views expressed here do not necessarily reflect the views of the Foundation.
List of Tables ..... iv
Ranking Tables ..... iv
List of Figures ..... v
Executive Summary ..... 6
Introduction ..... 12
Results ..... 15
Sugary drink market ..... 15
Nutrition content ..... 17
Advertising ..... 20
Advertising spending ..... 20
TV advertising exposure ..... 26
Advertising summary ..... 32
Advertising to Hispanic and Black youth ..... 33
Advertising on Spanish-language TV ..... 33
Exposure to TV advertising by Black youth ..... 37
Discussion ..... 43
Endnotes ..... 50
Appendices ..... 53
Ranking Tables ..... 53
Methods ..... 68

## LIST OF TABLES

Table 1. Companies with brands in multiple categories ..... 16
Table 2. Companies with brands in one drink category ..... 17
Table 3. Sugary drink nutrition by category ..... 18
Table 4. Ad spending by drink category and media type: 2018. ..... 22
Table 5. Changes in ad spending by company and sugary drink category: 2010-2018 ..... 23
Table 6. Brands with the greatest increase in ad spending: 2013-2018 ..... 25
Table 7. Brands with the greatest decrease in ad spending: 2013-2018 ..... 26
Table 8. TV advertising exposure for preschoolers and children by category: 2010-2018 ..... 27
Table 9. TV advertising exposure for teens by category: 2010-2018 ..... 29
Table 10. Top-10 sugary drink brands (including children's drinks) advertised to children: 2018 ..... 30
Table 11. Sugary drink sub-brands targeted to teens: 2018 ..... 31
Table 12. Brands with the greatest increase in TV ad exposure: 2013-2018 ..... 32
Table 13. Brands with the greatest decrease in TV ad exposure: 2013-2018 ..... 32
Table 14. Spanish-language TV ad spending by category: 2010-2018 ..... 34
Table 15. Advertising spending on Spanish-language TV by brand: 2018 ..... 36
Table 16. Black children's exposure to TV advertising by category: 2013-2018 ..... 39
Table 17. Black teens' exposure to TV advertising by category: 2013-2018 ..... 39
Table 18. Brands with the highest Black teen-targeted ratios: 2018 ..... 41
Table 19. Summary of advertising and targeting by company: 2018 ..... 46
Ranking Tables
Appendix Table 1: Nutrition information for sugary drinks and energy drinks ..... 53
Appendix Table 2: Advertising spending by brands and companies ..... 56
Appendix Table 3: Exposure to TV advertising by children. ..... 59
Appendix Table 4: Exposure to TV advertising by teens ..... 61
Appendix Table 5: Exposure to Spanish-language TV advertising by Hispanic youth ..... 63
Appendix Table 6: Exposure to TV advertising by Black children ..... 64
Appendix Table 7: Exposure to TV advertising by Black teens ..... 66

## LIST OF FIGURES

Figure 1. Total ad spending by category: 2018 ..... 21
Figure 2. Changes in ad spending by category: 2010-2018 ..... 21
Figure 3. Ad spending by media type: 2018 ..... 22
Figure 4. Ad spending by company: 2018. ..... 23
Figure 5. Proportion of ad spending on lower-calorie and diet sub-brands: 2018 ..... 24
Figure 6. Trends in youth exposure to TV advertising: 2010-2018 ..... 27
Figure 7. Trends in TV viewing times: 2010-2018 ..... 27
Figure 8. TV ads viewed by preschoolers and children, including children's drinks: 2010-2018 ..... 28
Figure 9. Changes in TV ad exposure by company for preschoolers and children: 2010-2018 ..... 29
Figure 10. Changes in TV ad exposure by company for teens: 2010-2018 ..... 30
Figure 11. Spanish-language and total TV ad spending by category: 2018 ..... 34
Figure 12. Ads viewed by Hispanic youth on Spanish-language TV by category: 2010-2018 ..... 35
Figure 13: Changes in Spanish-language TV ad spending by company: 2010-2018 ..... 35
Figure 14: TV viewing time and TV ad exposure for Black and White youth: 2013-2018 ..... 38
Figure 15. Black and White youth exposure to TV advertising by company: 2018 ..... 40
Figure 16. Summary of sugar content of sugary drinks by category ..... 44

High rates of sugary drink intake among children and teens, including youth of color, continue to raise public health concerns. Despite beverage companies' pledges to reduce beverage calories, the findings in this report demonstrate that advertising of sugary drinks and energy drinks has increased, including ads targeted to teens and Hispanic and Black youth.
Sugary drink consumption by children and teens remains a significant public health concern. More than one-half of youth consume at least one sugary drink on a given day. ${ }^{1}$ Sugary drinks contribute approximately one-half of added sugars in young people's diets, ${ }^{2}$ with teens and young adults consuming more sugary drinks than other age groups. ${ }^{3}$ Consumption is also higher among low-income youth and non-Hispanic Black and Mexican-American children and teens. ${ }^{4-6}$ Disproportionate sugary drink consumption raises additional concerns about health disparities affecting low-income youth and communities of color. ${ }^{7-9}$ While youth consumption of regular soda and fruit drinks has recently declined, ${ }^{10}$ youth consumption of sports drinks and energy drinks has increased. ${ }^{11-13}$

Recognizing the role beverage companies may play in unhealthy rates of sugary drink consumption, industry groups have launched voluntary initiatives to advertise only healthier beverages to children under age $12{ }^{14}$ and to increase consumer demand for lower-calorie choices. ${ }^{15}$ However, any promises by beverage companies to reduce advertising or other forms of marketing for sugary drinks to children age 12 and older or to youth in communities of color have been notably absent. Therefore, independent research is necessary to continue to monitor beverage company advertising of sugary drinks.

This report assesses nutrition content and 2018 advertising spending, TV advertising exposure, and targeted advertising for sugary drinks, excluding children's drinks that were previously reported in Children's Drink FACTS. ${ }^{16}$

## Methods and scope

Using Nielsen data, we identified brands in the soda, sports drink, energy drink, iced tea, fruit drink, and flavored water categories that spent at least $\$ 100,000$ in advertising and that contained added sugar, excluding children's drinks previously reported. We also report on diet soda and diet drinks in the same categories for comparison. All energy drinks and shots, including drinks without added sugar, are included in total sugary drink numbers.

Advertising spending in all media (including TV, magazines, and digital) and TV exposure data were licensed from Nielsen. Utilizing the same methods as previous FACTS reports, we collected data on the nutrition content and advertising of
sugary drinks and energy drinks by category, company, and brand in 2018. We assessed changes in advertising from 2010 and 2013 when possible. We also identified categories, companies, and brands with TV advertising targeted to teens, Hispanic youth, and/or Black youth.

Analyses include:

- Nutrition content and ingredients in advertised sugary drinks and energy drinks for package types and sizes listed on brand websites (Dec 2019 - Feb 2020).
- Advertising spending for sugary drinks and diet drinks (2018).
- Exposure to TV advertising by preschoolers (2-5 years), children (6-11 years), and teens (12-17 years), including targeted ratios of ads viewed by teens versus adults (2018).
- TV advertising targeted to Black and Hispanic consumers, including ads on Spanish-language TV and targeted ratios of ads viewed by Black youth versus White youth (2018).
- Changes in advertising spending and TV ad exposure from 2010 and 2013 (reported in Sugary Drink FACTS 2014 ${ }^{17}$ ).


## Results

A total of 48 brands (89 sub-brands) of sugary drinks and energy drinks from 24 different companies each spent at least \$100,000 in total advertising in 2018. They included 18 regular soda, 11 energy drink, eight iced tea, six fruit drink, four sports drink, and one flavored water brand.

## What is the nutrition content of advertised sugary drinks?

Median serving sizes of products ranged from 12 ounces for regular soda, fruit drinks, and sports drinks, to 16 ounces for energy drinks, 16.9 ounces for iced tea, and 20 ounces for flavored water. Median sugar content and other ingredients varied by category.

- Sugar-sweetened energy drinks and regular soda had the highest median sugar content in our analysis at 44 grams and 37 grams, respectively. One regular soda product had the highest calories and sugar of any product analyzed: 310 calories and 81 grams of sugar in a 20-ounce container.
- Products in other categories had somewhat less sugar, with a median sugar content of 27 grams for flavored water, 25.5 grams for iced tea, 23 grams for fruit drinks, and 21 grams for sports drinks.
- A number of brands offered products that contained zerocalorie sweeteners in addition to added sugar, including $88 \%$ of sugar-sweetened energy drinks, $40 \%$ of iced tea, and approximately $30 \%$ of fruit drink, sports drink, and regular soda sub-brands.
- The median caffeine content in energy drinks (including sugar-sweetened and zero-sugar products) was 160 milligrams. One product had 350 milligrams in a 16 -ounce non-resealable can.


## How has sugary drink advertising spending changed?

In 2018, beverage companies spent $\$ 1.04$ billion to advertise sugary drinks and energy drinks - in addition to the $\$ 21$ million spent to advertise sweetened children's drinks - a $26 \%$ increase from 2013. However, changes in ad spending varied by category.

- More than one-half of these ad expenditures (\$586 million) promoted regular soda and soda brands (ads that promoted the brand and did not specify a regular or diet product), an increase of $41 \%$ versus 2013.
- Sports drink advertising increased by $24 \%$, totaling $\$ 159$ million in 2018; advertising for iced tea almost tripled, from $\$ 38$ million in 2013 to $\$ 111$ million in 2018.
- Advertising for energy drinks declined by $34 \%$, but energy drinks still ranked third in total advertising spending (\$115 million) in 2018.
- Ad spending declined by $5 \%$ for fruit drinks and flavored water (combined), totaling $\$ 28$ million in 2018.
- Companies allocated $84 \%$ of total advertising spending to TV advertising in 2018, a similar proportion to 2013 (85\%). Digital, magazine, outdoor, and radio advertising each represented 3 to $4 \%$ of total ad spending in 2018.
Most brands that offered lower-calorie and/or diet varieties, in addition to high-sugar products, allocated the majority of ad expenditures to high-sugar varieties.
- Advertising spending for diet and unsweetened drink categories (including plain water and $100 \%$ juice) totaled $\$ 573$ million in 2018 - less than the amount spent to advertise regular soda and soda brands alone.
- Regular soda varieties outspent diet soda by $78 \%$ ( $\$ 525$ vs. $\$ 296$ million), while sugar-sweetened sports drinks, iced tea, fruit drinks, and flavored water outspent diet varieties (i.e., products with no added sugar) of these categories by more than five times ( $\$ 298$ vs. $\$ 58$ million).
- Three Coca-Cola brands were the only brands to allocate more than $50 \%$ of their advertising spending to low-calorie and/or diet versions: Coke devoted $55 \%$ to diet varieties (Coke Zero and Diet Coke); Simply devoted $71 \%$ to Simply Light low-calorie and diet fruit drinks; and Glaceau Vitaminwater allocated $90 \%$ to Vitaminwater Zero.


## Are preschoolers, children, and teens seeing less TV advertising for sugary drinks?

Changes in young people's exposure to TV advertising must be evaluated in the context of substantial declines in the amount of time they spend watching TV. From 2013 to 2018, average TV viewing times declined by $35 \%$ for preschoolers (2-5 years), by 42\% for children (6-11 years), and by $52 \%$ for teens (12-17 years).

- Still, preschoolers saw $26 \%$ more TV ads for sugary drinks in 2018 than in 2013, and children's exposure increased by $8 \%$. Preschoolers and children viewed on average 139 and 135 TV ads, respectively, for sugary drinks and energy drinks in 2018. By comparison, preschoolers and children saw 38 and 45 TV ads for sweetened children's drinks. ${ }^{18}$
- From 2013 to 2018, teens' exposure to sugary drink TV ads declined by $35 \%$ to 169 ads, but this decline was less than expected given the $52 \%$ decline in TV viewing time.
- Regular soda/soda brand ads viewed increased for all age groups: by $78 \%$ for preschoolers, $55 \%$ for children, and 1\% for teens (72, 69, and 87 ads viewed in 2018, respectively).
- Exposure to TV ads for iced tea increased by more than two-and-a-half times for preschoolers and children (25 ads viewed in 2018 each) and by $68 \%$ for teens ( 29 ads viewed).
- Sports drink ads viewed increased for preschoolers (+11\%), while declines for children (-13\%) and teens (-38\%) were less than expected given reductions in TV viewing times (16, 15, and 21 ads viewed in 2018).
- Preschoolers, children, and teens saw less than one-half the number of energy drink ads in 2018 compared to 2013. However, energy drinks continued to rank third in number of ads viewed by all age groups in 2018 (behind regular soda/ soda brands and iced tea) ( 17 ads viewed by preschoolers and children and 23 ads viewed by teens).

Furthermore, some categories appeared to target TV advertising to teens, as evidenced by disproportionately high ratios of ads viewed by teens versus adults (i.e., teentargeted ratios).

- Energy drinks and sports drinks had higher-than-average teen-targeted ratios ( 0.53 and 0.52, respectively). Flavored water had the highest teen-targeted ratio (0.60) but the number of ads viewed was low.
- Teen-targeted ratios for regular soda/soda brand ads (0.49) and iced tea ads (0.48) were comparable to differences in TV viewing times for teens versus adults. Teen-targeted ratios for all other categories (fruit drinks, drink brands, and diet drinks) were lower than expected ( 0.44 or less) given differences in TV viewing times.


## How has targeting of sugary drinks to Hispanic and Black youth changed?

Regular soda/soda brands, sports drinks, and energy drinks spent $\$ 84$ million on Spanish-language TV advertising in 2018, increases of $8 \%$ compared to 2013 and $80 \%$ compared to 2010 .

- Regular soda/soda brands represented $61 \%$ of sugary drink advertising spending on Spanish-language TV in 2018 (\$51 million), and sports drinks represented 33\% (\$27 million). Energy drinks represented $5 \%$ ( $\$ 4$ million). There was no fruit drink or flavored water advertising on Spanishlanguage TV (excluding children's drinks) in 2018.
- On average, companies allocated $10 \%$ of their total TV advertising budgets to Spanish-language TV, but sports drinks devoted $21 \%$, the highest of any category.
- The amount of time that Hispanic preschoolers and children spent watching Spanish-language TV declined by more than $40 \%$ from 2013 to 2018. However, Hispanic preschoolers viewed $13 \%$ more Spanish-language TV ads for regular soda/soda brands in 2018 than in 2013 ( 38 vs. 33 ads viewed), and Hispanic children viewed $25 \%$ more ads (32 vs. 26).
- Exposure to Spanish-language ads for sports drinks increased more than 10 -fold, reaching 9 ads viewed by Hispanic preschoolers and 8.5 ads viewed by Hispanic children in 2018.
- From 2013 to 2018, Hispanic teens' exposure to sports drink ads increased 10 -fold to 7 ads viewed in 2018, while their exposure to ads for regular soda/soda brands declined slightly ( $-7 \%$, 24 ads viewed), despite a $56 \%$ decline in time spent watching Spanish-language TV.
- In contrast, exposure to ads for energy drinks on Spanishlanguage TV declined by more than $90 \%$ for Hispanic preschoolers, children, and teens (approximately one ad viewed by all age groups in 2018).

Black preschoolers, children, and teens continued to view more than twice the number of TV ads for sugary drinks and energy drinks compared to White youth in the same age groups, totaling 256 ads viewed by Black preschoolers and children and 331 ads viewed by Black teens in 2018.

- These differences can be explained only partially by differences in TV viewing times as Black youth spent on average $39 \%$ to $78 \%$ more time watching TV in 2018 than their White peers.
- Black teens saw nearly three times as many ads for sports drinks ( 47 ads ), and more than double the number of ads for regular soda/soda brands (171 ads) and energy drinks (46 ads) compared to White teens.
- From 2013 to 2018, exposure to regular soda/soda brand ads increased by $17 \%$ for Black teens. In contrast, exposure to these ads remained the same for White teens.
- Similarly, sports drink ads viewed increased by $16 \%$ for Black preschoolers and children but declined by $4 \%$ for White preschoolers and children.


## What companies and brands were responsible for sugary drink advertising?

In 2018, six companies were responsible for $98 \%$ of sugary drink and energy drink advertising spending and approximately $96 \%$ of TV ads viewed by preschoolers, children, and teens.

- PepsiCo was responsible for $38 \%$ of all sugary drink advertising spending and sugary drink TV ads viewed by children, as well as $41 \%$ of TV ads viewed by teens in 2018.
- Coca-Cola was responsible for $31 \%$ of sugary drink advertising spending, $23 \%$ of TV ads viewed by teens, and $21 \%$ of TV ads viewed by children.
- Dr Pepper Snapple Group ranked third, with $13 \%$ of ad spending and $15 \%$ of ads viewed by children and teens.
- Red Bull, Pepsi Lipton, and Innovation Ventures together represented $16 \%$ of ad spending and 21 to $22 \%$ of TV ads viewed by children and teens.
- Eighteen additional companies advertised sugary drinks in 2018, but together they accounted for just $2 \%$ of all advertising spending and approximately $4 \%$ of TV ads viewed by youth.
- Among individual brands, Pepsi, Gatorade, and Mtn Dew (PepsiCo brands) and Coke each spent more than $\$ 100$ million to advertise sugar-sweetened varieties in 2018, while Dr Pepper, 5-hour Energy, and Red Bull each spent more than $\$ 47$ million.

Increases in total sugary drink advertising from 2013 to 2018 were primarily driven by PepsiCo and Coca-Cola brands.

- During this time, Coca-Cola advertising spending increased by $81 \%$ and PepsiCo spending increased by $28 \%$. Pepsi Lipton ad spending tripled, but the company contributed just $5 \%$ of total sugary drink ad spending.
- Children viewed more than twice as many ads for CocaCola sugary drinks in 2018 than in 2013 and $34 \%$ more ads for PepsiCo sugary drinks. Children's exposure to ads for Pepsi Lipton sugary drinks and Red Bull also increased.
- Teens viewed $84 \%$ more ads for Pepsi Lipton iced tea brands from 2013 to 2018, and their exposure to some regular soda brands - Mtn Dew, Sprite, Coke, and Fanta increased by 20\% or more.
- The substantial decline in energy drink advertising during this time was due to the discontinuation of one energy shot brand that was highly advertised in 2013 (SK Energy) and a 39\% reduction in advertising spending by Innovation Ventures (5hour Energy). Advertising for the other major energy drink brand (Red Bull) did not change from 2013 to 2018.


## Which companies and brands targeted their advertising to teens and Hispanic and Black youth?

Five beverage companies were responsible for all brands that disproportionately targeted their advertising to teens.

- Sprite, Fanta, and Honest Tea (Coca-Cola); Gatorade and Mtn Dew Kickstart (PepsiCo); Snapple and Cherry Dr Pepper (Dr Pepper Snapple Group); Red Bull; and 5-hour Energy (Innovation Ventures) all purchased TV advertising during programming that was disproportionately viewed by teens compared to adults as evidenced by teen-targeted ratios of 0.52 or higher.

On Spanish-language TV, four companies - PepsiCo, CocaCola, Dr Pepper Snapple Group, and Innovation Ventures were responsible for $98 \%$ of sugary drink and energy drink ad spending.

- Spanish-language advertising promoted six brands: Coke, Gatorade, Pepsi, Powerade, Dr Pepper, and 5-hour Energy. Powerade dedicated $32 \%$ of its total TV ad dollars to Spanish-language TV, a higher percentage than any other brand.
- From 2013 to 2018, PepsiCo more than doubled its Spanish-language ad spending for sugary drinks, and Coca-Cola increased its spending by 66\%. From 2010 to 2018, PepsiCo increased its spending from $\$ 0.4$ million to $\$ 17$ million.
- Dr Pepper Snapple Group was the only company to spend less to advertise sugary drinks on Spanish-language TV in 2018 than in 2013 (-57\%).

The top-six companies were also responsible for 10 of the 11 brands with advertising targeted to Black teens, as evidenced by Black teen-targeted ratios higher than 2.1.

- Glaceau Vitaminwater, Sprite, and Fanta (Coca-Cola); Gatorade and Mtn Dew (PepsiCo); and Lipton Iced Tea (Pepsi Lipton) had the highest Black teen-targeted ratios, ranging from 2.66 to 4.82 .
- At the company level, PepsiCo, Pepsi Lipton, Red Bull, Innovation Ventures, and Coca-Cola had disproportionately high Black teen-targeted ratios, with Black teens seeing 2.2 to 2.3 times as many ads for sugary drink and energy drink brands from these companies compared to White teens.


## Discussion

These analyses of the nutrition content and advertising of sugary drinks and energy drinks demonstrate that beverage company advertising of sugary drinks to young people has worsened in recent years despite public health concerns.

- The American Heart Association (AHA) recommends children and teens consume no more than 25 grams of added sugar daily. ${ }^{19}$ However, the median sugar content in a single-serve container of advertised products in all categories of sugary drinks exceeded or approached this level.
- Despite major beverage companies' pledges to increase marketing of lower-calorie drinks, sugary drinks continue to represent the vast majority of brands' advertising expenditures.
Furthermore, most major beverage companies substantially increased their advertising of sugary drinks from 2013 to 2018.
- Advertising spending for regular soda/soda brands, iced tea, and sports drinks all increased, and youth exposure to these ads increased accordingly. It appears companies have attempted to offset the substantial declines in amount of time young people spend watching TV by placing more ads during programming that preschoolers, children, and teens view. ${ }^{20}$
- Given declines in regular soda sales and consumption, beverage companies may be using advertising to attempt to counteract changing consumer preferences and increased awareness of the health consequences associated with consuming these products.
- The increase in advertising for sports drinks could be a contributing factor in increasing consumption of sports drinks. This advertising capitalizes on consumer perceptions that sports drinks are healthier than regular soda.
- Although studies have examined changes in consumption of sugary drinks by category, they have not documented sugar-sweetened iced tea consumption separately. Substantial increases in advertising for brands in this category indicate that companies view this relatively small category as an opportunity for future sales growth.
- Energy drinks was the only major category with a decline in advertising from 2013 to 2018. However, two large energy drink companies (Innovation Ventures and Red Bull) continued to rank among the top-six advertisers in 2018.
Continued advertising of sugary drinks and energy drinks targeted to teens also raises concerns due to the unique developmental vulnerabilities of this age group.
- Unhealthy food and drink advertising targeted to teens (including sugary drinks) takes advantage of their
vulnerabilities as teens tend to focus more on immediate rewards and have fewer concerns about the long-term consequences of their behaviors. ${ }^{21}$ They also present enormous potential as long-term loyal customers.
- Energy drinks had higher than average teen-targeted ratios, yet the American Academy of Pediatrics (AAP) recommends against any energy drink consumption by youth under age 18 due to health risks from intake of high levels of caffeine and other stimulants in these drinks. ${ }^{22}$ Energy drink marketing, in particular, may have greater appeal to teens as it often portrays these products as cool and a bit risky. ${ }^{23}$
- The AAP also recommends children and teens should not consume sports drinks due to their sugar content, but sports drink brands continue to target their advertising to teens and to Hispanic and Black youth.
Sugary drink advertising targeted to Hispanic and Black youth contributes to health disparities affecting communities of color, and it appears that some companies have increased their investments in targeted advertising.
- Ad spending on Spanish-language TV for sugary drinks increased from 2010 to 2013 and again from 2013 to 2018. Sports drink brands increased their investment in advertising to Hispanic consumers, while regular soda/soda brands represented the majority of sugary drink advertising on Spanish-language TV.
- Relative to Hispanic children and teens, Hispanic preschoolers continued to view more sugary drink ads on Spanish-language TV in 2018 than older children or teens.
- Disparities between Black and White youth exposure to sugary drink and energy drink ads persist. In 2018, Black youth viewed more than twice the number of sugary drink ads than White youth viewed, although they watched just $40 \%$ to $80 \%$ more TV than their White peers.
- Apparent increases in targeted advertising for regular soda/soda brands and sports drinks raise concerns due to disproportionately high consumption of sugary drinks overall and sports drinks in particular by Hispanic and Black youth.


## Recommendations

This report highlights potential actions key stakeholders including industry leaders, policymakers, advocates, and healthcare providers - should take to support public health efforts to reduce consumption of sugary drinks, especially among youth and in communities of color.
Beverage manufacturers, retailers, and media companies must reduce marketing of sugary drinks and support public health efforts to make healthier choices the easiest, most affordable, and most socially acceptable options for young people:

- Current industry self-regulatory initiatives - including the American Beverage Association's Guidelines on Marketing to Children and the Children's Food and Beverage Advertising Initiative (CFBAI) - should expand their pledges to restrict sugary drink advertising to children up to at least age 14.
- Energy drink companies must discontinue marketing and sales to children under 18 due to the dangers these products pose to young people's health and wellbeing. ${ }^{24}$
- Companies participating in the Balance Calories Initiative ${ }^{25}$ must devote the majority of their advertising expenditures to healthier beverages.
- Industry commitments to increase sales and marketing of healthier products should address marketing of sugary drinks in Black- and Hispanic-targeted media and in communities of color.
- Media companies that own programming with large audiences of teens, including Black and/or Hispanic youth, should reduce sugary drink advertising during targeted programming.
- All corporate responsibility initiatives to promote nutrition and/or health and wellness should also address targeted marketing of sugary drinks to communities of color. These initiatives are even more urgent now given the disproportionate effects of COVID-19 on Black and Latino communities.
Federal, state, and local policy actions are necessary to further reduce sugary drink consumption by children and teens and counteract excessive sugary drink advertising:
- States and localities should enact excise taxes on sugary drinks and invest the resulting revenue in communitydefined programs and services to reduce health and socioeconomic disparities.
- State and local governments should enact further limits on sugary drink marketing in schools and other youth-oriented settings. ${ }^{26}$
- The U.S. Food and Drug Administration (FDA) should establish regulations to address unclear labeling practices, such as requiring disclosures of added sugars, zero-calorie sweeteners, juice, and caffeine content on the front of product packages.
- States and local municipalities should prohibit the sales of energy drinks and shots to children under age 18 and require they be placed in low-visibility locations (such as behind counters).
- Health warnings on sugary drink products would also increase consumer awareness and understanding about the health consequences of consuming added sugars and help address misperceptions about the healthfulness of


## Executive Summary

some sugary drink categories (e.g., sports drinks, flavored water).

- The U.S. federal government should eliminate unhealthy food and beverage marketing to children as a tax-deductible corporate expense.
- Public health campaigns to reduce sugary drink consumption should highlight that sports drinks, iced tea, flavored water, and fruit drinks are also sugary drinks, and that these products can contain as much or more sugar than soda. Campaigns should also inform youth and parents about the dangers of consuming energy drinks.

Public health advocates and health practitioners also play an important role:

- Grassroots and other advocacy groups should develop campaigns to highlight excessive advertising of sugary drinks, especially advertising that disproportionately targets teens and communities of color. Advocates should also work with young people to create counter-marketing campaigns to expose predatory sugary drink marketing practices.
- Healthcare professional organizations should develop campaigns aimed at children and teens to raise awareness about these harms, especially for sugary drinks that are
perceived to be healthier than soda (e.g., sports drinks, iced tea, and flavored water) and energy drinks.
- Pediatricians, dentists, registered dietitians, and other healthcare professionals should assess sugary drink and energy drink consumption by their patients and counsel them about the harmful effects of consuming these products.


## Conclusions

Reducing sugary drink consumption is a key public health strategy to address the epidemic of diet-related diseases that threaten young people's health and contribute to health disparities in communities of color. However, beverage companies have substantially increased their advertising of sugary drinks, primarily full-calorie regular soda, sports drinks, iced tea, and energy drinks - exceeding \$1 billion in advertising in 2018. Furthermore, companies continue to target much of this advertising to teens and Hispanic and Black youth. Sugary drink advertising continues to undermine public health. To demonstrate that they are committed to addressing the negative impact of sugary drink consumption, beverage companies must do more than market low-calorie drinks. They must discontinue extensive marketing of sugary drinks that encourages consumption by children and teens and contributes to long-term negative impacts on their health.

## Additional resources

- Nutrition and ingredient information about specific varieties and sizes of sugary drinks, energy drinks, and children's drinks are available here.
- Examples of social media campaigns sponsored by sugary drink brands using common techniques that appeal to youth are available here.

Recent reductions in sugary drink consumption in the United States are promising, but sugary drink intake among children and teens, including youth of color, remains high. Beverage companies have pledged to increase demand for lower-calorie options, but research is needed to determine whether they have reduced advertising of highsugar drinks to children and teens.
Recent evaluations of National Health and Nutrition Examination Survey [NHANES] data demonstrate that young people are consuming less sugar in the form of sugary drinks. From 2003-04 to 2015-16, calories consumed from sugary drinks declined by $55 \%$ for youth ( $2-19$ years), while the proportion of youth who consumed a sugary drink on a given day declined from $77 \%$ to $54 \% .{ }^{1}$ In 2015-16, sugary drinks contributed 94 calories-per-day per capita to children's and teens' diets, down from 210 calories-per-day in 2003-2004.

However, sugary drink consumption by children and teens remains a significant public health concern. More than onehalf of youth continue to consume sugary drinks on a given day, ${ }^{2}$ and sugary drinks contribute approximately one-half of added sugars in young people's diets. ${ }^{3}$ Long-term health risks from consuming sugary drinks include cardiovascular disease, type 2 diabetes, hypertension, dental decay, and all-cause mortality. ${ }^{4}$ Further reductions in sugary drink consumption are needed.

In 2019, the American Academy of Pediatrics (AAP) and American Heart Association (AHA) recommended broad policy solutions to reduce the harm from sugary drinks on the health of children and teens. ${ }^{5}$ Noting continued extensive marketing of sugary drinks to youth and its negative impact on consumption, the AAP and AHA called for-among other policies-federal and state government support to reduce sugary drink marketing to children and teens. Marketing of these products often disproportionately targets Black and Hispanic youth, ${ }^{6}$ contributing to diet-related health disparities affecting their communities. ${ }^{7}$ Policy makers and public health experts have launched numerous initiatives to reduce sugary drink consumption, including sugary drink taxes, public health communication campaigns, and individual interventions with parents and children. ${ }^{8}$ However, reductions in marketing of sugary drinks to children and teens are also necessary for such initiatives to effectively reduce consumption.
In 2019, the Rudd Center published Children's Drink FACTS. ${ }^{9}$ That report documented how beverage companies continue to extensively advertise sugary children's drinks (including fruit drinks and flavored water) directly to children and their parents. But other types of sugary drinks are also highly marketed to children and teens. In this report, we document advertising of other sugary drink categories, including regular soda, sports drinks, energy drinks, and iced tea, as well as
fruit drinks and flavored water not directly targeted to children under age 12 (i.e., not children's drinks).

## Continued concerns about sugary drink consumption by children and teens

Despite overall reductions in sugary drink consumption, the latest NHANES data demonstrate disproportionately high consumption by some youth, including teens, minority, and low-income youth. ${ }^{10,11}$ Increased intake of some categories of sugary drinks also raises concerns.
Teens (12-19 years) consume more sugary drinks than other age groups, contributing $5.9 \%$ of their total calories compared to $4.5 \%$ for adults ( $20+$ years). ${ }^{12}$ The median calorie intake from sugary drinks was 150 to 200 calories-per-day for teens (12-18 years), while teenage boys with the highest sugary drink consumption (those in the 90th percentile) consumed more than 300 calories-per-day. ${ }^{13}$ Teenage girls in the highest percentile consumed 250 calories-per-day from sugary drinks.
Consumption is also higher among low-income youth. Lowincome teenage boys (12-18 years) consumed a median of 200 calories of sugary drinks in a given day. ${ }^{14}$ A large California study conducted in 2013-14 found that $46 \%$ of low-income youth ( $2-17$ years) reported consuming one or more sugary drinks per day compared to $33 \%$ of high-income youth. ${ }^{15}$ Three-quarters ( $76 \%$ ) of youth ( $2-19$ years) living in households participating in SNAP consumed sugary drinks on a given day, which contribute more of their per-capita daily calories compared to youth living in eligible non-SNAP and non-eligible households. ${ }^{16}$
Greater sugary drink consumption by children and teens in some racial/ethnic groups raises additional concerns due to health disparities affecting communities of color. Non-Hispanic White youth continued to have the lowest consumption: $60 \%$ of children ( $6-11$ years) and $63 \%$ of teens (12-17 years) reported consuming a sugary drink on a given day. ${ }^{17}$ Non-Hispanic Black youth had the highest rates of sugary drink consumption: 66\% of children and $78 \%$ of teens on a given day. Rates of sugary drink intake were higher among White and Hispanic youth, but not Black youth, in lower-income households. ${ }^{18}$ Rates were also higher for Mexican American and other Hispanic youth compared to non-Hispanic White youth. ${ }^{19}$
Furthermore, reductions in consumption have not been consistent across all sugary drink categories. Declines were highest for regular soda (or soft drinks). From 2003-04 to 2013-14, the percent of children (6-11 years) who consumed sugar-sweetened soda on a given day declined from $55 \%$ to $24 \%$ ( $-56 \%$ ), and the percent of teens ( $12-19$ years) consuming declined from $61 \%$ to $33 \%(-46 \%)$. ${ }^{20}$ However, the annual Youth Risk Behavior Surveillance Survey (YRBSS) from the Centers for Disease Control and Prevention (CDC) shows that most high school students continue to consume sugar-
sweetened soda. ${ }^{21}$ In 2017, 72\% reported consuming at least one soda in the past 7 days, and 19\% report consuming one or more every day. The proportion of children and teens consuming sugar-sweetened fruit drinks also declined from 2003 to 2014, but at a lower rate, from $35 \%$ to $27 \%$ ( $-22 \%$ ) of children consuming on a given day and from $28 \%$ to $21 \%$ (-26\%) of teens. ${ }^{22}$

At the same time, consumption of sports drinks and energy drinks increased. In 2013-14, 9\% of teens consumed a sports drink on a given day, a $24 \%$ increase versus 10 years earlier. ${ }^{23}$ Prevalence of energy drink consumption increased sevenfold, with $1.4 \%$ of teens consuming energy drinks on a given day. ${ }^{24}$ Although relatively few teens consume energy drinks daily, energy drinks contribute 200 additional calories and more than triple the amount of caffeine ( 227 mg vs. 52 mg ) on the days they are consumed. ${ }^{25}$ The YRBSS also assessed consumption of sports drinks by high school students in 2017. ${ }^{26}$ That study found that $63 \%$ of boys and $42 \%$ of girls had consumed at least one sports drink in the past 7 days, and $17 \%$ of boys reported consuming at least one sports drink every day. In addition, Black and Hispanic youth were more likely to have consumed sports drinks in the past 7 days (61\% and 60\%, respectively) compared to White youth (49\%).

A California study found similar results. ${ }^{27}$ In 2013-14, 37\% of teens (12-17 y) reported consuming one or more sports drinks or energy drinks per day (combined categories), up from $31 \%$ five years earlier. In contrast, the number who reported consuming soda daily declined from $43 \%$ to $34 \%$. California teens were more likely to report consuming a sports drink or energy drink than a soda. This same study found that Black teens had the highest sports and energy drink consumption ( $41 \%$ reported consuming daily).

In other categories, teen consumption of "low-calorie" drinks also more than doubled from 2003 to 2014. ${ }^{28}$ This study defined low-calorie drinks according to whether product packages labeled them as "low-calorie," but did not examine added sugar or zero-calorie sweetener content. Large-scale studies have not reported consumption of other categories of sugary drinks, including iced tea, coffee, and flavored water, separately.

## Industry response to public health concerns

Recognizing the role that beverage companies may play in unhealthy rates of sugary drink consumption, industry groups have launched initiatives to improve their marketing practices. Companies that belong to the American Beverage Association pledge "not to advertise soft drinks or juice-based drinks to audiences under the age of 12 " and "to only advertise $100 \%$ juice, water and milk-based drinks to this audience."29 Companies participating in the Children's Food and Beverage Advertising Initiative (CFBAI), the U.S. food industry voluntary self-regulatory initiative, also pledge to "encourage healthier dietary choices" in advertising in "child-directed media."30

However, the CFBAI has determined that low-calorie drinks ( $\leq 40 \mathrm{kcal}$ per container) that contain added sugar and zerocalorie sweeteners are exempt and can be advertised directly to children. ${ }^{31}$

A major limitation of both voluntary industry-led programs is that they only address advertising directed to children ages 11 and younger. As a result, participating companies are permitted to market all non-alcoholic beverages to children ages 12 and older, including advertising in media that are widely viewed by children together with older audiences.

Beverage companies have also promised to encourage consumers to consider calories when they choose a beverage. In 2015, the American Beverage Association and the three largest beverage companies (Coca-Cola, PepsiCo, and Dr Pepper Snapple Group), working with the Alliance for a Healthier Generation, announced the Balance Calories Initiative with the goal of reducing beverage calories consumed per person by $20 \%$ by 2025.32 Participating companies promised to put calorie information on the front of packages, report total calories per container (for single-serve containers of 20 ounces or less), report nutrition for 12-ounce servings for larger containers, and provide a wider selection of reduced-calorie beverages. Since the Balance Calories Initiative was launched, average beverage calories per person per day have declined from 203.0 in 2014 to 196.9 in 2018, but far more substantial declines will be necessary to meet the 2025 goal. ${ }^{33}$
These companies also promised to devote marketing resources to increase consumer demand for lower-calorie choices. For example, both Coca-Cola ${ }^{34}$ and Dr Pepper Snapple Group ${ }^{35}$ stated, "Our marketing programs are designed to boost consumer demand for reduced sugar and lower calorie choices, with a focus on flavor, hydration and taste." PepsiCo announced, "We're creating consumer excitement by using big names and big venues to increase awareness and demand for lower calorie choices," noting a promotion for its lower-calorie version of Mtn Dew (Dew Kickstart). ${ }^{36}$ PepsiCo also highlighted three versions of Gatorade with different calorie levels (G [fullcalorie], G2 [low-calorie], and G Zero [diet]) and reformulations to reduce the calories in Brisk and Lipton iced tea and fruit drinks. Dr Pepper Snapple Group cited additional marketing resources devoted to reduced sugar products, "Our 2017 marketing spend on zero sugar and reduced sugar beverages increased $450 \%+$ since 2015. ${ }^{37}$

Notably absent from the Balance Calories Initiative are any promises by beverage companies to reduce advertising or other forms of marketing for full-sugar varieties of their drinks. Furthermore, the beverage industry has devoted substantial resources to oppose passage and fight for repeal of sugary drink taxes and other policies designed to reduce consumption of sugary drinks through well-funded anti-tax consumer campaigns, sponsorships of health and medical organizations, and lobbying for state laws to preempt local sugary drink tax proposals. ${ }^{38-40}$ Their actions suggest that beverage companies
may not be as committed to reducing demand for sugary drinks as their voluntary pledges seem to imply.

Therefore, independent researchers must continue to monitor beverage company advertising of sugary drinks, especially advertising targeted to young people and communities of color. Information about advertising spending on sugary drinks and youth exposure to that advertising is essential to evaluating whether beverage companies are doing all they can to support public health goals to reduce sugary drink consumption.

## Measuring progress

In 2019, we reported that beverage companies have made some progress in reducing advertising of sweetened children's fruit drinks and flavored water (see Children's Drink FACTS 2019). ${ }^{41}$ However, they must do more to reduce children's consumption of sweetened drinks that can harm their health.

In this report, we document 2018 advertising spending and TV advertising exposure for all other categories of sugary drinks, excluding children's drinks that were previously reported in Children's Drink FACTS. We identify and analyze drinks in the regular soda, sports drink, energy drink, and iced tea categories that contain added sugar, as well as sugar-sweetened fruit drinks and flavored water (excluding children's drinks). We report on diet soda and diet drinks in the same categories (those that do not contain added sugar) for comparison. The analyses of energy drinks examine all energy drinks and shots, including drinks without added sugar, which are included in the total sugary drink numbers.

Utilizing the same methods as previous FACTS reports, we examine differences in the nutrition content and advertising of sugary drinks by category, company, and brand in 2018, and assess changes from 2010 and 2013 when possible.

The report includes the following analyses:

- Nutrition content and ingredients in sugary drinks for package types and sizes listed on brand websites (Dec 2019 - Feb 2020);
- Advertising spending for sugary drinks and diet drinks and exposure to TV advertising by preschoolers (2-5 years), children (6-11 years), and teens (12-17 years) (2018 Nielsen data);
- TV advertising targeted to Black and Hispanic youth, including on Spanish-language TV (2018 data); and
- Changes in advertising spending and exposure from 2010 and 2013 (reported in Sugary Drink FACTS 201443).

This research answers the following questions:

- What is the nutrition content of advertised sugary drinks and energy drinks?


## Children's Drink FACTS 2019²

This report documented sales and advertising for children's drinks (i.e., drinks marketed as specifically for children to consume) in 2018, including sweetened drinks (fruit drinks and flavored water) and drinks without added sweeteners ( $100 \%$ juice and juice/water blends).
Main findings:

- Sales of children's drinks totaled $\$ 2.2$ billion in 2018, and sweetened children's drinks represented $62 \%$ of the total. Fruit drink sales totaled $\$ 1.2$ billion.
- Companies spent $\$ 20.7$ million to advertise sweetened children's drinks in 2018, an 83\% decline compared to 2010.
- Most of this decline occurred prior to 2013. From 2013 to 2018, exposure to advertising for children's sugary drinks declined by just $2 \%$ for preschoolers and $7 \%$ for children.
- Advertising spending on children's drinks without added sweeteners totaled $\$ 34.4$ million in 2018 and did not change from 2010 to 2018.
- Exposure to TV advertising for sweetened children's drinks by preschoolers (2-5 years) and children (6-11 years) also declined by more than $50 \%$ from 2010 to 2018.
- Companies continued to advertise sweetened children's drinks directly to children, and sweetened drinks represented $70 \%$ of TV ads for children's drinks viewed by children.
- Preschoolers and children saw more ads for sweetened children's drinks than adults saw, but they were less likely to see ads for children's 100\% juice compared to adults.
- Black preschoolers and children saw more than $75 \%$ more ads for sweetened children's drinks compared to White preschoolers and children.
- How has sugary drink advertising spending changed?
- Are preschoolers, children, and teens seeing less TV advertising for these products?
- What companies and brands were responsible for sugary drink advertising?
- How has targeting of sugary drinks to Hispanic and Black youth changed?
- Which companies and brands targeted their advertising to teens and Hispanic and Black youth?

We did not have access to food industry proprietary documents, including privately commissioned market research, media and marketing plans, or other strategic documents. Therefore, we do not attempt to interpret beverage companies' goals or objectives for their marketing practices. Rather, we provide transparent documentation of advertising that promotes sugary drinks to children and teens and changes in advertising expenditures and exposure over time.

Beverage companies have promised to increase marketing of low-calorie beverages, but research has not examined whether they have also reduced their promotion of high-sugar beverages or their focus on targeting teens and communities of color. The findings in this report serve to evaluate beverage companies' commitment to reducing young people's consumption of sugary drinks that can harm their health.

## Results

These analyses examine the nutrition and advertising of sugary drinks and energy drinks, including nutrition and ingredient information for advertised products; total advertising spending and exposure to TV advertising by preschoolers, children, and teens; and advertising targeted to Hispanic and Black youth. We report results by category, company, and brand.

The drink categories examined in this report include sugary drinks (regular soda, fruit drinks, flavored water, sports drinks, and iced tea) and energy drinks and shots (including products with and without added sugar). The sugary drink and energy drink brands analyzed each spent over $\$ 100,000$ on advertising in 2018. These analyses exclude children's sugary
drinks (fruit drinks and flavored water) that were previously reported in the Rudd Center's 2019 Children's Drink FACTS report. ${ }^{1}$ Diet soda and other diet drinks are not included in the nutrition analyses, but advertising data are reported for comparison purposes.

## SUGARY DRINK MARKET

## Product terms

Company
Brand
Sub-brand

## Definition

The company listed on the product package or that owns the official website for the product. The main marketing unit for the product (e.g., Sprite, 5-hour Energy).
A subset of products within a brand, including variations of brand names (e.g., Mtn Dew original and Mtn Dew Kickstart); and/or products that differ by product category (e.g., Snapple Iced Tea, Snapple Fruit Drinks) and/or nutrition content (e.g., Coke Classic, Coke Life). Products with significant amounts of advertising spending are also included as separate sub-brands (e.g., Sprite Cranberry).

## Category

The type of beverage (e.g., regular soda, fruit drink).
Variety
Each specific flavor and package size for each sub-brand.
Drink categories
Sugary drinks

## Definition

Drinks that contain added sugar in any amount. These drinks may contain zero-calorie sweeteners, in addition to added sugar.

- Flavored water

Non-carbonated drinks that are described as "water beverage" on the product packaging or that include "water" in the product name. Children's flavored water brands are excluded from this report.

- Fruit drinks

Fruit-flavored drinks with added sugar that may or may not contain some juice. These products are also referred to by manufacturers as juice drinks, juice beverages, fruit cocktails, nectars, and fruit flavored drinks/beverages. Children's fruit drinks are excluded from this report.

- Iced tea

Ready-to-serve drinks and drink mixes that are primarily described as "tea" on the product package and typically served cold.

- Regular soda Carbonated soft drinks with any amount of added sugar.
- Sports drinks Drinks marketed as intended to accompany physical activity and/or to improve hydration or performance. They may contain the phrase "sport drink" on product packaging or in promotion materials.
Energy drinks
Caffeinated beverage products labeled by the manufacturer as "energy drink" or "energy supplement." This category includes carbonated varieties in cans, with or without added sugar, as well as concentrated energy shots sold in 1.93 ounce containers.
Diet soda
Other diet drinks

Carbonated soft drinks that contain zero-calorie sweeteners and no added sugar.
Fruit drink, flavored water, sports drink, and iced tea products that do not contain added sugar. They often contain zero-calorie sweeteners, but not always.

## Results

A total of 48 brands of sugary drinks and energy drinks from 24 companies each spent more than \$100,000 in total advertising in 2018 to qualify for inclusion in this analysis. Seven companies advertised sugary drink brands in more than one drink category (see Table 1). Three companies-Coca-Cola, PepsiCo, and Dr Pepper Snapple Group-were responsible for $44 \%$ of all brands and $52 \%$ of all sub-brands analyzed. Coca-Cola had the most brands ( $n=10$ ), including four regular soda brands, and was the only company with drink brands in every category. PepsiCo had the greatest number of sub-brands ( $n=17$ ). Of
note, two energy drink brands also advertised regular soda products in 2018 (Monster Mutant Super Soda and Red Bull Organics), although Monster Mutant Super Soda has since been discontinued.

The remaining 17 companies advertised brands in just one drink category (see Table 2). They include seven energy drink, five regular soda, two iced tea, two fruit drink, and one sports drink company. Among the single-category companies, Rockstar energy drink had the most sub-brands ( $n=4$ ).

Table 1. Companies with brands in multiple categories

| Brands (sub-brands) by category |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Company (sub | brands brands) | Regular soda | Flavored water | Iced tea | Energy drink * | Sports drink | Fruit drink |
| Coca-Cola | 10 (16) | Coke (Classic, Life), Fanta, Mello Yello, Sprite (Original, Cranberry) | Glaceau Vitaminwater | Gold Peak (Iced Tea, Slightly Sweet), Honest Tea (Iced Tea, Just a Tad Sweet) | NOS (Original, Sugar Free) | Powerade (Ion4) | Simply (Fruit Drink, Light) |
| PepsiCo | 5 (17) | Mtn Dew <br> (Original, ICE, <br> Kickstart, Spiked), <br> Pepsi (Original, <br> True), Sierra <br> Mist |  |  |  | Gatorade <br> (Original, Flow, <br> Frost, G2, <br> Original Powder, <br> G2 Powder, <br> Endurance <br> Formula Powder) | Tropicana (Fruit Drink, Premium, Trop50 Lemonade) |
| Dr Pepper Snapple Group | 6 (13) | 7-Up, Canada <br> Dry (Ginger Ale, Ginger Ale \& Lemonade, <br>  <br> Orangeade, <br> Fruit Flavored <br> Soda), Dr Pepper <br> (Original, Cherry, <br> Ten), Penafiel <br> (Mineral Spring <br> Water, Twist) |  | Snapple (Iced Tea, Straight Up Tea) |  |  | Snapple (Fruit Drink) |
| Pepsi Lipton | 4 (7) |  |  | Brisk, Lipton (Iced Tea, Splash of Juice, Iced Tea Mix), Pure Leaf (Iced Tea, Organic Tea House Collection) |  |  | Brisk |
| Hansen Beverage | 2 (6) | Monster (Mutant Super Soda) ** |  |  | Monster (Origin Lo-Carb, Zero, Juice, Rehab) |  |  |
| Red Bull | 2 (3) | Red Bull (Organics) |  |  | Red Bull (Origin Sugar Free) |  |  |
| Kill Cliff | 2 (2) |  |  |  | Kill Cliff (Ignite) | Kill Cliff (Endure) |  |

*Includes zero-sugar products
**Product has been discontinued
Source: Product analysis (March 2020)

Table 2. Companies with brands in one drink category

| Company | Category | Brand (sub-brand) |
| :--- | :--- | :--- |
| Anheuser-Busch Inbev | Energy drink $^{\star}$ | Hiball |
| BA Sports Nutrition | Sports drink | BodyArmor |
| Carolina Beverage | Regular soda | Cheerwine |
| Celsius | Energy drink | Celsius |
| Glanbia | Energy drink $^{\star}$ | BSN Endorush |
| Gosling Brothers | Regular soda | Stormy Ginger Beer |
| Innovation Ventures | Energy drink | 5-hour Energy (Original, Tea) |
| Interstate Beverage | Regular soda | Jarritos |
| Milo's Tea | Iced tea | Milo's (Iced Tea, M59) |
| National Beverage Corp | Regular soda | Faygo |
| Nestle | Fruit drink | Sanpellegrino (Fruit Beverage, Momenti, Organic) |
| Ocean Spray Cranberries | Fruit drink | Ocean Spray (Fruit Drink, Light) |
| Rockstar | Energy drink | Rockstar (Original, Sugar-Free, Pure Zero, Xdurance) |
| Snow Beverages | Regular soda | Snow** |
| Sunshine Beverages | Energy drink | Sunshine |
| Wonderful | Iced tea | Pom Wonderful (Antioxidant Super Tea) |
| Zevia | Energy drink | Zevia |

*Includes zero-sugar products
**Product was discontinued
Source: Product analysis (March 2020)

## NUTRITION CONTENT

## Nutrition content

Serving size

## Definition

For each variety of each sub-brand in our analysis, we report nutrition for a 12-ounce serving (when sold in 12-oz single-serve containers), or for the available single-serve container size closest to 12 ounces. If varieties were only available in multi-serve containers, we report nutrition for a 12-ounce serving.
Nutrition information

Ingredient information Information analyzed includes calories (kcal) and sugar (g) per serving, as reported on nutrition facts panels. Median and range per serving are reported by brand/sub-brand and category.
When available, juice (\%), caffeine (mg), and zero-calorie sweeteners (whether or not the product contains them) are reported. Zero-calorie sweetener information was obtained from the product ingredient lists. Caffeine and percent juice were obtained from additional information provided by manufacturers on labels and/or websites.
Zero-calorie sweeteners All nonnutritive sweeteners, including artificial sweeteners (acesulfame potassium, aspartame, sucralose, and neotame), natural sweeteners (stevia, also called rebiana or Reb A, and Luo Han Guo [monk fruit] extract), and sugar alcohols (erythritol).

In this section, we report calories, total sugar, caffeine, and juice content of sugary drinks and energy drinks and indicate products with zero-calorie sweeteners when information was available. We analyze nutrition content by sub-brand and summarize by drink category.

## Obtaining nutrition and ingredient information

Beverage company websites provided nutrition and ingredient information for the majority of drink products. PepsiCo, CocaCola, and Dr Pepper Snapple Group all maintained websites with complete nutrition and ingredient information for almost all

Nutrition and ingredient information about specific varieties and sizes of sugary drink and children's drink brands are available online.
products. The majority of other companies provided nutrition facts panel information on their websites, with a few exceptions. The websites for regular soda brands Faygo and Jarritos did not have any nutrition information for any products. Energy drink brands Monster, Red Bull, and Rockstar listed caffeine amount and in some cases minimal ingredient information, but did not provide nutrition facts panels or full ingredient lists. A number of companies did not provide ingredient lists, percent juice, and/or caffeine content for all brands, including Ocean Spray, Wonderful, and Carolina Beverage.

When information was missing from company websites, researchers obtained the nutrition facts panel information from product packages in local stores. Some products had to be ordered online because they could not be found in local stores. If researchers could not locate product packages, they contacted company customer service representatives via telephone to obtain the necessary information. However, we could not locate nutrition information for all varieties of some sub-brands. In those instances, we report medians for the available varieties.

## Nutrition content by sub-brand

Ranking Table 1 ranks each sub-brand first by median sugar content, then by median calorie content, then by maximum sugar content. Median percent juice and caffeine content are also reported, as well as whether any products contained zero-calorie sweeteners. Medians and ranges were calculated based on available single-serve containers for each variety within each sub-brand, using the 12 -ounce container or the container that was closest to 12 ounces. If a single-serve container was not available for a variety, then nutrition for a 12 -ounce serving was reported based on the information from the multi-serve container. (See Methods for details on how reported serving size was determined.)

## Nutrition content by drink category

Table 3 summarizes the nutrition content for sugary drinks and energy drinks by category. The energy drink category was
divided into sugar-sweetened and zero-sugar sub-brands. Energy drinks and regular soda had the most calories, with a median of 43.5 and 37 grams of sugar per serving, respectively (approximately 11 and 9 teaspoons). Most regular soda subbrands were available in 12-ounce cans, while the majority of energy drinks came in 16-ounce cans. Flavored water and iced tea sub-brands had somewhat less sugar, a median of 27 and 25.5 grams respectively. These products also tended to come in larger single-serve containers, a median of 20 ounces for flavored water and 16.9 ounces for iced tea. Fruit drinks and sports drinks had the lowest median sugar content at 23 and 21 grams per 12-ounce serving.

Energy drinks. Sugar-sweetened energy drinks with the most calories and sugar included Rockstar (260 kcal, 61.5 g sugar/16 oz), Monster (230 kcal, 54 g sugar/16 oz), and NOS Original (210 kcal, 53 g sugar/16 oz). Although some energy drinks offered their products in smaller-sized containers (for example, Red Bull and Sunshine were available in 8.4oz containers), the smallest single-serve container for the majority of these products was 16 ounces. Of note, some energy drinks listed nutrition information for 8 ounces on 16-ounce non-resealable cans of carbonated drinks.

Despite their high sugar content, $88 \%$ of sugar-sweetened energy drink sub-brands also contained zero-calorie sweeteners. Only Red Bull original did not contain zero-calorie sweeteners. Most zero-sugar energy drinks also contained zero-calorie sweeteners (92\%). However, one brand, Hiball Energy Drink, marketed the product as a "sparkling energy water" and had no added sweeteners (but 160 mg of caffeine per 16-oz serving).

The median caffeine content across all energy drink subbrands was 160 milligrams. The product with the highest caffeine content in our analysis was BSN Endorush with 350 milligrams of caffeine in a 16-ounce serving. This product has since been discontinued. Other highly caffeinated energy drinks include Rockstar Xdurance ( $300 \mathrm{mg} / 16 \mathrm{oz}$ ), Rockstar Pure Zero ( $240 \mathrm{mg} / 16 \mathrm{oz}$ ), Rockstar Punched ( $240 \mathrm{mg} / 16 \mathrm{oz}$ ), and 5-hour Energy Extra Strength ( $230 \mathrm{mg} / 1.93 \mathrm{oz}$ ).

Table 3. Sugary drink nutrition by category

| Category (s | \# of brands (sub-brands) | Serving size (oz) |  | Calories (kcal) |  | Sugar (g) |  | Caffeine (mg) |  | Zero-calorie sweeteners |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Median | Range | Median | Range | Median | Range | Median | Range | $\begin{aligned} & \text { \% of sub- } \\ & \text { brands } \end{aligned}$ |
| Energy drink (sugar-sweetened) | 5 (8) | 16 | 8.4-16 | 182.5 | 20-260 | 43.5 | 4-62 | 159 | 50-200 | 88\% |
| Regular soda | 16 (28) | 12 | 8.4-20.3 | 140 | 10-310 | 37 | 2-81 | 0 | 0-92 | 29\% |
| Flavored water | 1 (1) | 20 | -- | 100 | 100-120 | 27 | 26-32 | 0 | 0-50 | 0\% |
| Iced tea | 8 (15) | 16.9 | 12-20 | 100 | 25-240 | 25.5 | 5-64 | 33 | 0-94 | 40\% |
| Fruit drink | 6 (12) | 12 | 6.75-20 | 102.5 | 35-230 | 23 | 7-54 | 0 | -- | 33\% |
| Sports drink | 4 (10) | 12 | 12-20 | 80 | 30-140 | 21 | 7-34 | 0 | -- | 30\% |
| Energy drink (zero-sugar) | 10 (13) | 16 | 1.93-16 | 0 | 0-30 | 0 | -- | 160 | 100-350 | 92\% |

Source: Nutrition analysis (March 2020)


16-ounce cans of Monster, Rockstar Punched, and NOS energy drinks contain 210 or more calories and over 50 grams of sugar, plus zero-calorie sweeteners, caffeine, and other stimulants.

Regular soda. Although regular soda products had lower median sugar content than energy drinks, some regular soda sub-brands had more calories and sugar than energy drinks, including Mello Yello (290 kcal, 77 g sugar/20-oz) and Canada Dry fruit-flavored soda varieties (270 kcal, 72 g sugar/20-oz). Canada Dry Island Lime Soda had the most calories and sugar of any product in our analysis - 310 calories and 81 grams of sugar in one 20-ounce container. Stormy Ginger Beer (180 kcal, 47 g sugar/12-oz) and Mtn Dew (170 kcal, 46 g sugar/12-oz) also had higher than average sugar content.

Of the 28 regular soda sub-brands analyzed, $29 \%$ contained zero-calorie sweeteners plus added sugar. These products ranged from 2 grams of sugar in Dr Pepper Ten (12-oz serving) to 41 grams of sugar in orange-flavored Faygo (12-oz serving). In addition, 15 regular soda sub-brands offered varieties that contained caffeine, in amounts ranging from 9 to 54 milligrams per 12-ounce serving. Mtn Dew Kickstart was unique with up to 69 milligrams of caffeine per 12-ounce container, 15 grams of sugar, zero-calorie sweeteners, and 5 to 10\% juice.

Flavored water and iced tea. Only one brand of flavored water was advertised in 2018: Glaceau Vitaminwater. These products had 26 to 32 grams of sugar per 20-ounce container and did not contain zero-calorie sweeteners or juice. Two varieties contained caffeine.

Iced tea sub-brands had some of the largest reported serving sizes (16-, 16.9- and 18.5-ounce containers were common). Although they tended to be somewhat lower in calories and sugar, some iced tea products had comparable amounts of sugar to regular soda. For instance, Pure Leaf Extra Sweet Tea contained 240 calories and 64 grams of sugar per 18.5-ounce serving, and Snapple Half 'N Half contained 210 calories and 51 grams of sugar per 16-ounce serving.

In addition, 40\% of iced tea sub-brands had products with zero-calorie sweeteners plus added sugar. The majority of
iced tea products contained moderate amounts of caffeine (median 33 mg ). Honest Tea Honey Green Tea had the most caffeine ( $94 \mathrm{mg} / 16.9-\mathrm{oz}$ ) in any iced tea product.

Fruit drinks. Fruit drinks had lower median sugar content than other categories, but most contained very little juice. Median percent juice for all sub-brands in this category was $12 \%$ and ranged from 1 to $27.5 \%$. Roughly $40 \%$ had $10 \%$ juice or less. Fruit drink sub-brands with the highest median calories and sugar were Tropicana Fruit Drink (195 kcal, 45 g sugar/15.2-oz, 27.5\% juice) and Snapple Fruit Drink (190 kcal, 46 g sugar/16-oz, 10\% juice).

One-third of fruit drink sub-brands offered products that contained both zero-calorie sweeteners and added sugar, including Trop50 Lemonade, Ocean Spray Light, and Simply Light. Brisk fruit drinks had zero-calorie sweeteners and only 1 to $5 \%$ juice, but were not labeled as a light product. Sanpellegrino Momenti was the lowest-sugar sugary drink in our analysis ( $7 \mathrm{~g} / 11.15-\mathrm{oz}$ ) that did not contain zero-calorie sweeteners.

Sports drinks. Although sports drinks had the lowest median calories of any sugary drink category, many contained substantial amounts of sugar, up to 34 grams in 20 ounces of Gatorade Frost and Gatorade Flow. In addition, 30\% of sports drink sub-brands had products with zero-calorie sweeteners plus added sugar. Gatorade G2 was the lowest-calorie sports drink in our analysis (7 g sugar/12-oz container), but it also contained zero-calorie sweeteners.


Some single-serve bottles of iced tea and fruit drinks contained more sugar and calories than most cans of regular soda.

## Nutrition content summary

Sugar-sweetened energy drinks and regular soda had the highest median sugar content in our analysis at 43.5 grams per 16-ounce serving and 37 grams per 12-ounce serving, respectively. Canada Dry Island Lime Soda had the most calories and sugar of all products analyzed, with 310 calories and 81 grams of sugar in a 20-ounce container. Products in other categories had somewhat less sugar, including flavored water ( $27 \mathrm{~g} / 20 \mathrm{oz}$ ), iced tea ( $25.5 \mathrm{~g} / 16.9-\mathrm{oz}$ ), fruit drinks ( $23 \mathrm{~g} / 12$ oz ), and sports drinks ( $21 \mathrm{~g} / 12 \mathrm{oz}$ ). A number of sub-brands offered products that contained zero-calorie sweeteners in
addition to added sugar, including $88 \%$ of sugar-sweetened energy drinks, $40 \%$ of iced tea, and approximately $30 \%$ of fruit drink, sports drink, and regular soda sub-brands.

This analysis identified some unusual products. Two energy drink companies advertised regular soda brands in 2018 (Monster Mutant Super Soda and Red Bull Organics), but Monster Mutant Super Soda has since been discontinued. Hiball Energy Drink described itself as a "sparkling energy water." It contained 160 milligrams of caffeine per 16 ounces, but no added sugar or zero-calorie sweeteners.


#### Abstract

ADVERTISING In this section, we report 2018 advertising data by category, company, and brand for products in the drink categories included in this report: regular soda, sports drinks, energy drinks, iced tea, fruit drinks, and flavored water (excluding children's drinks). We also assess changes from 2010 and 2013 (reported in Sugary Drink FACTS 2014²) when data were available. For comparison purposes, some analyses also include advertising for diet and unsweetened drinks. We first report advertising spending results and then exposure to TV advertising by preschoolers (2-5 years), children (6-11 years), and teens (12-17 years).

The advertising analyses include two additional categories: soda brand and drink brand ads. Soda brand advertising promoted a brand of soda but did not specify a regular or diet product. In some cases, soda brand ads only promoted a brand logo, while others featured both regular and diet varieties of the brand in the same ad. Drink brand ads featured a brand in one of the other drink categories that was available in both sugar-sweetened and diet varieties. These ads featured both sugar-sweetened and diet varieties or did not specify a variety. Drink brand ads also include company-level ads that promoted more than one brand from a company (e.g., Coca-Cola company brands).


## Advertising spending

## Advertising spending Definition

Advertising spending Amount spent on all advertising in measured media, including TV, magazines, digital (i.e., internet and mobile), radio, newspapers, free standing insert (FSI) coupons, and outdoor advertising.
Soda brand ads These ads promote a brand of soda, but do not specify a regular or diet variety. This category also includes ads that promote both regular and diet varieties together.
Drink brand ads
These ads promote a sugary drink brand, but do not specify a sugar-sweetened or diet variety (e.g., Snapple ads). This category also includes brand-level ads that feature both regular and diet varieties and company-level ads that feature multiple brands.

In 2018, 24 beverage companies spent $\$ 1,038$ million more than $\$ 1$ billion - to advertise sugary drinks and energy drinks, excluding children's drinks (see Figure 1). As reported previously, advertising for children's sugary drinks (fruit drinks and flavored water) totaled $\$ 21$ million in 2018, less than 5\% of total sugary drink advertising expenditures. ${ }^{3}$ More than onehalf of sugary drink ad expenditures promoted regular soda and soda brands ( $\$ 586$ mill), while sports drinks, energy drinks and shots, and iced tea each spent more than $\$ 100$ million. Fruit drinks and flavored water combined (excluding children's
drinks) spent just $\$ 28$ million. Companies also spent $\$ 39$ million in drink brand ads (e.g., Snapple brand ads or Coca-Cola ads for multiple company brands).

In comparing all categories of refreshment beverages (including diet and unsweetened drinks), sugary drinks represented approximately two-thirds (64\%) of total ad spending. Companies spent $\$ 607$ million to advertise diet and unsweetened drinks, including diet soda and other diet drinks, unsweetened water (plain and sparkling), and 100\% juice.

Figure 1. Total ad spending by category: 2018


## All sugary drink categories: \$1,059 million*

*Includes children's sugary drinks
Source: Analysis of 2018 Nielsen data

Diet soda represented approximately one-half (49\%) of ad expenditures in these categories, followed by unsweetened (plain and sparkling) water at $24 \%$. However, regular soda outspent diet soda by 78\%. In addition, sports drinks spent slightly more than unsweetened water.
From 2013 to 2018, total advertising spending for the sugary drink and energy drink categories in this report increased by $26 \%$, following a $3 \%$ decline from 2010 to 2013. However, changes in ad spending varied widely by category (see Figure 2). From 2013 to 2018, regular soda/soda brand advertising increased by $41 \%$, following a slight decline from 2010 to 2013. Of note, diet soda advertising also increased by 41\% from 2013 to 2018

Advertising spending for iced tea had the biggest increase, almost tripling from 2013 to 2018, while sport drink ads increased by $24 \%$. On the other hand, energy drink ad spending declined by 34\%, and fruit drink ad spending went down 5\% (totaling \$27 mill in 2018). Sugar-sweetened flavored waters spent just \$1.4 million to advertise in 2013, compared to $\$ 16$ million in 2018. As previously reported, advertising for sweetened children's drinks also declined by $42 \%$ during this same time. ${ }^{4}$

## Spending by media type

TV remained the primary type of media used to promote sugary drinks and energy drinks in 2018. Companies devoted 84\% of total advertising expenditures to TV (see Figure 3). This proportion was similar to TV expenditures in 2013 ( $85 \%$ of total ad spending). ${ }^{5}$ Digital, magazine, outdoor, and radio ads each represented 3 to $4 \%$ of total ad spending in 2018.


Diet and unsweetened drink categories: $\$ 607$ million

However, the distribution of ad spending across media types differed by category (see Table 4). Regular soda, energy drinks, and fruit drinks each allocated approximately $90 \%$ or more of their advertising to TV, followed by sports drinks and

Figure 2. Changes in ad spending by category: 2010-2018


[^0]Figure 3. Ad spending by media type: 2018


Source: Analysis of 2018 Nielsen data
iced tea (approximately 80\%), and soda brands and drink brands (over 60\%). The majority of flavored water advertising occurred in magazines, and sports drinks and iced tea also allocated almost $15 \%$ of expenditures to magazine ads. Regular soda also spent $\$ 26$ million on radio advertising and $\$ 16$ million on outdoor ads. Both soda brands and drink brands spent more than $25 \%$ of their budgets on outdoor advertising. Digital advertising represented a significant expenditure for all categories except iced tea and flavored water, including approximately $25 \%$ of soda brand and drink brand ad spending and 9\% for energy drinks.

## Advertising spending by company

The two largest beverage companies - Coca-Cola and PepsiCo - were responsible for $69 \%$ of advertising expenditures for all categories of sugary drinks and energy drinks in 2018, including 80\% of regular soda/soda brand advertising. Dr Pepper Snapple Group was responsible for another $13 \%$ of expenditures. The remaining 21 companies in our analysis combined represented


5-hour Energy spent over $\$ 5$ million in digital advertising and Gatorade spent $\$ 22$ million in magazine advertising, the most highly advertised brands in these media.

19\% of sugary drink and energy drink advertising spending in 2018, including $\$ 60$ million by Innovation Ventures (5-hour Energy shots), $\$ 54$ million by Pepsi Lipton (a joint venture between PepsiCo and Unilever for tea brands), and $\$ 47$ million by Red Bull (energy drinks and regular soda).

Table 4. Ad spending by drink category and media type: 2018

| Category | Ad spending in 2018 (\$000) |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | TV | TV \% of spending | Digital | Magazine | Radio | Outdoor |
| Regular soda | \$469,176 | 90\% | \$11,253 | \$1,118 | \$26,427 | \$16,118 |
| Sports drink | \$127,731 | 81\% | \$7,500 | \$22,783 | \$191 | \$409 |
| Energy drink | \$102,004 | 89\% | \$9,575 | \$750 | \$1,653 | \$1,157 |
| Iced tea | \$89,840 | 81\% | \$650 | \$16,347 | \$798 | \$2,906 |
| Soda brand | \$36,558 | 61\% | \$8,985 | \$211 | \$898 | \$13,452 |
| Drink brand | \$23,496 | 64\% | \$5,970 | \$383 | \$784 | \$6,027 |
| Fruit drink | \$25,425 | 94\% | \$1,486 | \$0 | \$0 | \$0 |
| Flavored water | \$169 | 12\% | \$126 | \$885 | \$0 | \$248 |

Source: Analysis of 2018 Nielsen data

Figure 4. Ad spending by company: 2018


Source: Analysis of 2018 Nielsen data

Companies varied in the proportion of expenditures devoted to sugary drinks versus diet drinks (see Figure 4). Both CocaCola and PepsiCo spent just over $\$ 500$ million to advertise sugary drinks and diet drinks combined. However, PepsiCo devoted $78 \%$ of expenditures to sugary drinks, compared to 63\% for Coca-Cola. Similar to PepsiCo, Dr Pepper Snapple Group allocated $76 \%$ of its spending to sugary drinks. Therefore, PepsiCo and Dr Pepper Snapple Group spent more than three times as much to advertise sugary drinks compared to diet drinks ( 3.5 and 3.3 ), while Coca-Cola spent 1.7 times


Both Coke Classic and Pepsi spent more than $\$ 10$ million in radio ads and more than $\$ 7$ million in outdoor advertising, in addition to over $\$ 100$ million in TV ads.
as much on sugary drinks. PepsiCo spent more to advertise sugary drinks (\$390 million) than any other company.

From 2013 to 2018, the three major beverage companies all increased their spending on sugary drink advertising (see Table 5). Coca-Cola had the biggest spending increase overall (+81\%), while PepsiCo and Dr Pepper Snapple Group increased their total spending by $21 \%$ and $16 \%$, respectively. Pepsi Lipton tripled its advertising spending on sugary drinks during this time. In contrast, advertising for Innovation Ventures declined by $39 \%$ and Red Bull spending did not

Table 5. Changes in ad spending by company and sugary drink category: 2010-2018

| Company | Category | Total advertising spending (\$000) |  |  | $\begin{aligned} & \text { \% change } \\ & \text { 2013-2018 } \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | 2010 | 2013 | 2018 |  |
| PepsiCo | Regular soda and soda brands | \$95,104 | \$195,870 | \$252,771 | 29\% |
|  | Other sugary drinks and drink brands | \$118,526 | \$125,695 | \$137,890 | 10\% |
| Coca-Cola | Regular soda and soda brands | \$202,545 | \$133,010 | \$217,820 | 64\% |
|  | Other sugary drinks and drink brands | \$49,216 | \$44,645 | \$102,986 | 131\% |
| Dr Pepper Snapple Group | Regular soda and soda brands | \$111,302 | \$86,040 | \$112,190 | 30\% |
|  | Other sugary drinks and drink brands | \$8,766 | \$28,194 | \$20,236 | -28\% |
| Innovation Ventures | Energy drink | \$107,006 | \$98,842 | \$60,452 | -39\% |
| Pepsi Lipton | Iced tea and drink brands | \$17,284 | \$18,004 | \$54,056 | 200\% |
| Red Bull | Energy drink and regular soda | \$25,974 | \$47,773 | \$47,057 | -1\% |

Source: Analysis of 2018 Nielsen data
change. PepsiCo was the only top-three company that had also increased advertising spending on sugary drinks from 2010 to 2013 (+51\%); both Coca-Cola and Dr Pepper Snapple Group reduced their spending during that time.

From 2013 to 2018, PepsiCo increased ad spending on regular soda/soda brands at a greater rate than its other sugary drink brands, while Dr Pepper Snapple Group increased spending on soda and reduced spending on its other brands. In contrast, Coca-Cola increased spending on soda by $64 \%$ and more than doubled spending on other sugary drink advertising. Changes in spending on regular soda and soda brands since 2010 are also notable. PepsiCo spent 2.7 times more to advertise regular soda and soda brands in 2018 than in 2010. In contrast, both Coca-Cola and Dr Pepper Snapple Group decreased spending on these categories from 2010 to 2013 and then increased spending from 2013 to 2018. As a result, advertising expenditures for regular soda and soda brands were just slightly higher in 2018 than in 2010: $+8 \%$ for Coca-Cola and +1\% for Dr Pepper Snapple Group.

## Advertising spending by brand

Ranking Table 2 details advertising spending for all sugary drink and energy drink brands analyzed. Three regular soda and one sports drink brand dominated sugary drink advertising in 2018. Each spent more than $\$ 100$ million and together they represented $49 \%$ of all sugary drink advertising expenditures: Coke ( $\$ 154.4$ million), Gatorade ( $\$ 133.6$ mill), Pepsi (\$118.3 mill), and Mtn Dew ( $\$ 106.6$ mill). Four additional brands spent


Vitaminwater Zero and Simply Light were the only diet or lowcalorie drinks with more advertising than full-calorie varieties of the brand.
more than $\$ 30$ million: Dr Pepper regular soda ( $\$ 66.8$ mill), 5-hour Energy and Red Bull energy drinks (\$60.5 and \$47.1 mill, respectively), and Pure Leaf iced tea ( $\$ 35.3$ mill). Nine additional brands spent from \$10 to \$30 million in advertising in 2018.

Some energy drink brands advertised new varieties that were not traditional energy drinks. Both Red Bull and Monster advertised regular soda drinks (Red Bull Organic and Monster Mutant Super Soda), although Monster has since discontinued its soda brand. 5-hour Energy also advertised 5-hour Tea

Figure 5. Proportion of ad spending on lower-calorie and diet sub-brands: 2018*


[^1]energy shots, with "caffeine derived from green tea leaves." Snapple was the only other major brand to advertise products in more than one category (iced tea and fruit drinks).

Four of the most-advertised brands (those spending \$10 million or more) advertised lower-calorie sub-brands with less sugar (plus zero-calorie sweeteners) than their full-calorie varieties (Coke Life, Gatorade G2, Mtn Dew Kickstart, and Simply Light). These sub-brands are included in sugary drink brand spending numbers. Many brands also offered diet (i.e., zero-sugar) varieties, and 5-hour Energy shot is only available without sugar.

Three Coca-Cola brands were the only brands to allocate more than 50\% of their advertising to low-calorie and/or diet versions (see Figure 5): Coke devoted 55\% of advertising to its diet varieties (Coke Zero and Diet Coke); Simply devoted 24\% of advertising to Simply Light fruit drinks that contained added sugar (e.g., Simply Lemonade) and $47 \%$ to Simply Light fruit drinks with zero-calorie sweeteners and no added sugar (e.g., Simply Orange); and Glaceau Vitaminwater devoted $90 \%$ of advertising spending to Vitaminwater Zero. Of PepsiCo sugary drink brands with diet and/or low-calorie varieties, Diet Pepsi had the highest proportion of brand spending, representing $46 \%$ of Pepsi expenditures. All other sugary drink brands with $\$ 10$ million or more in total spending devoted $70 \%$ or more of their advertising spending to full-calorie products.

The numbers in Figure 5 do not include brand-level advertising, but Coke, Pepsi, Mtn Dew, Dr Pepper, and Sprite also spent more than $\$ 1$ million to advertise their brands. These ads featured images of both regular and diet varieties of the brand or just the brand logo (which is consistent across all varieties).

In comparing ad spending in 2013 to 2018, 19 sugary drink brands increased their advertising by $\$ 1$ million or more (see
Table 6). Six of these brands had not advertised in 2013, including Honest Tea iced tea, which spent $\$ 10.9$ million in 2018. Three energy drink brands (BodyArmor, Monster, and Celsius) and one regular soda offered by an energy drink brand also advertised in 2018 but not in 2013.

An additional seven brands (five regular soda and two iced tea) increased their advertising spending by $\$ 10$ million or more during this time, led by Mtn Dew and Coke regular soda ( $+\$ 65.5$ million and $+\$ 54.0$ million, respectively).

A similar number of brands decreased their advertising spending by $\$ 1$ million or more from 2013 to 2018 (see Table 7). Nine of these brands advertised in 2013 but not in 2018. SK Energy had spent more than $\$ 20$ million to advertise in 2013, but the product is no longer available. However, only three brands reduced their advertising spending by $\$ 10$ million or more from 2013 to 2018. 5-hour Energy and Pepsi regular soda had the biggest reductions in dollars spent ( $\$ 38$ million and \$20 million, respectively), while Glaceau Vitaminwater flavored water reduced its advertising spending by $91 \%$.

Table 6. Brands with the greatest increase in ad spending: 2013-2018*

|  |  |  | Total ad spending (\$000) |  |  |
| :--- | :--- | :--- | :--- | ---: | :--- |
| Company | Brand | Category |  | $\mathbf{2 0 1 3}$ | $\mathbf{2 0 1 8}$ |

[^2]Table 7. Brands with the greatest decrease in ad spending: 2013-2018

| Company | Brand | Category | Total ad spending (\$000) |  | $\begin{array}{r} \$(\%) \text { change } \\ 2013-2018 \end{array}$ |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | 2013 | 2018 |  |
| Brands that advertised in 2013 but not 2018* |  |  |  |  |  |
| SK Energy Shots | SK Energy | Energy drink | \$20,408 | \$0 |  |
| Coca-Cola | Seagram's | Regular soda | \$7,651 | \$0 |  |
| PepsiCo | Sierra Mist | Regular soda | \$6,581 | \$0 |  |
| Coca-Cola | Fuze | Iced tea | \$6,220 | \$0 |  |
| Dr Pepper Snapple Group | Sun Drop | Regular soda | \$4,606 | \$0 |  |
| Campbell Soup Company | V8 Fusion (Refreshers) | Fruit drink | \$3,635 | \$0 |  |
| Houchens Industries | Tampico | Fruit drink | \$3,411 | \$0 |  |
| PepsiCo | Manzanita Sol | Regular soda | \$2,364 | \$0 |  |
| Nestle | Poland Spring (Natures Blends) | Fruit drink | \$1,532 | \$0 |  |
| Brands with decreases in advertising of \$10 million or more |  |  |  |  |  |
| Innovation Ventures | 5-hour Energy | Energy drink | \$98,842 | \$60,452 | -\$38,390 (-39\%) |
| PepsiCo | Pepsi | Regular soda | \$139,310 | \$118,331 | -\$20,979 (-15\%) |
| Coca-Cola | Glaceau Vitaminwater | Flavored water | \$15,603 | \$1,429 | -\$14,174 (-91\%) |

*Excludes brand-level and company-level spending
Source: Analysis of 2018 Nielsen data

## TV advertising exposure

## TV advertising

## exposure

Gross ratings points (GRPs)

Average advertising exposure
Targeted ratios
(vs. adults)

## Definition

Measure of the per capita number of TV advertisements viewed by a specific demographic group over a period of time across all types of programming. GRPs for specific demographic groups are also known as targeted rating points (TRPs).

GRPs divided by 100. Provides a measure of the number ads viewed by individuals in a specific demographic group, on average, during the time period measured.
A measure of relative exposure by youth versus adults, calculated by dividing GRPs for preschoolers (2-5 years), children (6-11 years), or teens (12-17 years) by GRPs for adults (18-49 years).

In 2018, just eight companies advertised 23 different sugary drink and energy drink brands (excluding children's drinks) on TV. Preschoolers (2-5 years) and children (6-11 years) viewed on average 139.4 and 135.0 TV ads, respectively, for these brands. As reported in Children's Drink FACTS, they viewed an additional 38.3 and 45.4 ads for children's sugary drinks (fruit drinks and flavored water). ${ }^{6}$ Therefore children saw more than three times as many TV ads for the sugary drink categories in this report, even though brands in these categories did not target their advertising to children directly. Teens (12-17 years) viewed 169.3 TV ads for sugary drinks and energy drinks, in addition to 43.4 ads for children's sugary drinks.

Examination of trends in sugary drink TV advertising reveals an increase in sugary drink and energy drink TV ads viewed by preschoolers (+26\%) and children (+8\%) from 2013 to

2018, following a decline from 2010 to 2013 (see Figure 6). In contrast, TV ads seen by teens declined by 35\% from 2013 to 2018, continuing a decline from 2010 to 2013.

These changes in exposure to TV ads should be examined in the context of large declines in the amount of time that young people spent watching TV from 2013 to 2018 (see Figure 7). On average, preschoolers and children spent $35 \%$ and $42 \%$ less time watching TV in 2018 than they did in 2013, while teens' TV viewing times declined by $52 \%$. As a result, the number of TV ads viewed should have decreased at a similar rate. However, despite these significant reductions in time spent watching TV, the number of sugary drink TV ads viewed by preschoolers and children increased from 2013 to 2018. Moreover, sugary drink TV ads viewed by teens declined at a lower rate than the decline in TV viewing times.

## Results

Figure 6. Trends in youth exposure to TV advertising: 2010-2018


Source: Analysis of 2018 Nielsen data; Sugary Drink FACTS 2014

## Preschooler and child exposure to TV advertising by category

In examining exposure to TV advertising by category in 2018 regular soda/soda brands made up $51 \%$ of sugary drink and energy drink ads viewed (see Table 8). Preschoolers and children viewed even more ads for regular soda/soda brands than for children's fruit drinks and flavored water combined. ${ }^{7}$ They also viewed approximately 25 ads for iced tea and 15 to 17 ads for energy drinks and sports drinks. Fruit drinks and

Figure 7. Trends in TV viewing times: 2010-2018


Source: Analysis of Nielsen data for average hours of TV viewed
flavored water combined (excluding children's drinks) made up approximately 5\% of TV ads viewed in 2018.

However, brands in these categories did not directly target their TV advertising to preschoolers and children. In 2018, targeted ratios for total sugary drink and energy drink ads viewed by preschoolers and children compared to adults were 0.40 and 0.39 , respectively, indicating that preschoolers and children saw less than half the number of these ads than adults saw. Flavored water had the highest ratios of ads viewed (0.59 and

Table 8. TV advertising exposure for preschoolers and children by category: 2010-2018

| Category | Avg \# of TV ads viewed |  |  |  |  |  |  |  | Targeted ratios: 2018* |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Preschoolers (2-5 years) |  |  |  | Children (6-11 years) |  |  |  |  |  |
|  | 2010 | 2013 | 2018 | $\begin{aligned} & \text { \% change } \\ & 2013-2018 \end{aligned}$ | 2010 | 2013 | 2018 | $\begin{aligned} & \text { \% change } \\ & 2013-2018 \end{aligned}$ | Preschoolers | Children |
| Sugary drinks and energy drinks |  |  |  |  |  |  |  |  |  |  |
| Regular soda/soda brand | 48.7 | 39.5 | 72.1 | 78\% | 62.8 | 43.6 | 69.2 | 55\% | 0.40 | 0.38 |
| Iced tea | 6.3 | 9.1 | 25.3 | 178\% | 7.9 | 10.0 | 25.0 | 150\% | 0.41 | 0.40 |
| Energy drink | 45.8 | 34.5 | 17.2 | -50\% | 55.1 | 40.1 | 16.6 | -58\% | 0.39 | 0.38 |
| Sports drink | 10.8 | 14.1 | 15.7 | 11\% | 14.3 | 17.6 | 15.3 | -13\% | 0.39 | 0.38 |
| Fruit drink | 11.1 | 6.4 | 7.3 | 14\% | 12.9 | 6.1 | 7.0 | 15\% | 0.42 | 0.41 |
| Drink brand | 0.3 | 3.4 | 1.6 | -52\% | 0.3 | 4.1 | 1.7 | -59\% | 0.38 | 0.39 |
| Flavored water | 4.8 | 3.3 | 0.2 | -94\% | 5.6 | 3.5 | 0.2 | -95\% | 0.59 | 0.49 |
| Total sugary drinks** | 127.8 | 110.3 | 139.4 | 26\% | 158.9 | 125.1 | 135.0 | 8\% | 0.40 | 0.39 |
| Diet drinks |  |  |  |  |  |  |  |  |  |  |
| Diet soda | 20.8 | 27.5 | 31.2 | 14\% | 24.9 | 28.2 | 29.0 | 3\% | 0.39 | 0.36 |
| Other diet drink | 3.8 | 7.0 | 12.6 | 80\% | 4.0 | 7.0 | 11.9 | 71\% | 0.39 | 0.37 |
| Total diet drinks | 24.6 | 34.5 | 43.8 | 27\% | 28.9 | 35.2 | 41.0 | 16\% | 0.40 | 0.36 |

[^3]0.49 for preschoolers and children, respectively). In contrast, targeted ratios for children's sugary drink ads viewed in 2018 were approximately 2.0, indicating that preschoolers and children saw twice as many TV ads for children's sugary drinks than adults saw. ${ }^{8}$

From 2013 to 2018, TV ads viewed by preschoolers and children increased for three of the seven categories examined. Iced tea had the highest percent increase: ads viewed increased by 2.5 times or more for both age groups. Regular soda/soda brand ads viewed increased by $78 \%$ for preschoolers and $55 \%$ for children. Regular soda/soda brands also contributed the biggest increase in number of TV ads viewed (+32.6 ads for preschoolers and +25.6 ads for children). Fruit drink ads (excluding children's drinks) also increased for both preschoolers and children, while sports drink ads increased for preschoolers, but declined for children. Energy drink and brand-level ads both declined by $50 \%$ or more for preschoolers and children. Flavored water had the greatest reductions in ads viewed from 2013 to 2018 (by more than $90 \%$ ).

Although companies did not target children under age 12 with TV ads for these categories, preschoolers and children viewed 3.6 and 3.0 times as many ads for these sugary drinks and energy drinks compared to ads viewed for children's sugary drinks in 2018 (see Figure 8). Furthermore, ads viewed for children's drinks declined by more than one-half from 2010 to 2018. As a result, children's sugary drinks represented a smaller proportion of all sugary drink ads viewed in 2018 than in 2010: approximately $40 \%$ in 2010 versus one-quarter of ads in 2018.

## Teen exposure to TV advertising by category

As with younger age groups, TV ads for regular soda/soda brands contributed more than $50 \%$ of sugary drink and energy drink ads viewed by teens in 2018 (see Table 9). Iced tea, energy drinks, and sports drinks represented another 43\% of ads viewed. Fruit drinks and flavored water combined (excluding children's drinks) contributed approximately 4\% of TV ads for sugary drinks viewed by teens.

The targeted ratio of total sugary drink and energy drink ads viewed by teens compared to adults was 0.49 in 2018, which indicates that teens saw approximately one-half as many TV ads for these products as adults saw. This difference was comparable to the ratio of time spent watching TV for teens versus adults (0.50). However, some categories appeared to target their advertising directly to teens as evidenced by higher teen-targeted ratios. Flavored water had the highest teen-targeted ratio (0.60), followed by energy drinks (0.53) and sports drinks (0.52). Fruit drinks and drink brands had the lowest teen-targeted ratios ( 0.42 and 0.41 , respectively).

Despite an overall $52 \%$ decline in average TV viewing times for teens from 2013 to 2018, teens viewed 68\% more TV ads for iced tea in 2018 than in 2013 and approximately the same number of ads for regular soda/soda brands. Ads viewed for sports drinks and fruit drinks declined at lower rates than declines in TV viewing times ( $38 \%$ and $11 \%$, respectively). Flavored water had the highest decline (98\%), followed by drink brands (77\%) and energy drinks (76\%).
Teens saw approximately three times as many TV ads for sugary drinks and energy drinks than for diet drinks in 2018.

Figure 8. TV ads viewed by preschoolers and children, including children's drinks: 2010-2018


Source: Analysis of 2018 Nielsen data, Children's Drink FACTS, Sugary Drink FACTS 2014

## Results

Table 9. TV advertising exposure for teens by category: 2010-2018

*TV viewing time ratio for teens vs. adults was 0.50 in 2018
**Excluding children's drinks
Source: Analysis of 2018 Nielsen data; Sugary Drink FACTS 2014

Teen-targeted ratios for diet categories ( 0.44 combined) were also lower than TV viewing time ratios, indicating that these products were not targeted directly to teens. However, there was a substantial increase ( $+41 \%$ ) in the number of ads that teens viewed for other diet drinks in 2018 compared to 2013.

## TV advertising exposure by company

Three companies dominated TV advertising for sugary drinks and energy drinks viewed by youth. PepsiCo was responsible for $38 \%$ to $40 \%$ of ads viewed by preschoolers, children, and teens, while Coca-Cola and Dr Pepper Snapple Group were responsible for approximately $20 \%$ and $15 \%$, respectively.

Figure 9. Changes in TV ad exposure by company for preschoolers and children: 2010-2018


Source: Analysis of 2018 Nielsen data; Sugary Drink FACTS 2014

Figure 10. Changes in TV ad exposure by company for teens: 2010-2018


Source: Analysis of 2018 Nielsen data; Sugary Drink FACTS 2014
Pepsi Lipton, Innovation Ventures, and Red Bull each contributed another $4 \%$ to $9 \%$ of ads viewed.

As noted earlier, preschoolers' and children's total exposure to TV advertising for sugary drinks increased from 2013 to 2018, but changes varied substantially by company (see Figure 9). Coca-Cola had the highest percent change in ads viewed for both preschoolers and children, almost tripling sugary drink ads viewed by these age groups. Pepsi Lipton had the second-highest percent increase; preschoolers and children
saw about twice as many ads in 2018 than in 2013. PepsiCo ads also increased by $60 \%$ and $34 \%$, respectively; and Red Bull ads increased for both age groups. Dr Pepper Snapple Group increased its advertising to preschoolers by $10 \%$, but advertising to children decreased by $11 \%$. Innovation Ventures was the only top-advertiser to reduce TV advertising to both preschoolers and children.

Despite a 35\% decline in total sugary drink TV ads viewed by teens, both Coca-Cola and Pepsi Lipton increased the number of ads viewed by teens, by 50\% for Coca-Cola and $28 \%$ for Pepsi Lipton (see Figure 10). The decline in PepsiCo sugary drink ads (12\%) was lower than the total decline, while ads for both Innovation Ventures and Dr Pepper Snapple Group sugary drinks had higher than average declines (88\% and $42 \%$, respectively).

## TV advertising exposure by brand

Ranking Table 3 presents the total number of TV ads viewed by brand for preschoolers and children in 2010, 2013, and 2018, and Ranking Table 4 presents the same information for teens. Three regular soda, one sports drink, and one energy drink brand ranked in the top-five brands in this report with the most TV advertising to preschoolers, children, and teens in 2018. Mtn Dew had the highest number of ads viewed in 2018 by all age groups, followed by Gatorade, Red Bull, Coke, and Pepsi.

Only 2 of the 10 sugary drink brands with the most TV advertising viewed by children and preschoolers in 2018 were children's drinks (see Table 10). Although the regular soda, sports drink, energy drink, and iced tea brands on this list did not target their advertising directly to children (as evidenced by low targeted ratios), preschoolers and children saw large numbers of ads for all these brands.

Table 10. Top-10 sugary drink brands (including children's drinks) advertised to children: 2018

| Company | Brand | Category | Preschoolers (2-5 years) |  | Children (6-11 years) |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | Avg \# ads viewed | Targeted ratio | Avg \# ads viewed | Targeted ratio |
| Kraft Heinz | Kool-Aid Jammers | Fruit drink | 23.2 | 3.86 | 27.4 | 4.56 |
| PepsiCo | Mtn Dew | Regular soda | 24.7 | 0.38 | 23.8 | 0.37 |
| PepsiCo | Gatorade | Sports drink | 15.3 | 0.39 | 15.0 | 0.38 |
| Kraft Heinz | Capri Sun Roarin' Waters | Flavored water | 9.5 | 3.94 | 12.6 | 5.22 |
| Red Bull | Red Bull | Energy drink | 10.6 | 0.42 | 10.3 | 0.37 |
| Coca-Cola | Coke | Regular soda | 10.1 | 0.43 | 9.4 | 0.43 |
| PepsiCo | Pepsi | Regular soda | 9.0 | 0.38 | 8.6 | 0.37 |
| Pepsi Lipton | Pure Leaf | Iced tea | 7.2 | 0.40 | 6.9 | 0.38 |
| Dr Pepper Snapple Group | Snapple | Iced tea | 6.7 | 0.40 | 6.7 | 0.40 |
| Coca-Cola | Sprite | Regular soda | 6.0 | 0.43 | 6.0 | 0.43 |

Shading indicates a children's sugary drink brand
Source: Analysis of 2018 Nielsen data; Children's Drink FACTS

## Results

Table 11. Sugary drink sub-brands* targeted to teens: 2018

|  |  |  | Teens (12-17 years) |  |
| :--- | :--- | :--- | :--- | :--- |
| Company | Brand (sub-brand) | Category | Avg \# ads viewed | Teen-targeted ratio |
| Coca-Cola | Fanta | Regular soda | 3.3 | 0.73 |
| PepsiCo | Mtn Dew (Kickstart) | Regular soda | 7.3 | 0.60 |
| Dr Pepper Snapple Group | Dr Pepper (Cherry) | Regular soda | 0.56 |  |
| Coca-Cola | Sprite | Energy drink | 0.5 | 0.55 |
| Innovation Ventures | 5-hour Energy (regular shots) | Sports drink | 7.5 | 0.55 |
| PepsiCo | Gatorade (excluding G2) | Energy drink | 13.9 | 0.55 |
| Red Bull | Red Bull | 13.7 | 0.54 |  |
| Dr Pepper Snapple Group | Snapple (including Straight Up Tea) | Iced tea | 8.6 | 0.52 |

*Of the 20 sub-brands with the highest number of ads viewed by teens
Source: Analysis of 2018 Nielsen data

A number of sub-brands did appear to target their TV advertising to teens as evidenced by teen-targeted ratios greater than 0.50 (see Table 11). Of the 20 sub-brands with the most TV advertising to teens, targeted sub-brands included four regular soda, two energy drink, one sports drink, and one iced tea. Fanta regular soda from Coca-Cola had the highest targeted ratio of all brands (0.73), followed by Mtn Dew Kickstart (0.60).

From 2013 to 2018, changes in the number of TV ads viewed varied greatly by brand. Three sugary drink brands advertised on TV in 2018 that had not advertised in 2013 and contributed approximately two or more ads viewed by children and teens (see Table 12). Another seven brands increased their TV
advertising to children and teens, with a 30\% or more increase for at least one age group. Mtn Dew had the greatest increase in number of ads viewed by children and teens (more than 15 ads), followed by Pure Leaf iced tea, Sprite regular soda, and Gold Peak iced tea. Fanta increased its advertising to children and teens by more than 3000\%.

In contrast, four brands that had advertised on TV in 2013 no longer advertised in 2018, but just one was responsible for more than 1 ad viewed on average by children or teens in 2013 (see Table 13). Another four brands reduced their TV advertising to teens by more than $52 \%$ from 2013 to 2018 (i.e., greater than the reduction in time that teens spent watching TV during that time). 5-hour Energy had the biggest declines


Examples of ads for regular soda brands disproportionately targeted to teens

## Results

Table 12. Brands with the greatest increase in TV ad exposure: 2013-2018*

| Company | Brand | Category | Avg \# of ads viewed |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | Children (6-11 years) |  |  | Teens (12-17 years) |  |  |
|  |  |  | 2013 | 2018 | $\begin{gathered} \text { \# of ads (\%) } \\ \text { change } \\ 2013-2018 \end{gathered}$ | 2013 | 2018 | $\begin{gathered} \text { \# of ads (\%) } \\ \text { change } \\ 2013-2018 \end{gathered}$ |
| Brands that advertised on TV in 2018 but not 2013 |  |  |  |  |  |  |  |  |
| Dr Pepper Snapple Group | 7-Up | Regular soda | 0.0 | 3.0 |  | 0.0 | 3.6 |  |
| Coca-Cola | Simply | Fruit drink | 0.0 | 3.0 |  | 0.0 | 3.3 |  |
| Coca-Cola | Honest Tea | Iced tea | 0.0 | 2.2 |  | 0.0 | 1.8 |  |
| Brands with the greatest increase in ads viewed by children |  |  |  |  |  |  |  |  |
| PepsiCo | Mtn Dew | Regular soda | 7.2 | 23.8 | 16.6 (230\%) | 17.2 | 32.2 | 15.0 (87\%) |
| Pepsi Lipton | Pure Leaf | Iced tea | 0.3 | 6.9 | 6.6 (2048\%) | 0.6 | 7.8 | 7.2 (1292\%) |
| Coca-Cola | Sprite | Regular soda | 1.0 | 6.0 | 5.0 (499\%) | 2.6 | 7.5 | 4.9 (192\%) |
| Coca-Cola | Gold Peak | Iced tea | 0.2 | 4.2 | 4.0 (2443\%) | 0.2 | 4.7 | 4.5 (2104\%) |
| Dr Pepper Snapple Group | Snapple | Iced tea | 3.8 | 6.7 | 2.9 (75\%) | 3.3 | 6.7 | 3.4 (75\%) |
| Coca-Cola | Coke | Regular soda | 5.6 | 7.9 | 2.3 (40\%) | 8.6 | 10.4 | 1.8 (21\%) |
| Coca-Cola | Fanta | Regular soda | 0.1 | 2.3 | 2.2 (3297\%) | 0.1 | 3.3 | 3.2 (4197\%) |

*Excludes brand-level and company-level ads
Source: Analysis of 2018 Nielsen data; Sugary Drink FACTS 2014

Table 13. Brands with the greatest decrease in TV ad exposure: 2013-2018*

| Company | Brand | Category | Avg \# of ads viewed |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | Children (6-11 years) |  |  | Teens (12-17 years) |  |  |
|  |  |  | 2013 | 2018 | $\begin{gathered} \text { \# of ads (\%) } \\ \text { change } \\ 2013-2018 \end{gathered}$ | 2013 | 2018 | $\begin{array}{r} \text { \# of ads (\%) } \\ \text { change } \\ 2013-2018 \end{array}$ |
| Brands that advertised in 2013 but not 2018** |  |  |  |  |  |  |  |  |
| Dr Pepper Snapple Group | Sun Drop | Regular soda | 5.3 | 0.0 |  | 11.3 | 0.0 |  |
| Brands with the greatest decrease in ads viewed by teens |  |  |  |  |  |  |  |  |
| Innovation Ventures | 5-hour Energy | Energy drink | 29.9 | 5.8 | -24.1 (-81\%) | 72.7 | 8.8 | -63.9 (-88\%) |
| PepsiCo | Pepsi | Regular soda | 13.7 | 8.6 | -5.1 (-37\%) | 26.8 | 10.2 | -16.6 (-62\%) |
| Coca-Cola | Glaceau Vitaminwater | Flavored water | 3.5 | 0.2 | -3.3 (-95\%) | 9.9 | 0.2 | -9.7 (-97\%) |
| Ocean Spray | Ocean Spray | Fruit drink | 5.8 | 3.8 | -2.0 (-35\%) | 7.9 | 3.7 | -4.2 (-53\%) |

*Excludes brand-level and company-level ads
**Brands with more than 1 ad viewed in 2013
Source: Analysis of 2018 Nielsen data; Sugary Drink FACTS 2014
in number of ads viewed (-24 ads for children and -64 ads for teens), while Glaceau Vitaminwater had the highest percent decline (more than 95\%).

## Advertising summary

In 2018, beverage companies spent \$1,038 million - over \$1 billion - to advertise sugary drinks (excluding children's drinks) and energy drinks, which represented two-thirds of advertising spending for all refreshment beverages (including diet drinks, unsweetened water, and 100\% juice). Eighty-four percent of total ad spending was devoted to TV advertising. Companies increased sugary drink ad spending by $26 \%$ from 2013 to 2018. Categories with substantial increases include iced tea
(+195\%), regular soda/soda brands (+41\%), and sports drinks (+24\%). Energy drinks was the only category to reduce ad spending from 2013 to 2018 (-34\%).

Two companies - PepsiCo and Coca-Cola - were responsible for $69 \%$ of all sugary drink and energy drink advertising spending; each spent more than $\$ 320$ million in 2018. Dr Pepper Snapple Group spent $\$ 133$ million ( $13 \%$ of the total), and another three companies - Innovation Ventures, Pepsi Lipton, and Red Bull each spent $\$ 54$ to $\$ 60$ million. Of the top-six companies, only Innovation Ventures reduced its spending from 2013 to 2018 (-39\%). Red Bull spending remained flat, while the other four companies increased their sugary drink ad spending by $16 \%$ (Dr Pepper Snapple Group) to 200\% (Pepsi Lipton).

Four individual brands spent more than $\$ 100$ million each in 2018 - Coke, Gatorade, Pepsi, and Mtn Dew - and four additional brands spent more than $\$ 30$ million - Dr Pepper, 5 -hour Energy, Red Bull, and Pure Leaf. Of the brands that offered diet and/or low-calorie varieties in addition to full-calorie sugary drinks, most devoted three-quarters or more of their ad spending to full-calorie varieties. Three Coca-Cola brands Coke, Simply fruit drinks, and Glaceau Vitaminwater - were the only major sugary drink brands that devoted more than $50 \%$ of their ad spending to low-calorie and/or diet drinks.

Preschoolers (2-5 years) and children (6-11 years) saw 26\% and 8\% more TV ads, respectively, for sugary drinks and energy drinks in 2018 than in 2013, despite significant declines in the average amount of time they spent watching TV during this time. Teens' exposure to these ads declined by $35 \%$, which was less than declines in the average amount of time they spent watching TV. Therefore, increased advertising spending by sugary drink and energy drink brands offset reductions in ads viewed due to declines in time spent watching TV. In 2018, preschoolers, children, and teens viewed on average 139.4, 135.0, and 169.3 TV ads, respectively, for sugary drinks and energy drinks. Preschoolers and children saw more than twice as many ads for these categories than they saw for children's sugary drinks.

Approximately $51 \%$ of TV ads viewed for the categories examined in this report were for regular soda/soda brands,
followed by iced tea, sports drinks, and energy drinks (each representing more than 10\% of the total). From 2013 to 2018, ads viewed for regular soda/soda brands and iced tea increased for all youth. Fruit drink ads viewed also increased for preschoolers and children, and sports drink ads increased for preschoolers. Flavored water and energy drink ads had the biggest declines for all age groups. Targeted ratios for preschoolers and children indicate that sugary drinks and energy drinks (excluding children's drinks) were not directly targeted to these age groups. However, disproportionately high numbers of ads viewed by teens compared to adults indicate that flavored water, energy drinks, and sports drinks appeared to target teens with their TV advertising.

PepsiCo, Coca-Cola, and Dr Pepper Snapple were responsible for three-quarters of sugary drink and energy drink ads viewed by youth in all age groups in 2018. Preschoolers and children saw more ads for PepsiCo, Coca-Cola, and Pepsi Lipton sugary drinks and Red Bull energy drinks in 2018 compared to 2013, while teens saw more ads for Coca-Cola and Pepsi Lipton sugary drinks. Innovation Ventures (5-hour Energy) was the only company that reduced its advertising to all age groups from 2013 to 2018. Among sugary drink brands, Mtn Dew, Coca-Cola, and Pepsi regular soda, as well as Gatorade sports drink and Red Bull energy drink, were responsible for the most advertising to youth in 2018.

## ADVERTISING TO HISPANIC AND BLACK YOUTH

In this section we present TV advertising for sugary drinks and energy drinks targeted to Hispanic preschoolers, children, and teens on Spanish-language TV. We also compare exposure to TV advertising for Black versus White preschoolers, children, and teens.

## Advertising on Spanish-language TV

## TV advertising to

Hispanic youth

## Definitions

Spanish-language TV TV programming presented on Spanish cable and broadcast networks (e.g. Univision, Telemundo).
Spanish-language TV Ads on Spanish-language TV viewed by preschoolers (2-5 years), children (6-11 years), and teens ads viewed (12-17 years) living in Hispanic households.

Spanish-language TV advertising spending on sugary drinks and energy drinks in 2018 totaled $\$ 83.9$ million (see Figure 11). Over $60 \%$ of this spending promoted regular soda and soda brands, and $33 \%$ was for sports drinks. Another 5\% of Spanish-language TV ad spending promoted energy drinks, while the balance ( $<1 \%$ ) was for drink brands and iced tea. None of the fruit drink or flavored water brands in our analysis advertised on Spanish-language TV in 2018. As reported previously, two children's fruit drinks (Capri Sun and Sunny D)
also spent $\$ 1.6$ million to advertise on Spanish-language TV (those numbers are not included in these totals). ${ }^{9}$

On average, sugary drinks and energy drinks allocated 10\% of their total TV ad spending (\$874 million) to Spanish-language TV. Regular soda/soda brands also allocated 10\% of total TV ad spending to Spanish-language TV. Sports drinks allocated $21 \%$, the highest proportion of any category. Energy drinks spent 4\% of their TV budgets on Spanish-language TV, while iced tea and drink brands allocated the least ( $<1 \%$ combined).

## Results

Figure 11. Spanish-language and total TV ad spending by category: 2018

*All other includes drink brand, iced tea, fruit drink, and flavored water categories
Source: Analysis of 2018 Nielsen data

From 2013 to 2018, total spending on Spanish-language TV increased by $8 \%$, due to a $745 \%$ increase in sports drink advertising (see Table 14). During the same time, Spanishlanguage TV ad spending for regular soda/soda brands stayed relatively flat ( $-3 \%$ ), while energy drinks and iced tea spending decreased by more than $75 \%$. These decreases followed sizeable increases in these categories from 2010 to 2013. Total ad spending on Spanish-language TV increased by $80 \%$ from 2010 to 2018.

## Ads viewed by Hispanic youth on Spanishlanguage TV

In 2018, Hispanic preschoolers viewed on average 49 ads for sugary drinks and energy drinks on Spanish-language TV, more ads than either Hispanic children (42 ads) or teens (33 ads) viewed (see Figure 12). Approximately $75 \%$ of the ads viewed by all age groups were for regular soda/soda brands, and another $20 \%$ for sports drinks.

Despite the increase in sugary drink and energy drink ad spending on Spanish-language TV, from 2013 to 2018 the number of Spanish-language TV ads viewed declined for Hispanic preschoolers(-15\%), children (-5\%), and teens (-26\%). These declines can be explained by substantial decreases in the amount of time that Hispanic youth spent watching Spanish-language TV. In 2018, Hispanic preschoolers/ children (ages 2-11) and teens spent 42\% and 56\% less time, respectively, watching Spanish-language TV than they did in 2013. Nonetheless, relative to 2010 both Hispanic preschoolers and children viewed more ads on Spanish-language in 2018 (+36\% and $+59 \%$, respectively), while ad exposure for teens decreased by just 5\% over the same time period.

In addition, Spanish-language TV ads viewed for sports drinks increased 10-fold or more from 2013 to 2018 for Hispanic youth of all ages. Exposure to regular soda/soda brand ads also increased for Hispanic preschoolers (+13\%) and children (+25\%), but slightly decreased for teens (-7\%). In contrast, ads viewed for energy drinks decreased by $94 \%$ across all age groups.

## Spanish-language TV advertising by company

In 2018, just six of the 24 companies in our analysis advertised sugary drinks and energy drinks on Spanish-language TV (see Figure 13). Moreover, two companies - PepsiCo and CocaCola - were responsible for $84 \%$ of all Spanish-language ad spending. Dr Pepper Snapple Group accounted for $10 \%$ and Innovation Ventures for another 5\%. Hansen Beverage and Interstate Beverage together accounted for just $<1 \%$.

Table 14. Spanish-language TV ad spending by category: 2010-2018

|  | Spanish-language TV ad spending (\$000) |  |  |  |
| :--- | ---: | ---: | ---: | ---: |
| Category | $\mathbf{2 0 1 0}$ | $\mathbf{2 0 1 3}$ | $\mathbf{\$}$ (\%) change |  |
| 2013-2018 |  |  |  |  |$)$

Source: Analysis of 2018 Nielsen data; Sugary Drink FACTS 2014

Figure 12. Ads viewed by Hispanic youth on Spanish-language TV by category: 2010-2018

*All other includes drink brand and iced tea categories in 2018 and iced tea and flavored water categories in previous years Source: Analysis of 2018 Nielsen data; Sugary Drink FACTS 2014

Figure 13. Changes in Spanish-language TV ad spending by company: 2010-2018


[^4]The 8\% total increase in sugary drink advertising spending on Spanish-language TV from 2013 to 2018 was primarily due to large increases in spending by PepsiCo (+121\%) and Coca-Cola (+66\%). Notably, in 2010 PepsiCo had spent only $\$ 400,000$ on Spanish-language TV advertising, and it was the only company to increase its Spanish-language TV advertising during both time periods (2010-2013 and 2013-2018). From 2013 to 2018, Innovation Ventures spending on Spanishlanguage TV also increased by $15 \%$, despite a $78 \%$ decrease in total advertising spending during that time. Dr. Pepper Snapple Group was the only large beverage company to decrease ad spending on Spanish-language TV from 2013 to 2018.

## Advertising on Spanish-language TV by brand

Eleven brands advertised on Spanish-language TV in 2018 (see Table 15). Coke spent the most (on Coke Classic and brand-level ads), followed by two PepsiCo brands (Gatorade and Pepsi). These three brands were responsible for $75 \%$ of all Spanish-language sugary drink advertising spending. Dr Pepper, Powerade, and 5-hour Energy each spent more than \$4 million. The remaining brands spent $\$ 400,000$ or less. In addition to spending almost $\$ 22$ million on ads for Coke Classic and $\$ 3.8$ million to promote the Coke brand, Coca-Cola spent \$30.6 million to advertise Diet Coke on Spanish-language TV. No other diet drink brand advertised on Spanish-language TV in 2018.

Table 15. Advertising spending on Spanish-language TV by brand: 2018

| Company | Category | Brand (sub-brand) | Ad spending on Spanish-language TV |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | $\begin{array}{r} 2018 \\ (\$ 000) \end{array}$ | $\begin{aligned} & \text { \% change } \\ & \text { 2013-2018 } \end{aligned}$ | \% of brand's total TV ad spending 2018 |
| Coca-Cola | Regular soda | Coke (Classic) | \$21,799 | 38\% | 17\% |
| PepsiCo | Sports drink | Gatorade | \$20,528 | * | 19\% |
| PepsiCo | Regular soda | Pepsi | \$16,952 | 3\% | 17\% |
| Dr Pepper Snapple Group | Regular soda | Dr Pepper | \$8,781 | -9\% | 14\% |
| Coca-Cola | Sports drinks | Powerade | \$6,895 | 113\% | 32\% |
| Innovation Ventures | Energy drink | 5-hour Energy | \$4,418 | 15\% | 8\% |
| Coca-Cola | Soda brand | Coke | \$3,815 | * | 23\% |
| Coca-Cola | Drink brand | Coca-Cola | \$407 | * | 2\% |
| Coca-Cola | Iced tea | Honest Tea | \$193 | * | 2\% |
| PepsiCo | Regular soda | Mtn Dew | \$88 | -84\% | <1\% |
| Hansen Beverage | Regular soda | Monster (Mutant Super Soda) | \$1 | * | <1\% |
| Interstate Beverage | Regular soda | Jarritos | \$0.5 | * | 100\% |

*Brand did not advertise in 2013.
Source: Analysis of 2018 Nielsen data; Sugary Drink FACTS 2014

Powerade sports drink was notable for dedicating 32\% of its TV ad dollars to Spanish-language TV, more than any other brand. Similarly, Coke (brand-level ads) allocated nearly one-quarter of TV ad dollars to Spanish-language TV. Gatorade, Pepsi, and Dr Pepper each dedicated $14 \%$ to $19 \%$ of their TV advertising budgets to Spanish-language TV. 5-hour Energy and all other brands with Spanish-language TV advertising allocated 8\% or less, lower than the $10 \%$ average for sugary drinks overall.


Ranking Table 5 presents ads viewed by Hispanic youth on Spanish-language TV in 2018 by company and brand, including changes versus 2013. Pepsi, Dr Pepper, Gatorade, and Coke together accounted for more than $90 \%$ of sugary drink ads viewed on Spanish-language TV by Hispanic youth across all age groups. PepsiCo contributed more than onehalf of all ads viewed. Coca-Cola and Dr Pepper Snapple Group each represented over 20\%, and Innovation Ventures


Youth-targeted Spanish-language TV ads for Pepsi and Powerade
accounted for approximately 3\% of ads viewed. Hansen Beverage and Interstate Beverage together comprised less than $1 \%$ of ads viewed.

Of note, contributing more ad dollars to Spanish-language TV did not necessarily translate to more ads viewed by Hispanic youth. Both Pepsi and Dr Pepper spent less than Gatorade or Coke in advertising on Spanish-language TV in 2018, but Hispanic youth viewed twice as many ads for Pepsi and more ads for Dr Pepper than they viewed for Gatorade or Coke. As with ad spending, Powerade ranked fifth in ads viewed.

From 2013 to 2018, exposure to Spanish-language TV ads by Hispanic preschoolers and children increased for the top five
brands: Pepsi, Dr Pepper, Gatorade, Coke, and Powerade. Ads viewed by teens also increased for these brands, with the exception of Dr Pepper (which declined by 10\%). Pepsi ads viewed increased by $44 \%$ and $61 \%$ for preschoolers and children and by $17 \%$ for teens. Powerade ads increased by $59 \%$ for preschoolers, $73 \%$ for children, and $53 \%$ for teens. Gatorade did not advertise on Spanish-language TV in 2010 or 2013, but ranked third in ads viewed in 2018. The decrease in energy drink ad exposure from 2013 to 2018 was due to one brand (SK Energy) being discontinued and a reduction in ad exposure for 5-hour Energy of 70\% or more.

## Exposure to TV advertising by Black youth

## TV advertising to Black youth <br> Black preschooler-, child-, and teen-targeted ratios

In 2018, Black preschoolers (2-5 years) and children (6-11 years) saw on average 256 ads for sugary drinks and energy drinks, approximately double the number of ads that White preschoolers and children viewed. Black teens saw 331 of these ads, which was 2.3 times more ads than White teens saw.

Differences between ads viewed by Black and White youth can be explained partially by differences in the average amount of time spent watching TV (see Figure 14). In 2018, on average Black preschoolers watched $39 \%$ more hours of TV than White preschoolers watched, Black children watched 69\% more than White children, and Black teens watched $78 \%$ more than White teens. However, differences in sugary drink and energy drink ads viewed for Black versus White youth in all age groups were higher than would be expected given these differences in TV viewing times. Therefore, sugary drinks and energy drinks appeared to continue targeting Black youth by purchasing ads during programming with disproportionately more Black youth in the audience.

From 2013 to 2018, total exposure to TV ads for sugary drinks and energy drinks by Black preschoolers and children increased by 12\%. These increases occurred despite an approximately $34 \%$ decline in average TV viewing times during the same period. However, increases in ads viewed by White preschoolers and children over the same time period were higher ( $31 \%$ and $24 \%$, respectively).

Both Black and White teens viewed fewer ads for sugary drinks in 2018 than in 2013. This decline was slightly greater for

White teens ( $-35 \%$ ) than for Black teens ( $-28 \%$ ). Moreover, the decline in sugary drink ads viewed by Black teens was less than expected given declines in their average TV viewing time, which decreased by $49 \%$ from 2013 to 2018. Therefore, from 2013 to 2018 disparities in exposure to sugary drink ads between Black and White preschoolers and children improved somewhat (from 2.33 in 2013 to 2.01 and 2.11 in 2018), whereas disparities in exposure for Black teens increased (from 2.06 to 2.29).

## Ad exposure by category

As found in overall youth exposure to TV ads for sugary drinks and energy drinks, regular soda/soda brands accounted for approximately one-half of TV ads viewed by Black youth in all age groups, and iced tea, sports drinks and energy drinks together comprised more than $40 \%$ of ads viewed. Fruit drinks, drink brands, and flavored water (excluding children's drinks) represented 5\% or less of total ads viewed.

Given differences in TV viewing times in 2018, a Black childtargeted ratio of 1.8 or higher would clearly indicate that companies purchased advertising during programming viewed disproportionately more by Black children than by White children. In 2018, five of the seven drink categories examined had Black child-targeted ratios higher that 1.8 (see Table 16). Flavored water and sports drinks had the highest targeted ratios: Black preschoolers and children saw more than 2.5 times as many ads for sports drinks and more than 4 to 5 times as many ads for flavored water than White preschoolers and children saw. Regular soda/soda brands, energy drinks,

## Results

Figure 14. TV viewing time and TV ad exposure for Black and White youth: 2013-2018


TV viewing time

TV ad exposure
Black youth $\square$ White youth

Source: Analysis of 2018 Nielsen data; Sugary Drink FACTS 2014
and iced tea brands also appeared to target Black children as evidenced by targeted ratios of approximately 2.0 or higher.

From 2013 to 2018, Black children's exposure to TV ads increased for three categories: sports drinks (+16\%), regular soda/soda brands (+79\%), and iced tea (+137\%). Exposure declined for another three categories: flavored water (-94\%), energy drinks (-60\%), and drink brands (-73\%). Exposure to fruit drink ads remained the same (+1\%). Changes in some categories differed for Black and White preschoolers and children. From 2013 to 2018, exposure to sports drink ads by White preschoolers and children declined by $4 \%$, in contrast to a $16 \%$ increase in ads viewed by Black preschoolers and children. In addition, increases in exposure to ads for iced tea (+185\%) and fruit drinks (+37\%) were higher for White preschoolers and children than for their Black peers. Total sugary drink ad exposure for White children and teens
increased by $27 \%$, compared to a $12 \%$ increase for Black preschoolers and children.

As with Black children, Black teens viewed more than twice the number of ads that White teens viewed for iced tea, energy drinks, and regular soda/soda brands (see Table 17). They also viewed more than 2.5 times as many ads for sports drinks and nearly 5 times the number of flavored water ads. Given differences in TV viewing times, a targeted ratio of 2.0 or higher for Black teens clearly indicates that TV ads for these categories were placed on programming disproportionately viewed by Black teens versus White teens. In contrast, Black teens' exposure to ads for fruit drinks and drink brands were less than expected given differences in viewing times in 2018. Targeted ratios for diet soda, but not other diet drinks, were comparable to differences in amount of TV viewing time.

## Results

Table 16. Black children's exposure to TV advertising by category: 2013-2018

| Category | 2013* |  | 2018 |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Black children (2-11y) |  | Black preschoolers (2-5y) |  | Black children (6-11y) |  |
|  | Avg \# of ads viewed | Targeted ratio | Avg \# of ads viewed | Targeted ratio | Avg \# of ads viewed | Targeted ratio |
| Sugary drinks |  |  |  |  |  |  |
| Flavored water | 8.7 | 3.77 | 0.6 | 5.71 | 0.5 | 4.22 |
| Sports drink | 29.3 | 2.08 | 33.9 | 2.47 | 34.1 | 2.59 |
| Regular soda/soda brand | 74.4 | 2.15 | 134.8 | 2.08 | 132.0 | 2.15 |
| Energy drink | 79.6 | 2.63 | 31.3 | 1.94 | 31.7 | 2.09 |
| Iced tea | 18.9 | 2.30 | 43.9 | 1.84 | 45.8 | 1.99 |
| Fruit drink | 9.8 | 1.89 | 9.9 | 1.35 | 10.0 | 1.45 |
| Drink brand | 7.4 | 2.43 | 2.0 | 1.15 | 2.1 | 1.22 |
| Total sugary drinks | 228.2 | 2.33 | 256.4 | 2.01 | 256.2 | 2.11 |
| Diet drinks |  |  |  |  |  |  |
| Diet soda | 46.2 | 1.84 | 48.2 | 1.59 | 46.5 | 1.67 |
| Other diet drinks | 2.3 | 2.00 | 19.9 | 1.66 | 20.0 | 1.79 |
| Total diet drinks | 48.5 | 1.85 | 68.1 | 1.61 | 66.5 | 1.70 |

Bold numbers indicate a disproportionately high Black-targeted ratio in 2018 (>1.8)
*2013 numbers for Black preschoolers and children are combined
Source: Analysis of 2018 Nielsen data; Sugary Drink FACTS 2014

From 2013 to 2018, Black teens' exposure to ads for regular soda/soda brands (+17\%) and iced teas (+74\%) increased, but the number of ads viewed declined for flavored water (-97\%), sports drinks (-18\%), energy drinks (-75\%), fruit drinks (-17\%), and drink brands (-84\%). Exposure to diet drinks also decreased by $7 \%$. Targeted ratios for all categories except fruit drinks and drink brands increased from 2013 to 2018.

The magnitude of these changes in some categories differed for White and Black teens. The decline in Black teens' exposure to sports drink ads was less than the decline for White teens
(-18\% vs. $-42 \%$ ), and White teens' exposure to regular soda/ soda brand ads remained the same, whereas Black teens' exposure increased by 17\%. In contrast, Black teens' exposure to fruit drinks ads declined by $17 \%$, while White teens' exposure did not change (-3\%).

## Targeted advertising by company

PepsiCo contributed approximately $42 \%$ of sugary drink and energy drink ads viewed by Black children and preschoolers,

Table 17. Black teens' exposure to TV advertising by category: 2013-2018

|  | Black teens (12-17y) |  |  |  |  |
| :--- | ---: | ---: | ---: | ---: | ---: | :--- |
|  | $\mathbf{2 0 1 3}$ |  |  | 2018 |  |$]$

Bold numbers indicate a disproportionately high Black teen-targeted ratio in 2018 ( $>2.0$ )
Source: Analysis of 2018 Nielsen data; Sugary Drink FACTS 2014

Figure 15. Black and White youth exposure to TV advertising by company: 2018


Targeted ratios of ads viewed by Black vs. White youth in parentheses
Source: Analysis of 2018 Nielsen data; Sugary Drink FACTS 2014
while Coca-Cola and Dr Pepper Snapple Group together contributed one-third (see Figure 15). Pepsi Lipton, Red Bull, and Innovation Ventures contributed another 21\%. Notably, Black preschoolers and children viewed 2.2 to 2.4 times more ads for PepsiCo, Pepsi Lipton, and Innovation Ventures brands than their White peers. Targeted ratios for the remaining companies were less than 2.1.

Results for Black teens were similar. Two beverage companies accounted for two-thirds of all sugary drink and energy drink TV ads viewed by Black teens: PepsiCo (43\%) and Coca-Cola (20\%). Dr Pepper Snapple Group was responsible for $13 \%$. PepsiCo and Pepsi Lipton had the highest Black teen-targeted ratios ( 2.53 and 2.36 , respectively), followed by two energy drink companies: Red Bull (2.30) and Innovation Ventures (2.29). Dr Pepper Snapple Group and Ocean Spray were the only companies with Black teen-targeted ratios less than 2.0.

## Targeted advertising by brand

Ranking Table 6 presents the number of sugary drink and energy drink ads viewed by Black preschoolers and children in 2013 and 2018 by brand, including targeted ratios, and Ranking Table 7 presents these numbers for Black teens. As with all youth, Mtn Dew and Gatorade ranked first and second in number of ads viewed by Black youth in 2018. These two brands contributed approximately one-third of sugary drink ads viewed by all age groups. Red Bull and Coke ranked third and fourth for preschoolers and children. Two additional
regular soda brands (Sprite and Pepsi) ranked fifth and sixth in ads viewed by Black children and fourth and eighth for Black teens. Another energy drink brand (5-hour Energy) and three iced tea brands (Pure Leaf, Snapple, and Lipton) rounded out the top-10 brands advertised to Black preschoolers, children, and teens.

A number of brands appeared to target their advertising to Black youth (see Table 18). Eight of the top-10 brands in number of ads viewed had Black teen-targeted ratios of 2.1 or greater in 2018. Black youth saw more than four times as many ads for Glaceau Vitaminwater than White youth saw (although the number of ads viewed was low). They also saw approximately three times as many ads for Sprite and Fanta. Gatorade and Mtn Dew also had high targeted ratios, with Black youth viewing approximately 2.5 to 3 times as many ads as White youth viewed. Pepsi and Coke regular soda were the only top-10 brands that did not appear on this list, with somewhat lower-than-average targeted ratios of 1.9.

## Targeted advertising summary

These analyses demonstrate that a small number of sugary drink and energy drink companies disproportionately targeted their advertising to Hispanic and Black youth. On Spanishlanguage TV, six companies spent $\$ 83.9$ million to advertise sugary drinks, $8 \%$ more than spending in 2013. This growth was primarily due to large increases in spending by two companies - PepsiCo (+121\%) and Coca-Cola (+66\%) - who

## Results

Table 18. Brands with the highest Black teen-targeted ratios:* 2018

| Company | Brand | Category | Black Children (6-11y) |  | Black Teens (12-17y) |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | Avg \# of ads viewed | Targeted ratio | Avg \# of ads viewed | Targeted ratio |
| Coca-Cola | Glaceau Vitaminwater | Flavored water | 0.5 | 4.22 | 0.6 | 4.82 |
| Coca-Cola | Sprite | Regular soda | 14.8 | 2.98 | 19.7 | 3.59 |
| Coca-Cola | Fanta | Soda brand | 5.6 | 2.90 | 8.8 | 3.42 |
| PepsiCo | Gatorade | Sports drink | 33.7 | 2.62 | 46.9 | 2.78 |
| PepsiCo | Mtn Dew | Regular Soda | 50.7 | 2.50 | 69.2 | 2.68 |
| Pepsi Lipton | Lipton | Iced tea | 10.7 | 2.38 | 13.4 | 2.66 |
| BA Sports Nutrition | BodyArmor | Sports drink | 0.1 | 4.24 | 0.1 | 2.47 |
| Red Bull | Red Bull | Energy drink | 19.0 | 2.06 | 26.6 | 2.30 |
| Innovation Ventures | 5-hour Energy | Energy drink | 11.9 | 2.25 | 17.9 | 2.29 |
| Dr Pepper Snapple Group | Snapple | Iced tea | 12.1 | 2.00 | 16.6 | 2.25 |
| Pepsi Lipton | Pure Leaf | Iced tea | 13.0 | 2.00 | 14.8 | 2.15 |

*Black teen-targeted ratios >2.0
Shading indicates top-10 brand in number of TV ads viewed
Source: Analysis of 2018 Nielsen data
were responsible for $84 \%$ of all Spanish-language ad dollars in 2018. PepsiCo was the only company that also increased spending on Spanish-language TV from 2010 to 2013.

In 2018, regular soda/soda brands accounted for over 60\% of spending and $75 \%$ of sugary drink and energy drink ads viewed by Hispanic youth on Spanish-language TV. Exposure to regular soda/soda brands by Hispanic children and preschoolers also increased from 2013 to 2018. Pepsi ranked first in Spanishlanguage ads viewed, while Coke (soda brand ads) allocated nearly one-quarter of its TV ad dollars to Spanish-language TV. Another one-third of total Spanish-language TV ad spending was for sports drinks. Powerade sports drink was notable for dedicating $32 \%$ of its TV ad dollars to Spanish-language TV, more than any other brand. Gatorade did not advertise in 2010 or 2013, but ranked third in ads viewed in 2018.

While Hispanic youth across all age groups spent less time watching Spanish-language TV in 2018 than in 2013, by 42\% for preschoolers/children and 56\% for teens, the decline in ads viewed was much lower: -15\% for preschoolers, -5\% for children, and $-26 \%$ for teens. As in 2013, Hispanic preschoolers viewed the most ads on Spanish-language TV in 2018: approximately $50 \%$ more ads than Hispanic teens saw and $16 \%$ more than Hispanic children.

Disparities between Black and White youth exposure to sugary drink and energy drink ads also persisted. In 2018, Black youth viewed more than twice the number of ads than White youth viewed, although they watched just $40 \%$ to $80 \%$ more TV than their White peers. A $12 \%$ increase in ads viewed by Black preschoolers and children occurred despite an approximately $34 \%$ decline in TV viewing time from 2013 to 2018. Black teens' exposure to sugary drink ads declined by $28 \%$, while their TV viewing time declined by 49\%.


Sprite ads targeting Black teens with hip hop and sports celebrities


Gatorade ads targeting Black teens featured inspirational Black celebrity athletes

From 2013 to 2018, Black youth exposure to regular soda/ soda brand ads increased, accounting for one-half the total ads viewed by Black youth in 2018. Exposure to iced tea ads increased by $74 \%$ for black teens and more than doubled for preschoolers and children in the same time period. Black preschoolers and children exposure to sports drink ads increased by $16 \%$ in contrast to a decrease in sports drink ad exposure among White preschoolers and children of $4 \%$. Similarly, regular soda/soda brand ad exposure increased for Black teens by $17 \%$, but remained the same for White teens. Energy drink ads viewed by Black youth decreased from 2013
to 2018, but Red Bull ranked third in number of ads viewed for black youth, and 5-hour Energy ranked in the top-10.

PepsiCo was responsible for more than $40 \%$ of sugary drink and energy drink ads viewed by Black youth in 2018, followed by Coca-Cola and Dr Pepper Snapple Group. Notably, Black preschoolers and children viewed approximately 2.3 times more ads for PepsiCo and Pepsi Lipton brands than White youth viewed. Black teens also saw more than three times as many ads for Sprite and Fanta and more than twice as many ads for Gatorade and Mtn Dew than White teens saw.

From 2013 to 2018, beverage companies substantially increased sugary drink advertising. They spent more than $\$ 1$ billion in 2018 to promote primarily regular soda, sports drinks, energy drinks, and iced tea - a $26 \%$ increase versus 2013. Furthermore, some brands continued to disproportionately target TV ads to teens and Hispanic and Black youth. These increases occurred at the same time major beverage companies pledged to reduce beverage calories and increase marketing of lower-calorie drinks.
In Children's Drink FACTS,' the 2019 Rudd Center report that documented sales and marketing of children's drinks (i.e., drinks that companies marketed as intended for children to consume), we identified some positive developments in advertising of children's drinks. For example, total advertising spending for sweetened children's drinks (fruit drinks and flavored water) declined by $83 \%$ from 2010 to 2018, and exposure to TV advertising by preschoolers and children declined by more than 50\%. Just one company and two brands (Kraft Heinz: KoolAid and Capri Sun) were responsible for more than one-half of TV ads viewed for sweetened children's drinks.

In contrast, this analysis of advertising for sugary drink categories that are primarily marketed to teens and adults (regular soda, sports drinks, energy drinks, iced tea, fruit drinks, and flavored water) found no evidence that beverage companies have improved the nutrition content of advertised drinks or reduced sugary drink advertising in response to public health concerns about the harm caused by sugary drink consumption.

## What is the nutrition content of advertised sugary drinks?

A total of 48 brands ( 89 sub-brands) of sugary drinks and energy drinks from 24 different companies each spent at least $\$ 100,000$ in total advertising in 2018. They included 18 regular soda, 11 energy drink, eight iced tea, six fruit drink, four sports drink, and one flavored water brand.

The nutrition content of advertised sugary drinks continues to raise concerns. The American Heart Association (AHA) recommends that children and teens consume no more than 25 grams of added sugar daily and limit sugary drinks to 8 ounces per week. ${ }^{2}$ However, the median sugar content in a single-serve container of energy drinks, regular soda, flavored water, and iced tea all exceeded 25 grams, while median sugar content for the other two sugary drink categories - fruit drinks and sports drinks - approached the recommended maximum daily amount of sugar ( 23 g and 21 g , respectively) (see Figure 16). Furthermore, single-serve products in all
categories often exceeded these limits, with up to 81 grams of sugar in a 20 -ounce soda, more than 60 grams in a 16-ounce energy drink and an 18.5-ounce iced tea, and more than 50 grams in a 16-ounce fruit drink.

In addition, the American Academy of Pediatrics (AAP) recommends against youth under age 18 consuming energy drinks due to health risks from intake of high levels of caffeine and other stimulants in these drinks. ${ }^{3}$ The energy drinks and shots examined contained a median of 160 milligrams of caffeine, and up to 350 milligrams in a 16-ounce serving. In addition to their high sugar content, $88 \%$ of sugar-sweetened energy drinks also contained zero-calorie sweeteners. The AAP statement also recommends against children and teens consuming sports drinks due to their sugar content.

Furthermore, we found little evidence that companies have begun to allocate more of their advertising dollars to lowercalorie or diet drinks. Regular soda and soda brands continued to outspend diet soda by $98 \%$ ( $\$ 586$ vs. $\$ 296$ million in total ad spending), while sugar-sweetened sports drinks, iced tea, fruit drinks, and flavored water outspent diet varieties (i.e., products with no added sugar) in the same categories by more than five times (\$298 vs. \$58 million). In 2018, sugary drinks and energy drinks represented $64 \%$ of all advertising spending for refreshment beverages (including plain and sparkling water, 100\% juice, and diet drinks).

Most brands with lower-calorie and/or diet versions continued to primarily advertise their full-calorie products. Coke was the only soda brand to spend more on its diet varieties (Coke Zero and Diet Coke) than on its full-calorie Coke Classic (\$168 vs. $\$ 147$ million). The brand also introduced a lower-calorie variety, Coke Life with 24 grams of sugar per 12 ounces, but spent a small amount ( $\$ 8$ million) to advertise the product. Glaceau Vitaminwater (Coca-Cola) was the only other sugary drink brand to allocate the majority of its advertising spending to a diet variety (Vitaminwater Zero), spending $\$ 12$ million in 2018, $90 \%$ of the brand's total advertising expenditures.

Diet Pepsi was another highly advertised diet soda, but the brand spent almost $\$ 20$ million more to advertise full-calorie Pepsi (\$99 vs. \$118 million). Two additional highly advertised PepsiCo brands offered lower-calorie and/or diet varieties Gatorade and Mtn Dew - but primarily advertised their fullcalorie versions. Gatorade spent $\$ 115$ million toward regular Gatorade, compared to $\$ 15$ million for lower-calorie G2 and $\$ 4$ million for Gatorade Zero. Similarly, Mtn Dew spent \$89 million on its full-calorie soda compared to $\$ 17.5$ million on lower-calorie Mtn Dew Kickstart. However, Kickstart was highly targeted to teens, with a teen-targeted advertising ratio (i.e., TV ads viewed by teens vs. adults) of 0.60 , the secondhighest sub-brand in our analysis. The product contains 14 to 15 grams of sugar per 12-ounce can, zero-calorie sweeteners, 68.5 milligrams of caffeine, 5 to $10 \%$ juice, and uses the tagline "Juice + Caffeine + DEW." This product does not qualify as a healthier choice for teens.

Figure 16. Summary of sugar content of sugary drinks by category


Source: Nutrition analysis (March 2020)

## How has sugary drink and energy drink advertising spending changed?

More than one-half of the $\$ 1,038$ million spent to advertise sugary drinks in 2018 was devoted to regular soda and soda brands (i.e., ads that included only a brand logo or that featured both regular and diet varieties). This $\$ 586$ million in regular soda/soda brand advertising represented a $41 \%$ increase versus 2013. Spending on sports drink advertising also increased by $24 \%$, totaling $\$ 159$ million in 2018; and advertising for iced tea almost tripled, from \$38 million in 2013 to $\$ 111$ million in 2018.

Energy drinks (including zero-calorie drinks and shots) ranked third in total advertising spending (\$115 mill) in 2018, but it was the only top category that spent less to advertise in 2018 than in 2013 (-34\%). Ad spending on fruit drinks and flavored water (excluding children's drinks) also declined by $5 \%$, although combined spending for these categories was only $\$ 28$ million.

## Are preschoolers, children, and teens seeing less TV advertising for sugar drinks?

From 2013 to 2018, the amount of time that young people spent watching TV declined significantly: by $35 \%$ for preschoolers (2-5 years), 42\% for children (6-11 years), and 52\% for teens (12-17 years). Given these significant reductions in time spent watching TV, the number of TV ads viewed should have declined by similar amounts. However, preschoolers saw $26 \%$ more TV ads for sugary drinks in 2018 than in 2013, and children saw $8 \%$ more ads (139.4 and 135.0 TV ads viewed on average in 2018). Teens' exposure to sugary drink ads declined by $35 \%$ to 169.3 ads viewed, but this decline was less than expected given the $52 \%$ reduction in TV viewing time for this age group.

Furthermore, changes in exposure to TV ads from 2013 to 2018 varied widely by sugary drink category. Ads viewed for regular soda/soda brands increased by $78 \%$ for preschoolers and $55 \%$ for children, while remaining flat for teens (+1\%), totaling $72.1,69.2$, and 86.7 ads viewed in 2018, respectively.

In addition, exposure to TV ads for iced tea increased by 2.5 times or more for preschoolers and children and by 68\% for teens (25.3, 25.0, and 29.0 ads viewed in 2018). In 2018, iced tea overtook energy drinks and sports drinks to become the second most highly advertised sugary drink category in ads viewed by all youth age groups (exceeded only by regular soda). Sports drink ads viewed by preschoolers also increased from 2013 to 2018 (+11\%), while declines for children (-13\%) and teens (-38\%) were less than expected given reductions in TV viewing times (15.7, 15.3, and 21.1 ads viewed in 2018).

In contrast, there were notable declines in energy drink and flavored water ads viewed. Preschoolers, children, and teens saw less than one-half the number of energy drink ads in 2018 than in 2013. These reductions were due to approximately $75 \%$ fewer ads for one energy shot (5-hour Energy) and the discontinuation of another energy shot that had been highly advertised in 2013 (SK Energy). The other highly advertised energy drink brand in our analysis (Red Bull) increased its advertising to preschoolers and children (22\% and 6\%, respectively), but reduced advertising to teens by $44 \%$. Nonetheless, energy drinks continued to rank third in number of ads viewed by all age groups in 2018 (behind regular soda/ soda brands and iced tea), contributing 17.2, 16.6, and 23.3 ads viewed by preschoolers, children, and teens. The one flavored water brand in this analysis (Glaceau Vitaminwater) advertised primarily in magazines, spending less than \$200,000 in TV advertising for its sugar-sweetened varieties in 2018.

Advertising for sugary drinks that targeted children under 12 was reported previously in Children's Drink FACTS. ${ }^{4}$ None of the drink categories detailed in this report appeared to target preschoolers or children with their TV advertising. However, these categories contributed three-quarters of all sugary drink ads viewed by preschoolers and children in 2018; outnumbering ads for children's drinks by 3 to 1 .

The current analysis did identify some sugary drink categories that were highly targeted to teen audiences as evidenced by disproportionately high ratios of ads viewed by teens versus adults (i.e., teen-targeted ratios). Energy drinks and sports drinks had higher than average teen-targeted ratios (0.53 and 0.52 , respectively), while targeted ratios for regular soda/ soda brands and iced tea ( 0.48 and 0.47 , respectively) were comparable to differences in hours spent watching TV for teens versus adults. Flavored water had the highest teen-targeted ratio (0.60), but that was based on a small number of ads viewed.

## How has targeting of sugary drinks to Hispanic and Black youth changed?

Sugary drink brands also continued to disproportionately target their advertising to Hispanic and Black consumers. In 2018, companies spent $\$ 84$ million on Spanish-language TV advertising, which was an 8\% increase compared to 2013 and an 80\% increase from 2010. Regular soda/soda brands
represented 61\% of sugary drink advertising spending on Spanish-language TV (\$51 million), and sports drinks represented 33\% (\$27 million). Energy drinks represented another $5 \%$ of Spanish-language ad spending (\$4 million). On average, companies allocated 10\% of their TV advertising budgets to Spanish-language TV, but sports drinks devoted $21 \%$, the highest of any category. There were no fruit drink or flavored water ads on Spanish-language TV (excluding children's drinks).

Changes in Hispanic youth exposure to Spanish-language TV ads from 2013 to 2018 also varied by category. Exposure to ads for regular soda/soda brands increased by $13 \%$ for Hispanic preschoolers (37.8 vs. 33.4 ads viewed) and 25\% for children (32.1 vs. 25.7 ads viewed). Their exposure to ads for sports drinks increased more than ten-fold, reaching 9.4 ads viewed by Hispanic preschoolers and 8.5 ads viewed by Hispanic children in 2018. Hispanic teens' exposure to sports drink ads also doubled to 7.3 ads viewed in 2018, while their exposure to ads for regular soda/soda brands declined slightly ( $-7 \%, 24.1$ ads viewed), despite a $56 \%$ decline in time spent watching Spanish-language TV. In contrast, exposure to Spanish-language TV ads for energy drinks declined by more than $90 \%$ for Hispanic preschoolers, children, and teens (approximately one ad viewed by all age groups in 2018).

Black preschoolers and children continued to view approximately twice as many sugary drink ads on TV in 2018 compared to White preschoolers and children, totaling 256.4 and 256.2 ads viewed, respectively. Black teens saw 2.3 times as many ads (330.9) as White teens saw. Black teens spend approximately $80 \%$ more time watching TV compared to White teens, so these large differences in ads viewed cannot be fully explained by differences in TV viewing times. Some sugary drink brands appeared to target Black youth by purchasing advertising during programming that was disproportionately viewed by Black youth compared to White youth (resulting in high Black youth-targeted ratios).

Categories with the highest ratios of ads viewed by Black versus White teens included flavored water (Black teens saw more than 4 times as many ads as White teens saw, but the number of ads viewed was low) and sports drinks (Black teens saw 47.2 ads, 2.7 times as many). Both regular soda/soda brands and energy drinks had Black teen-targeted ratios of 2.3 (170.7 and 45.5 ads viewed, respectively). Furthermore, targeted ratios for these categories increased from 2013 to 2018, whereas the difference in TV viewing times for Black teens compared to White teens declined by $44 \%$ during the same time period.

## What companies and brands were responsible for sugary drink advertising?

Although these analyses reveal few improvements in sugary drink advertising from 2013 to 2018, increases were driven primarily by two companies: PepsiCo and Coca-Cola (see

Table 19. Summary of advertising and targeting by company: 2018

| Company | Avg \# of TV ads viewed |  |  |  |  |  | Spanish-language TV ad spending |  | TV ads viewed by Black teens |  |  | Top brands |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Total ad spending |  | Children (6-11 y) |  | $\begin{gathered} \text { Teens } \\ (12-17 \mathrm{y}) \\ \hline \end{gathered}$ |  |  |  |  |  |  |  |
|  | $\begin{array}{r} 2018 \\ \text { (\$ mill) } \end{array}$ | $\begin{array}{r} \hline \text { hange } \\ \text { vs. } \\ 2013 \end{array}$ | Changevs.2013 |  | Changevs.20182013 |  | $\begin{array}{rr} \hline & \text { Change } \\ 2018 & \text { vs. } \\ \text { (\$ mill) } & 2013 \\ \hline \end{array}$ |  | 2018 | Change vs. Targeted 2013 ratio |  | (\$ mill ad spending) ${ }^{* * * *}$ |
| PepsiCo | \$391.9 | 28\% | 51.9 | 34\% | 68.6 | -12\% | \$37.6 | 121\% | 142.3 | 13\% | 2.53 | Gatorade (\$133.6), <br> Pepsi (\$144.6)** <br> Mtn Dew (\$108.0)** |
| Coca-Cola | \$320.8 | 81\% | 30.9 | 162\% | 35.4 | 50\% | \$33.1 | 66\% | 66.2 | 28\% | 2.18 | Coke (\$182.5)**, Gold Peak (\$29.6), Coca-Cola (\$27.9) ***, Sprite (\$27.0)**, Powerade (\$21.4), Honest Tea (\$10.9) |
| Dr Pepper Snapple Group | \$132.4 | 16\% | 20.3 | -11\% | 25.0 | -42\% | \$8.8 | -57\% | 44.4 | -39\% | 1.95 | Dr Pepper (\$66.8), Canada Dry (\$31.0)** Snapple Iced Tea (\$16.7), 7-Up (\$12.6) |
| Innovation Ventures | \$60.5 | -39\% | 5.8 | -81\% | 8.8 | -88\% | \$4.4 | 15\% | 17.9 | -87\% | 2.29 | 5-hour Energy (\$60.5) |
| Pepsi Lipton* | \$54.1 | 200\% | 12.0 | 96\% | 13.9 | 28\% | \$0.0 | -- | 28.2 | 54\% | 2.36 | Pure Leaf (\$35.3), Lipton Iced Tea (\$17.7) |
| Red Bull | \$47.1 | -2\% | 10.3 | 6\% | 13.7 | -44\% | \$0.0 | -- | 26.6 | -37\% | 2.30 | Red Bull (\$46.9) |

*Joint venture between PepsiCo and Unilever
**Regular soda and soda brand combined
***Company-level ads
****>\$10 million

Table 19). PepsiCo was responsible for $38 \%$ of all sugary drink advertising spending and sugary drink TV ads viewed by children, as well as $41 \%$ of TV ads viewed by teens in 2018. Coca-Cola was responsible for $31 \%$ of sugary drink advertising spending, $23 \%$ of TV ads viewed by teens, and $21 \%$ of TV ads viewed by children.

Dr Pepper Snapple Group contributed another 13\% of ad spending and $15 \%$ of ads viewed by children and teens. Three companies - Red Bull, Pepsi Lipton, and Innovation Ventures - together represented another 16\% of ad spending and 21 to $22 \%$ of ads viewed by children and teens. Eighteen additional companies advertised sugary drinks in 2018, but together they accounted for just $2 \%$ of all advertising spending and approximately $4 \%$ of TV ads viewed by youth.

Within the top-six companies, sugary drink advertising was also concentrated among a small number of brands. Pepsi, Gatorade, and Mtn Dew (PepsiCo brands) and Coke each spent more than $\$ 100$ million to advertise sugar-sweetened varieties in 2018. Dr Pepper, 5-hour Energy, and Red Bull each spent $\$ 47$ million or more. All remaining sugary drink and energy drink brands in our analysis spent $\$ 35$ million or less.

Furthermore, four of the top-six companies increased their sugary drink ad spending from 2013 to 2018. Pepsi Lipton spending tripled, Coca-Cola spending increased by $81 \%$, and PepsiCo spending increased $28 \%$. Children viewed more than
twice as many TV ads for Coca-Cola sugary drinks in 2018 than in 2013 and 34\% more ads for PepsiCo sugary drinks. Exposure to ads for Pepsi Lipton sugary drinks and Red Bull also increased. Pepsi Lipton was the only company with an increase in ads viewed by teens (+28\%), but Innovation Ventures was the only company with a decline in ads viewed by teens (-81\%) that was greater than the average decline in TV viewing time for teens.

## Which companies and brands targeted their advertising to teens and Hispanic and Black youth?

Five of the top-six companies were responsible for brands that disproportionately targeted their advertising to teens. Highly advertised brands with the highest teen-targeted ratios included one brand each from five of these companies: Sprite (Coca-Cola, 0.54), Red Bull (0.54), 5-hour Energy (Innovation Ventures, 0.53), Gatorade (PepsiCo, 0.52), and Snapple (Dr Pepper Snapple Group, 0.52). Less-advertised sub-brands with high teen-targeted ratios included Fanta (Coca-Cola, 0.73 , the highest ratio in our analysis), Mtn Dew Kickstart (PepsiCo, 0.60), Cherry Dr Pepper (Dr Pepper Snapple Group, 0.56), and Honest Tea (Coca-Cola, 0.54). These high targeted ratios indicate that brands purchased TV advertising during programming that was disproportionately viewed by teens compared to adults.

On Spanish-language TV, four companies - PepsiCo, CocaCola, Dr Pepper Snapple Group, and Innovation Ventures were responsible for $99 \%$ of sugary drink ad spending. Their Spanish-language advertising promoted just seven brands: Coke, Gatorade, Pepsi, Powerade, Dr Pepper, Honest Tea, and 5-hour Energy. From 2013 to 2018, PepsiCo more than doubled its Spanish-language ad spending on sugary drinks, and increased its spending from $\$ 0.4$ million in 2010 to $\$ 17$ million in 2018. Coca-Cola increased its Spanish-language ad spending by 66\% from 2013 to 2018. Only Dr Pepper Snapple Group spent less to advertise sugary drinks on Spanishlanguage TV in 2018 than in 2013 (-57\%).

PepsiCo and Coca-Cola were also responsible for five of the six brands with the highest targeted ratios of ads viewed by Black youth versus White youth (Black teen-targeted ratios 22.5): Glaceau Vitaminwater, Sprite, and Fanta (Coca-Cola) and Gatorade and Mtn Dew (PepsiCo). Lipton Iced Tea (Pepsi Lipton) also disproportionately targeted Black teens with its advertising.

## Limitations

This report provides a comprehensive picture of advertising expenditures for all media, including TV, and TV ad exposure using syndicated market research data available from Nielsen, the most widely used industry source for data to analyze companies' media plans. ${ }^{5}$ However, beverage companies frequently target youth with other types of marketing that are not reflected in these data, including sponsorships, social media, and retail promotions. ${ }^{6}$ Other researchers have documented extensive use of youth-oriented sports and celebrity sponsorships to promote sugary drinks. ${ }^{7.8}$ We have also compiled examples of social media campaigns sponsored by sugary drink brands using common techniques that appeal to youth (available here).

Another limitation is that this report only analyzed targeted advertising on TV. TV advertising represented $84 \%$ of sugary drink advertising spending in 2018. However, children and teens are watching less commercial TV and increasingly use other types of media, such as streaming video and mobile devices. ${ }^{9}$ As noted throughout these analyses, changes in youth exposure to TV ads must be evaluated in the context of overall declines in TV viewing. Nonetheless, increases in ad spending and advertising targeted to teens resulted in increased youth exposure to advertising for many sugary drink categories, companies, and brands. Furthermore, social media and promotions continue to focus on TV commercials as the centerpiece of the campaigns. ${ }^{10} \mathrm{TV}$ advertising remains the most reliable way for brands to reach the majority of young people with their marketing messages.

Finally, the nutrition analyses in this report only examined sugary drinks and energy drinks offered by brands that spent more than $\$ 100,000$ on advertising in 2018. Beverage companies
have publicized the introduction of new lower-calorie sugary drinks and diet drinks without added sugar in recent years. ${ }^{11}$ However, sugary drinks represented two-thirds of advertising spending for all refreshment beverage categories combined in 2018 (including diet drinks, unsweetened plain and sparkling water, and $100 \%$ juice). Although healthier drinks can be found on supermarket shelves, beverage companies continued to devote the majority of their advertising resources to their high-sugar products.

## Impact of sugary drink advertising

Another limitation of these analyses is that we cannot determine causal effects of this advertising on sugary drink sales or consumption. Furthermore, published data on consumption of sugary drinks lag behind advertising spending data, with 2013-14 representing the most recent comprehensive data on consumption by category. ${ }^{12}$ However, the 2018 advertising data reported here document beverage company responses to changing patterns of consumption (and sales) in previous years. For example, from 2003-04 to 2013-14 regular soda consumption by children and teens declined by approximately $50 \%$. Although companies had reduced advertising spending on regular soda by $11 \%$ from 2010 to 2013, they then increased it by $41 \%$ from 2013 to 2018 to exceed spending in 2010. Furthermore, substantial increases in advertising for sports drinks from 2013 to 2018 followed an increase in sports drink consumption prior to 2013-14.

Although we do not have access to proprietary industry documents that would explain the rationale for companies' advertising decisions, these advertising expenditures suggest a renewed focus on promoting regular soda. Given declines in regular soda sales and consumption, beverage companies may be using advertising to attempt to counteract changing consumer preferences and increased awareness of harms from consuming sugary soda. Similarly, an increase in advertising for sports drinks could capitalize on increased sports drink consumption ${ }^{13}$ and consumer perceptions that sports drinks are healthier than regular soda. ${ }^{14}$ Previous studies that examined changes in consumption of sugary drinks by category have not documented sugar-sweetened iced tea consumption separately. However, increased investment in this category would also make sense for a relatively small category with potential growth.

Targeting advertising to teens and Hispanic and Black consumers also represents a potentially profitable marketing strategy for some brands. Teens (and young adults) consume higher amounts of sugary drinks than other age groups. ${ }^{15}$ Researchers have also raised concerns about unhealthy food and drink advertising targeted to teens as youth in this age group tend to focus more on immediate rewards and have fewer concerns about the long-term consequences of their behaviors. ${ }^{16}$ They also present enormous potential as long-term loyal customers. Therefore, targeting sugary
drink advertising to teens takes advantage of their unique vulnerability to these persuasive attempts. For similar reasons, energy drink advertising takes advantage of teens' vulnerability to messages that portray these products as cool and a bit risky, ${ }^{17}$ which could help explain increases in consumption of energy drinks by teens. ${ }^{18}$

Food companies have publicized their rationale for targeting Hispanic consumers as a smart business strategy due to the growing size of this population and large family sizes, which make this segment especially profitable for many consumer goods. ${ }^{19}$ Companies have made fewer public statements about their rationale for targeting Black consumers. However, some have noted the importance of reaching "multicultural" youth and appealing to Black youth as "trendsetters" to create a "cool" brand image that appeals to all youth. They have not provided reasons for disproportionately targeting Hispanic and Black consumers with advertising for high-sugar, but not healthier, drinks. However, studies showing higher sugary drink consumption by Black and Hispanic youth ${ }^{20}$ indicate potential benefits of this marketing strategy, despite the negative impact on health disparities affecting communities of color. ${ }^{21}$

## Recommendations

These findings demonstrate that major beverage companies must do much more to support public health efforts to reduce consumption of sugary drinks, especially among youth and in communities of color. Furthermore, increased efforts by policymakers, public health advocates, and health practitioners are essential to offset the $\$ 1$ billion spent by beverage companies to advertise sugary drinks and reduce the harm they cause to public health.

## Industry

Beverage manufacturers, retailers, and media companies must reduce marketing of sugary drinks, especially marketing that targets teens and Hispanic and Black consumers. Companies should support public health efforts by taking action to make healthier choices the easiest, most affordable, and most socially acceptable options for young people.

- Through current industry self-regulatory initiatives including The American Beverage Association's Guidelines on Marketing to Children ${ }^{22}$ and the Children's Food and Beverage Advertising Initiative (CFBAI) - participating companies pledge to only advertise healthier options to children up to 11 years old. ${ }^{23}$ At a minimum, these pledges should be expanded to restrict all sugary drink advertising to children up to 14 years or older.
- Companies must discontinue marketing and sales of energy drinks and shots to children under 18 due to the dangers these products pose to young people's health and wellbeing. ${ }^{24}$
- Companies participating in the Balance Calories Initiative have promised to increase marketing of lower-calorie beverages. ${ }^{25}$ They must also promise to reduce marketing of all sugary drinks and devote the majority of their advertising expenditures to healthier beverages.
- Industry commitments to increase sales and marketing of healthier products - such as the Balance Calories Initiative, ${ }^{26}$ Healthy Weight Commitment Foundation, ${ }^{27}$ and Partnership for a Healthier America ${ }^{28}$ - should address marketing of sugary drinks in Black- and Hispanic-targeted media and in communities of color.
- Media companies that own programming with large audiences of teens, including Black and/or Hispanic youth, should take action to reduce sugary drink advertising during targeted programming. For example, they could establish standards for amount of advertising for healthy versus sugary drinks or provide lower rates to advertise the healthiest drinks (e.g., unsweetened water and tea).
- All corporate responsibility initiatives to promote nutrition and/or health and wellness should also address targeted marketing of sugary drinks to communities of color and commit to discontinue targeted marketing that contributes to diet-related diseases in these communities.


## Policymakers

Federal, state, and local policy actions are necessary to further reduce sugary drink consumption by children and teens and counteract excessive sugary drink advertising.

- States and localities should enact excise taxes on sugary drinks and invest the resulting tax revenue in communitydefined programs and services to reduce health and socioeconomic disparities. Many evaluations of existing sugary drink taxes in U.S. municipalities and other countries have demonstrated that these policies effectively reduce sales. ${ }^{29}$
- State and local governments should expand sugary drink restrictions and decrease sugary drink marketing to children and teens, such as further limits on marketing in schools and other youth-oriented settings. ${ }^{30}$
- The U.S. Food and Drug Administration (FDA) should establish regulations to address unclear labeling practices, such as requiring disclosures of added sugars, zero-calorie sweeteners, juice, and caffeine content on the front of product packages.
- Health warnings on sugary drink products would also increase consumer awareness and understanding about the health effects of consuming added sugar and help address misperceptions about the healthfulness of some sugary drink categories (e.g., sports drinks, flavored water).


## Discussion

- States and local municipalities should prohibit the sales of energy drinks and shots to minors under age 18 and require they be placed in low-visibility locations (such as behind counters). A proposed bill in the 2020 legislative session of the Connecticut General Assembly would have prohibited the sale of energy drinks to children under the age of sixteen. ${ }^{31}$
- The U.S. federal government should eliminate unhealthy food and beverage marketing to children as a tax deductible corporate expense.
- Public health campaigns to reduce sugary drink consumption should highlight that sports drinks, iced tea, flavored water, and fruit drinks are also sugary drinks, and that these products can contain as much or more sugar than soda. Campaigns should also inform youth and parents about the dangers of consuming energy drinks.


## Public health advocates and health practitioners

Public health advocates and health practitioners also play an important role in raising awareness of harmful sugary drink and energy drink advertising practices, helping consumers differentiate between sugary drinks and healthier options, and persuading industry and policymakers to enact improvements.

- Grassroots and other advocacy groups should develop campaigns to highlight excessive advertising of sugary drinks, especially advertising that disproportionately targets teens and communities of color. Such campaigns have helped to counteract consumer concerns about potential sugary drink taxes in some municipalities. ${ }^{32}$ Advocates could also work with young people to create countermarketing campaigns to expose predatory sugary drink marketing practices.
- Health and nutrition professional organizations (including the AAP, AHA, Academy of Pediatric Dentists, Academy of Nutrition and Dietetics) have issued recommendations warning about potential harms of sugary drink consumption, including sports drinks and energy drinks, by children and/ or teens. ${ }^{33-36}$ These organizations and others should provide
additional recommendations and develop campaigns aimed at children and teens to raise awareness about these harms, especially for sugary drinks that are perceived to be healthier than soda and energy drinks.
- Pediatricians, dentists, registered dietitians, and other healthcare professionals should assess sugary drink and energy drink consumption by their patients and counsel them about the harmful effects of consuming these products.


## Conclusions

Reducing sugary drink consumption is a key public health strategy to address the epidemic of diet-related diseases that threaten young people's health and contribute to health disparities in communities of color. In response to sugary drink tax proposals and other public health initiatives to reduce sugary drink consumption, major beverage companies have invested in well-funded anti-tax consumer marketing campaigns; lobbying to oppose taxes and other public health bills to reduce sugary drink consumption; sponsorships of health, youth, and Black and Hispanic organizations; and marketing campaigns promoting increased physical activity and counting calories to offset sugary drink calories. ${ }^{37-39}$

The data in this report reveal that companies also spent more than $\$ 1$ billion to advertise sugary drinks in 2018 and substantially increased their investments in sugary drink advertising - by more than $\$ 200$ million - compared to five years earlier. Furthermore, companies continue to target much of this advertising to teens and Hispanic and Black youth. Despite beverage company promises to reduce beverage calories consumed, sugary drink advertising continues to undermine public health efforts. To demonstrate their commitment to addressing the negative impact of sugary drink consumption, beverage companies must do more than increase marketing of low-calorie drinks. They must discontinue extensive marketing of sugary drinks that encourages consumption by children and teens and contributes to long-term negative impacts on their health.

## Endnotes

## Executive Summary

1. Marriott BP, Hunt KJ, Malek AM, Newman JC (2019). Trends in Intake of Energy and Total Sugar from Sugar-Sweetened Beverages in the United States among Children and Adults, NHANES 2003-2016. Nutrients, 11(9).
2. Heyman MB, Abrams SA, Section on Gastroenterology, Hepatology, and Nutrition, Committee on Nutrition (2017). Fruit juice in infants, children, and adolescents: Current recommendations. Pediatrics, 139(6).
3. Marriott et al. (2019).
4. Mendez MA, Miles DR, Poti JM, Sotres-Alvarez D, Popkin BM (2019). Persistent disparities over time in the distribution of sugar-sweetened beverage intake among children in the United States. The American Journal of Clinical Nutrition, 109(1), 79-89. doi: https://dx.doi.org/10.1093\%2Fajcn\%2Fnqy123
5. Wolstein J, Babey SH (2018). Sugary beverage consumption among California children and adolescents. UCLA Center for Health Policy Research. Health Policy Brief. http://healthpolicy. ucla.edu/publications/Documents/PDF/2018/sugarybeverages-brief-may2018.pdf
6. Koma JW, Vercammen KA, Jarlenski MP, Frelier JM, Bleich SN (2020). Sugary Drink Consumption Among Children by Supplemental Nutrition Assistance Program Status. American Journal of Preventive Medicine, 58(1), 69-78. doi: 10.1016/j. amepre.2019.08.033
7. Bleich SN, Vercammen KA, Koma JW, Li Z (2018). Trends in beverage consumption among children and adults, 2003-2014 Obesity, 26(2), 432-441.
8. Wolstein \& Babey (2018).
9. Mendez et al. (2019)
10. Bleich et al. (2018).
11. Ibid
12. Vercammen KA, Koma JW, Bleich SN (2019). Trends in Energy Drink Consumption Among U.S. Adolescents and Adults, 2003 2016. American Journal of Preventative Medicine, 56(6), 827833. doi: https://doi.org/10.1016/j.amepre.2018.12.007
13. Ibid
14. Better Business Bureau (BBB) National Programs, Inc. Children's Food and Beverage Advertising Initiative (CFBAI). https:/l bbbprograms.org/programs/cfbai/cfbai-core-principles
15. American Beverage Association. Cutting Sugar in the American Diet. https://www.balanceus.org/industry-efforts/cutting-sugar-american-diet/
16. Harris JL, Romo-Palafox M, Choi YY, Kibwana A (2019). Children's Drink FACTS: Sales, nutrition, and marketing of children's drinks. http://sugarydrinkfacts.org/resources/ FACTS2019.pdf
17. Harris JL, Schwartz MB, Lodolce M, et al. (2014). Sugary Drink FACTS 2014. Sugary drink marketing to youth: some progress out much room to improve. http://www.sugarydrinkfacts.org/ resources/SugaryDrinkFACTS Report.pdf
18. Harris, Romo-Palafox et al. (2019).
19. Vos MB, Kaar J, Welsh, et al. (2017). Added sugars and cardiovascular disease risk in children: A scientific statement from the American Heart Association. Circulation, 135(19), e1017-e1034.
20. Fleming-Milici F, Harris JL (2016). Television food advertising viewed by preschoolers, children and adolescents: Contributors to differences in exposure for black and white youth in the United States. Pediatric Obesity, 13(2), 103-110.
21. Harris JL, Fleming-Milici F (2019). Food marketing to adolescents and young adults: Skeptical but still under the influence. In F. Folkvord (Ed.), The psychology of food marketing and overeating. Milton Park, Abingdon, Oxon: Routledge.
22. Schneider MB, Benjamin HJ (2018). Sports and energy drinks for children and adolescents: Are they appropriate? AAP Publication Reaffirmed. Pediatrics, 141(3).
23. Harris JL, Munsell C (2015). Energy drinks and adolescents: What's the harm? Nutrition Reviews, 73(4), 247-257.
24. Schneider \& Benjamin (2018)
25. American Beverage Association. https://www.balanceus.org/ industry-efforts/cutting-sugar-american-diet/
26. ChangeLab Solutions (2018). Sugary Drink Strategy Playbook. https://www.changelabsolutions.org/sites/default/files/Sugary Drink Playbook FINAL 20180906.pdf

## Introduction

1. Marriott BP, Hunt KJ, Malek AM, Newman JC (2019). Trends in Intake of Energy and Total Sugar from Sugar-Sweetened Beverages in the United States among Children and Adults, NHANES 2003-2016. Nutrients, 11(9).
2. Ibid.
3. Heyman MB, Abrams SA, Section on Gastroenterology, Hepatology, and Nutrition, Committee on Nutrition (2017) Fruit juice in infants, children, and adolescents: Current recommendations. Pediatrics, 139(6).
4. Vos MB, Kaar JL, Welsh JA, et al. (2017). Added sugars and cardiovascular disease risk in children: A scientific statement from the American Heart Association. Circulation, 135(19), e1017-e1034.
5. Muth ND, Dietz WH, Magge SN, Johnson RK (2019). Public policies to reduce sugary drink consumption in children and adolescents. Pediatrics, 143(4) e20190282.
6. Harris JL, Frazier W, Kumanyika S, Ramirez AG (2019). Increasing disparities in unhealthy food advertising targeted to Hispanic and Black youth. Rudd Report. http://uconnruddcenter. org/files/Pdfs/TargetedMarketingReport2019.pdf
7. Grier S, Kumanyika S (2010). Targeted marketing and public health. Annual Review of Public Health. 31(1):349-369.
8. Mancini S, Harris JL (2018). Policy changes to reduce unhealthy food and beverage marketing to children in 2016 and 2017 Rudd Brief. http://uconnruddcenter.org/files/Pdfs/Food\  marketing\%20policy\%20brief Final.pdf
9. Harris JL, Romo-Palafox M, Choi YY, Kibwana A (2019). Children's Drink FACTS: Sales, nutrition, and marketing of children's drinks. http://sugarydrinkfacts.org/resources/ FACTS2019.pdf
10. Marriott et al. (2019).
11. Mendez MA, Miles DR, Poti JM, Sotres-Alvarez D, Popkin BM (2019). Persistent disparities over time in the distribution of sugar-sweetened beverage intake among children in the United States. The American Journal of Clinical Nutrition, 109(1), 79-89.
12. Marriott et al. (2019).
13. Mendez et al. (2019)

14 lbid.
15. Wolstein J, Babey SH (2018). Sugary beverage consumption among California children and adolescents. UCLA Center for Health Policy Research. Health Policy Brief. http://healthpolicy. ucla.edu/publications/Documents/PDF/2018/sugarybeverages-brief-may2018.pdf
16. Koma JW, Vercammen KA, Jarlenski MP, Frelier JM, Bleich SN (2020). Sugary Drink Consumption Among Children by Supplemental Nutrition Assistance Program Status. American Journal of Preventive Medicine, 58(1), 69-78. doi: 10.1016/j. amepre.2019.08.033
17. Bleich SN, Vercammen KA, Koma JW, Li Z (2018). Trends in beverage consumption among children and adults, 2003-2014. Obesity, 26(2), 432-441.
18. Wolstein \& Babey (2018).
19. Bleich et al. (2018).
20. Ibid.
21. Centers for Disease Control and Prevention (CDC) (2018). Youth Risk Behavior Surveillance - United States, 2017. Morbidity and Mortality Weekly Report (MMWR) Surveillance Summaries, 67(8). https://www.cdc.gov/healthyyouth/data/yrbs/pdf/2017/ss6708. pdf
22. Bleich et al. (2018).
23. Ibid.
24. Vercammen KA, Koma JW, Bleich SN (2019). Trends in Energy Drink Consumption Among U.S. Adolescents and Adults, 20032016. American Journal of Preventative Medicine, 56(6), 827833.
25. Ibid.
26. CDC (2018).
27. Wolstein \& Babey (2018).
28. Bleich et al. (2018).
29. American Beverage Association (2017). Marketing Responsibly. https://www. ameribev.org/education-resources/blog/post/ marketing-responsibly/
30. Better Business Bureau (BBB) National Programs, Inc. Children's Food and Beverage Advertising Initiative (CFBAI). https:/l bbbprograms.org/programs/cfbai/cfbai-core-principles
31. Council of Better Business Bureaus (2019). CFBAI categoryspecific uniform nutrition criteria, 2nd ed. https://bbbnp-bbbp-stf-use1-01.s3.amazonaws.com/docs/default-source/cfbai/cfbairevised criteria chart 1-28-2019.pdf?sfvrsn=c31ce512 2
32. American Beverage Association. Cutting Sugar in the American Diet. https://www. balanceus.org/industry-efforts/cutting-sugar-american-diet/
33. American Beverage Association, Alliance for a Healthier Generation (2019). 2025 Beverage Calories Initiative: Report on 2018 progress toward the national calorie goal. https://www. healthiergeneration.org/sites/default/files/documents/20191031/ b1a71793/BCl\%202018\%20National\%20Progress\%20 Report\%20vFinal\%20-\%20Healthier\%20Generation.pdf
34. The Coca-Cola Company. Balance Calories Initiative: How We're Taking Action. https://www.balanceus.org/wp-content/uploads/ Coke-BCI-Action.pdf
35. Keurig Dr Pepper. Balance Calories Initiative: How We're Taking Action. https://www.balanceus.org/wp-content/uploads/ DrPepper-BCI-Action.pdf
36. PepsiCo. Balance Calories Initiative: How We're Taking Action. https://www.balanceus.org/wp-content/uploads/Pepsi-BCIAction.pdf
37. Keurig Dr Pepper.
38. Jacobs A (2018, Nov 2). Where 'Yes! To Affordable Groceries' Really Means No to a Soda Tax. NY Times. https://www.nytimes. com/2018/11/02/health/grocery-taxes-oregon-washington-sodatax.html?rref=collection\%2Fsectioncollection\%2Fbusiness
39. Nova A, David JE (2018, Nov 4). The big soda companies are financing efforts to stop taxes on food and drinks. NY Times. https://www.cnbc.com/2018/11/03/pepsico-and-coca-cola-fight-to-keep-sugary-drinks-from-being-taxed.html
40. Aubrey A (2016, Oct 20). Trick Or Treat? Critics Blast Big Soda's Efforts To Fend Off Taxes. https://www.npr.org/sections/ thesalt/2016/10/20/498589273/trick-or-treat-critics-blast-big-sodas-efforts-to-fend-off-taxes
41. Harris, Romo-Palafox et al. (2019).
42. Ibid.
43. Harris JL, Schwartz MB, Lodolce M, et al. (2014). Sugary Drink FACTS 2014. Sugary drink marketing to youth: some progress but much room to improve. http://www.sugarydrinkfacts.org/ resources/SugaryDrinkFACTS Report.pdf

## Results

1. Harris JL, Romo-Palafox M, Choi YY, Kibwana A (2019) Children's Drink FACTS 2019: Sales, Nutrition, and Marketing of Children's Drinks. http://sugarydrinkfacts.org/resources/ FACTS2019.pdf
2. Harris JL, Schwartz MB, Lodolce M, et al. (2014). Sugary Drink FACTS 2014. Sugary drink marketing to youth: some progress but much room to improve. http://www. sugarydrinkfacts.org/ resources/SugaryDrinkFACTS Report.pdf
3. Harris, Romo-Palafox et al. (2019).
4. Ibid.
5. Harris et al. (2014).
6. Harris, Romo-Palafox, et al. (2019).
7. Ibid.
8. Ibid.
9. Ibid.

## Discussion

1. Harris JL, Romo-Palafox, Choi YY, Kibwana A (2019). Children's Drink FACTS: Sales, nutrition, and marketing of children's drinks. http://sugarydrinkfacts.org/resources/FACTS2019.pdf
2. Vos MB, Kaar J, Welsh, et al. (2017). Added sugars and cardiovascular disease risk in children: A scientific statement from the American Heart Association. Circulation, 135(19), e1017-e1034.
3. Schneider MB, Benjamin HJ (2018). Sports and energy drinks for children and adolescents: Are they appropriate? AAP Publication Reaffirmed. Pediatrics, 141(3).
4. Harris, Romo-Palafox et al. (2019).
5. Nielsen (2019). How we measure. http://www. nielsen.com/us/en/ solutions/measurement.htm.
6. Federal Trade Commission (2012). A review of food marketing to children and adolescents: Follow-up report. https://www.ftc.gov/sites/default/files/documents/reports/ review-food-marketing-children-and-adolescents-followreport/121221foodmarketingreport.pdf
7. Bragg MA, Roberto CA, Harris JL, Brownell KD, Elbel B (2018). Marketing food and beverages to youth through sports. Journal of Adolescent Health, 62(1), 5-13.
8. Bragg MA, Miller AN, Elizee J, Dighe S, Elbel BD (2016). Popular music celebrity endorsements in food and nonalcoholic beverage marketing. Pediatrics, 138(1), e20153977.
9. Twenge JM, Martin GN, Spitzberg BH (2018). Trends in US Adolescents' media use, 1976-2016: The rise of digital media, the decline of TV, and the (near) demise of print. Psychology of Popular Media Culture.
10. Harris JL, Frazier W, Kumanyika S, Ramirez AG (2019). Increasing disparities in unhealthy food advertising targeted to Hispanic and Black youth. Rudd Report. http://uconnruddcenter. org/files/Pdfs/TargetedMarketingReport2019.pdf
11. American Beverage Association. Cutting Sugar in the American Diet. https://www.balanceus.org/industry-efforts/cutting-sugar-american-diet/
12. Bleich SN, Vercammen KA, Koma JW, Li Z (2018). Trends in beverage consumption among children and adults, 2003-2014. Obesity, 26(2), 432-441.
13. Ibid.
14. Munsell CR, Harris JL, Sarda V, Schwartz MB (2016). Parents' beliefs about the healthfulness of sugary drink options: opportunities to address misperceptions. Public Health Nutrition, 19(1), 46-54.
15. Marriott BP, Hunt KJ, Malek AM, Newman JC (2019). Trends in Intake of Energy and Total Sugar from Sugar-Sweetened Beverages in the United States among Children and Adults, NHANES 2003-2016. Nutrients, 11(9).
16. Harris JL, Fleming-Milici F (2019). Food marketing to adolescents and young adults: Skeptical but still under the influence. In F. Folkvord (Ed.), The psychology of food marketing and overeating. Milton Park, Abingdon, Oxon: Routledge.
17. Harris JL, Munsell C (2015). Energy drinks and adolescents: What's the harm? Nutrition Reviews, 73(4), 247-257.
18. Vercammen KA, Koma JW, Bleich SN (2019). Trends in Energy Drink Consumption Among U.S. Adolescents and Adults, 20032016. American Journal of Preventative Medicine, 56(6), 827833.
19. Harris, Frazier et al. (2019).
20. Bleich et al. (2018).
21. Grier S, Kumanyika S (2010). Targeted marketing and public health. Annual Review of Public Health. 31(1):349-369.
22. American Beverage Association (2017). Marketing Responsibly. https://www.ameribev.org/education-resources/blog/post/ marketing-responsibly/
23. Better Business Bureau (BBB) National Programs, Inc. Children's Food and Beverage Advertising Initiative (CFBAI). https:/l bbbprograms.org/programs/cfbai/cfbai-core-principles
24. Schneider \& Benjamin (2018).
25. American Beverage Association. Cutting Sugar in the American Diet. https://www.balanceus.org/industry-efforts/cutting-sugar-american-diet/
26. Ibid.
27. Healthy Weight Commitment Foundation (2020). Programs. http://www.healthyweightcommit.org/programs/
28. Partnership for a Healthier America (2020). https://www. ahealthieramerica.org/
29. Chaloupka FJ, Powell LM, Warner KE (2019). The use of excise taxes to reduce tobacco, alcohol, and sugary beverage consumption. Annual Review of Public Health, 40, 187-201.
30. ChangeLab Solutions (2018). Sugary Drink Strategy Playbook. https://www.changelabsolutions.org/sites/default/files/Sugary Drink Playbook FINAL 20180906.pdf
31. Connecticut General Assembly (2020) House Bill 5141: An Act Prohibiting the Sale of Energy Drinks to Persons Under the Age of 16. https://www.cga.ct.gov/asp/cgabillstatus/cgabillstatus. asp?selBillType=Bill\&which year=2020\&bill num=5141
32. Don't Mute My Health. https://www.dontmutemyhealth.org/ sugar-impact
33. Muth ND, Dietz WH, Magge SN, Johnson RK (2019). Public policies to reduce sugary drink consumption in children and adolescents. Pediatrics, 143(4) e20190282.
34. Schneider \& Benjamin (2018).
35. Vos et al. (2017).
36. Lott M, Callahan E, Welker Duffy E, Story M, Daniels S (2019). Consensus Statement. Healthy Beverage Consumption in Early Childhood: Recommendations from Key National Health and Nutrition Organizations. Healthy Eating Research. https://healthyeatingresearch.org/research/ consensusstatement-healthy-beverage-consumption-in-early-childhoodrecommendations-from-key-national-health-andnutritionorganizations/HER 2019
37. Jacobs A (2018, Nov 2). Where 'Yes! To Affordable Groceries' Really Means No to a Soda Tax. NY Times. https://www.nytimes. com/2018/11/02/health/grocery-taxes-oregon-washington-sodatax.html? rref=collection\%2Fsectioncollection\%2Fbusiness
38. Nova A, David JE (2018, Nov 4). The big soda companies are financing efforts to stop taxes on food and drinks. NY Times. https://www.cnbc.com/2018/11/03/pepsico-and-coca-cola-fight-to-keep-sugary-drinks-from-being-taxed.html
39. Aubrey A (2016, Oct 20). Trick Or Treat? Critics Blast Big Soda's Efforts To Fend Off Taxes. https://www.npr.org/sections/ thesalt/2016/10/20/498589273/trick-or-treat-critics-blast-big-sodas-efforts-to-fend-off-taxes
Nutrition information for sugary drinks and energy drinks*
Ranking by median sugar ( g ), then by median calories ( kcal ), then by maximum sugar ( g ), then by median caffeine ( mg )

20





ue!pan Canada Dry (Ginger Ale)





 $\stackrel{0}{3}$ | Dr Pepper |
| :--- |
| Ocean Spray |

 $\stackrel{\square}{0}$
䓽 3







 | Mello Yello |
| :--- |
| Canada Dry |
| (Fruit Flavore |

$\qquad$



 ग
0
0
$\underline{0}$
$\vdots$
0
0
0
0

 D
0
0
0
0
0
0
0
0
0
 D
0
0

0
0
0
0









 ероs лe|nбәу



| ұи！р К6ıәиョ | อ！＾əZ |
| :---: | :---: |
| уиир Кбıəиヨ | （0ıəZ）deısuow |
| уи！̣р Кбıəиヨ |  |
| уиир кб̈әиョ |  |
| уиир Кбıәиヨ | ॥eq！ H |
| уи！рр Кбıәиヨ | （0xaz annd）גetsyooy |
| чи！рр Кбıәиヨ | （әoue．．npx）גetsyouy |
| чи！！р Кбıəиョ | usnıopug NSя |
| уи！рр 仹әиヨ |  |
| уиир 价әиヨ | イбıəиヨ ınoч－9 |
| уиир 价әиョ | sn！s｜ə |
| уиир 价әиヨ | （әə」 $\times$ de6ns）Ing pay |
| уиир Кбıәиヨ |  |
| ероs леппбәу | （uә」）leddəd ${ }_{\text {a }}$ |
| уи！р Кб́әиョ | （qечәу）dəpsuow |
| уи！р 价әиョ | （qıeア－07）dəısuow |
| yupp spods | （ટ๑）әрехолеэ |
| уи！！ | әшow）ou！tбə\｜ədues |
| צu！！p | （446！7）Kidmu！ |
|  | （ 1 SIML）｜ə！eruad |
| уи！рр Кб̈әиヨ | әu！！suns |
| yupp spods |  |
| еәұ рәэ | （6Sw）s，o！w |
| yuıp spods | （лррмод еןпшио」 әэие．пnриヨ）әрелоґеэ |
| рәэ | （әәмм <br>  |
|  |  |
|  |  |
|  |  |







○○○○○○○○○○○○○NルのVV

－$\stackrel{\rightharpoonup}{\circ}$

 －：©




 | 0 |
| :--- |
| 0 |
| 0 |
| 0 |
| 0 |
| 0 |
| 0 |
| 0 |
| 0 |
| 0 |
| 0 |
| 0 |
| 0 |
| 0 |
| 0 |
| 0 |
| 0 |
| 0 | ling pay е!queן








 | con |
| :--- |
| 0 |

 Coca-Cola

 detsyooy | 0 |
| :--- |
| 7 |
| 7 |
| 0 |
| 0 |
| 0 |
| 0 |
| 0 |
| 0 |
| 0 |
| $\overrightarrow{0}$ |
| 0 |
| 0 |
| 0 |
| 0 |
| 0 |
| 0 |
| 0 |
| 0 |



 -0!!sdəd



 so!ue6.o inn g pay
 əIddeus ıəddəd 10





 0
0
0
0
0
0
$\vdots$
$\vdots$
$\vdots$




 Super Soda
Sprite quern w aptsuow




 риerq epos/epos
puexq epos

 Energy drink | Drink brand |
| :--- |
| Soda brand | Drink brand








 | Regular soda |
| :--- |
| Drink brand | Drink brand Energy drink уииир !! !










 Drink brand
Regular soda
C
 $\stackrel{\oplus}{\bullet \rightarrow}$
-
 응 $\stackrel{\rightharpoonup}{\circ}$ 능號 응

| puexa yuna | uold！ 7 |  | $\angle 9$ | 75827 |
| :---: | :---: | :---: | :---: | :---: |
| puexq уиио | H！ | H！ | 99 | ， |
| puexq уиبо | кexds ueәoo | Kexds ueәoo | 59 |  |
| yuup suods | ขınpug | H！ | ゅ9 |  |
| уиир кбәәиヨ |  | H！ O II！ | $\varepsilon 9$ |  |
| еәュ рәэ | หธฺ¢ | uotd！${ }_{\text {！}}^{\text {！}}$ dəd ${ }^{\text {d }}$ | 79 |  |
| Кı08อ7е） | aq－qns）puedg | Kueduos | yury |  |


| 0\＄ | 0\＄ | 001\＄ | 0\＄ | \％0 | 0\＄ | －－ | 001\＄ | 0\＄ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| ع01\＄ | 0\＄ | 0\＄ | 0\＄ | \％0 | 0\＄ | －－ | ع01\＄ | 0\＄ |
| OS\＄ | ¢8\＄ | 0\＄ | 0\＄ | \％0 | 0\＄ | \％LL－ | SOL\＄ | L21\＄ |
| ャ81\＄ | 8\＄ | 0\＄ | 0\＄ | \％0 | 0\＄ | \％GL | 68て\＄ | 981\＄ |
| 0\＄ | 0\＄ | 0\＄ | 68\＄ | \％89 | カıL\＄ | －－ | L91\＄ | 0\＄ |
| 0\＄ | tr ${ }^{\text {d }}$ | 0\＄ | †¢8\＄ | \％6 | tS\＄ | \％801 | G29\＄ | 00\＆\＄ |
| 66\＄ | S\＄ | OSL\＄ | ¢\＄ | \％0 | 0\＄ | －－ | 910＇1\＄ | 0\＄ |
| 0\＄ | 0\＄ | 0\＄ | ¢8\＄ | \％0 | 0\＄ | －－ | 699＇z\＄ | 0\＄ |
| 8¢1\＄ | 281\＄ | 02t\＄ | 6Lع＇ C \＄ | \％与 | 161\＄ | －－ | L09＇\＆\＄ | 0\＄ |
| L1\＄ | 61\＄ | 0\＄ | عとt＇て\＄ | \％9t | ャ\＆1＇て\＄ | －－ | St9＇t\＄ | 0\＄ |
| 9\＄ | 0\＄ | 0\＄ | ャ8て\＄ | \％ટを | 8L0＇¢\＄ | \％91－ | ャعく＇Gเ\＄ | ¢ ¢8،81\＄ |
| เ－O＇1\＄ | ¢\＄ | 0\＄ | 820＇ 1 \＄ | \％0 | 691\＄ | \％て－ |  | ع＜L＇Lเ\＄ |
| 0\＄ | 988\＄ | SLL＇カレ\＄ | 689\＄ | \％ย์ | 6L9＇L1\＄ | \％002 | 990＇tS\＄ | ＋00＇81\＄ |
| 0\＄ | 019＇1\＄ | 0\＄ | ことt＇S\＄ | \％ع01 | 990＇z9\＄ | \％68－ | てSt「09\＄ | てヤ8＇86\＄ |
| 909＇z\＄ | 269＇z\＄ | 219\＄ | 998＇z\＄ | \％09 | ¢ع6‘8＜\＄ | \％91 | 9で「て\＆し\＄ | ャ¢でャレレ\＄ |
| 0¢¢＇乙て\＄ | L99＇とا\＄ | 809＇¢\＄ | Lてヤ＇く\＄ | \％टを | 6トガトロー\＄ | \％ 18 | 908‘0zと\＄ | ¢s9＇＜LL\＄ |
| L6く＇て1\＄ | OLO＇L1\＄ | ع9ع＇ट乙\＄ | 291＇61\＄ | \％9t | 6tか＇6LL\＄ | \％8乙 | 168＇168\＄ | £Sト＇90¢\＄ |
| 100p7no | o！pey | จuluzeStew | ｜ex！S！！ | 12707 〕0 <br> $\%$＾1 | $\wedge 1$ | จรินечว | 8102 | عıoz |


|  |  |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |

    *Includes all brands with \(\$ 100,000\) or more in 2018 advertising spending (combined across categories), excluding children's drinks
    **Individual sub-brands advertised in 2018 (in addition to "original" varieties, if applicable)
Source: Analysis of 2018 Nielsen data; Sugary Drink FACTS 2014










 uold! lisdəd


 | O |
| :--- |
| 0 |
| 0 |
| 0 |




Company



| $\bigcirc$ | $\bigcirc$ | io | $\pm$ | \% | $\bigcirc$ | $\bigcirc$ | $\bigcirc$ | $\bigcirc$ | $\bigcirc$ | $\stackrel{\square}{\square}$ | $\stackrel{\circ}{+}$ | $\bigcirc$ | $\stackrel{\infty}{+}$ | $\bigcirc$ | $\stackrel{0}{-}$ | ir | $\stackrel{\text { ¢ }}{\text { or }}$ | $\stackrel{\circ}{\circ}$ | $\begin{aligned} & \text { H } \\ & i \end{aligned}$ | $\ddot{\circ}$ | Or | $\stackrel{0}{0}$ | $\stackrel{\text { crer }}{\text { cr }}$ | $\underset{\infty}{\stackrel{\rightharpoonup}{\infty}}$ | $\stackrel{\square}{-}$ | $\stackrel{\rightharpoonup}{\omega}$ | $\stackrel{\rightharpoonup}{6}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $\bigcirc$ | $\bigcirc$ | $\bigcirc$ | ${ }_{0}^{\circ}$ | $\stackrel{\circ}{\omega}$ | $\bigcirc$ | $\stackrel{+}{+}$ | - | $\bigcirc$ | $\bigcirc$ | $\bigcirc$ | $\bigcirc$ | $\bigcirc$ | $\cdots$ | $\bigcirc$ | io | $\stackrel{\omega}{\perp}$ | $\begin{aligned} & \text { M } \\ & \infty \end{aligned}$ | $\stackrel{\sim}{\sim}$ | $\begin{aligned} & \text { No } \\ & 0 \end{aligned}$ | $\stackrel{\rightharpoonup}{0}$ | $\underset{\infty}{\omega}$ | $\stackrel{\circ}{\omega}$ | $\stackrel{\rightharpoonup}{\omega}$ | ¢ | $\stackrel{\circ}{\circ}$ | $\underset{\sim}{\text { N }}$ | N |
| $\bigcirc$ | $\bigcirc$ | $\bigcirc$ | io | $\stackrel{\circ}{\circ}$ | $\stackrel{\circ}{\circ}$ | or | $\stackrel{\rightharpoonup}{\square}$ | $\stackrel{\rightharpoonup}{v}$ | N | N00 | $\stackrel{\omega}{\circ}$ | $\omega$ | $\underset{\infty}{\omega}$ | $\pm$ | $\stackrel{+}{+}$ | $\stackrel{+}{+}$ | $0$ | ¢ | $\cdots$ | $\bigcirc$ | $\stackrel{\square}{2}$ | $\stackrel{\circ}{\circ}$ | $\stackrel{\infty}{\circ}$ | $\stackrel{+}{\circ}$ | $\bigcirc$ | $\vec{\rightharpoonup}$ | $\underset{\substack{\text { ¢ }}}{\sim}$ |

8 \&LOZ oloz


 әбеләләд иәsuен 8
 $\qquad$
 ojosdəad
ojeos
Kuedmos

| $\bigcirc$ | or | $\underset{\sim}{\omega}$ | 0 | $\stackrel{\omega}{+}$ | $\begin{aligned} & \text { N } \\ & \text { O } \end{aligned}$ | $\begin{aligned} & \text { No } \\ & \text { O } \end{aligned}$ | ir |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $\bigcirc$ | ${ }_{\infty}$ | $\begin{aligned} & \text { N } \\ & \text { O } \end{aligned}$ | $\stackrel{\infty}{\sim}$ | 0 | $\stackrel{\rightharpoonup}{\dot{\circ}}$ | $\stackrel{\stackrel{\rightharpoonup}{\omega}}{ }$ | $\stackrel{\omega}{\omega}$ |
| $\bigcirc$ | $\pm$ | $\bigcirc$ | $\stackrel{\rightharpoonup}{\mathrm{o}}$ | $\stackrel{\rightharpoonup}{N}$ | $0$ | $\stackrel{\omega}{-}$ | © |

 \%09 อรันеч
8เoz-દเoz 8LOZ ELOZ OLOZ -
 $\therefore$ O $\underset{\stackrel{\rightharpoonup}{\omega}}{N}$



-
$\stackrel{9}{6}$
8 \&LOz eloz oloz
$\qquad$




 ***Ratio of ads viewed by teens versus adults ( $18-49 \mathrm{y}$ ) **Individual sub-brands advertised on TV in 2018 (in addition to "original" varieties, if applicable)


әбеләләя иәsuен 8 Innovation Ventures
Ocean Spray

Dr Pepper Snapple Group

Kueduos
yuey
Company rankings
Exposure to TV advertising by teens* (continued)




 мəロ uw eə $\perp$ tseuoh ејол－еэos テөำ

 ləddədalad ！sdad
（＊＊pueגq－qns）риеля epos «e｜nбәəy еәт рәэ

риедя уи！иа puexq epos жиир Кб́ıәиョ yuup suods epos ıeןnбәу yu！up suods | ग |
| :--- |
| 0 |
| 0 |
| 0 |
| 0 |
| 0 |
| 0 |
| 0 |
| 0 |


 ）siolouysadd

 $\bigcirc \circ O-$ 응

 ！


（s．eәス LL－zL）suәə」
วэр！！чコ
 8 \＆loz \％66－
 จรินеч （s．ea
 ncludes average number of ads viewed on Spanish－language TV by Hispanic youth Ranked by ads viewed for Hispanic children（6－11 years）in 2018 Exposure to Spanish－language TV advertising by Hispanic youth＊




uoununn suods $\forall 8$ ejoう－eoos ејоう－вооう

 | D |
| :--- |
| $\stackrel{\rightharpoonup}{0}$ |
| $\stackrel{0}{\circ}$ | $\circ$

$\stackrel{\circ}{\circ}$
$\stackrel{\circ}{\circ}$

$\stackrel{\circ}{0}$ | $\circ$ |
| :--- |
| $\stackrel{\circ}{\circ}$ |
| $\stackrel{\circ}{\mathrm{O}}$ |
| O | его－еэоэ его－еэол Coca－Cola Dr Pepper

 | 0 |
| :--- | :--- |
| 1 | PepsiCo


 samıuәл ио！̣елоии 0
7
0
0
0
0
0
0
0
0
20
0
0
0
0
0
0
0 Lipton（Iced Tea Mix，Splash of Juice）
 Snapple（Iced Tea，Straight Up Tea） Pure Leaf Sprite（Cranberry） Coke（Classic，Life） Red Bull

 Brand（sub－brand＊＊）

צu！p suods




 puexq yuna Iced tea



 0
0
0
0
0
0
0
$\vdots$
$\vdots$

$\vdots$ | D |
| :--- |
| 0 |
| 0 |
| $\stackrel{C}{2}$ |
| 0 |
| 0 |
| 0 |
| 0 | D

0
0
$\underline{0}$
0
0
0
0
0

 \begin{tabular}{c}
$\overline{0}$ <br>
$\stackrel{\rightharpoonup}{0}$ <br>
$\stackrel{\rightharpoonup}{0}$ <br>
\hline

 

$\bar{\circ}$ <br>
$\stackrel{\rightharpoonup}{\circ}$ <br>
$\stackrel{\rightharpoonup}{\sim}$ <br>
\hline
\end{tabular}


 epos reןnбәay

 иалр！！ч

भว์ร
oloz
$\bigcirc$ 이 io O O O O $\stackrel{\bullet}{\omega}$ 방



 $\stackrel{\rightharpoonup}{\circ}$ － $\stackrel{\rightharpoonup}{\bullet}$ $\omega \underset{\sim}{N}$ $\stackrel{\rightharpoonup}{\infty}$ $\underset{\substack{\infty \\ \infty \\ \infty}}{ }$

$\stackrel{\rightharpoonup}{-} \underset{\sim}{\circ}$
oi
$\stackrel{\omega}{-}$
$\circ-$
10.8
5.7
15.1
$\stackrel{\rightharpoonup}{\circ}$

| i |
| :---: |
|  |  |
|  |  |
|  |
|  |
|  |
|  |

$-\omega$
 $\stackrel{\text { ²8uey }}{\text { 8．0z－ELOz }}$
 غเoz

－
 Ranked by ads viewed for Black includes average number of ads viewed by Black preschoo

## Exposure to TV advertising by Black children＊

 ${ }^{1}$ Calculated based on average of ads viewed by preschoolers and children in 2018 Bolded ratio indicates a targeted ratio higher than the ratio of TV viewing time for Black preschoolers and children compared to White preschoolers and children (1.39 and 1.69) **Individual sub-brands advertised on national TV in 2018 (in addition to "original" varieties, if applicable)
***Ratio of ads viewed by Black preschoolers or children versus White preschoolers or children *Includes all brands advertised on national TV in 2018, excluding children's drinks Kexds पёәo
6 Zr kexds ueəo $L$ sanłuәл uоп̣елоии
 Pepsi Lipton Dr Pepper Snapple Group

| 3 |
| :--- |
| a |








 \begin{tabular}{l}
$\circ$ <br>
\hline <br>
\hline

 

$\circ$ <br>
\hline$\stackrel{⿺}{0}$ <br>
\hline 1 <br>
\hline 0

 ع⿺辶万－е๐о丂 

$\circ$ <br>
$\stackrel{\circ}{\mathrm{O}}$ <br>
$\stackrel{\circ}{\circ}$ <br>
\hline 0

 

$\circ$ <br>
$\stackrel{\circ}{1}$ <br>
\hline
\end{tabular} Coca－Cola

 Coca－Cola Coca－Cola dnory alddeus raddad ala
 uold 1 I！Idad PepsiCo
Pepsi Lipton
 samuraл uo！̣елоии Pure Leal

Snapple（lced Tea，Straigntup Tea） Classic，Life Sprite（Cranberry）
5－hour Energy（Tea） Red Bull Gatorade（Flow，G2，GX，Drink Mix，G Series）

Brand（sub－brand＊＊）

еәเ рәว

Regular soda
Soda brand
leed tea o
0
 Regular soda Iced tea Regular soda
Iced tea Iced tea Energy drink Regular soda犭иир К6ıəиヨ



## Exposure to TV advertising by Black teens＊

 Ranked by ads viewed for Black teens（12－17 years）in 2018
Bolded ratio indicates a targeted ratio higher than the ratio of TV viewing time for Black teens compared to White teens（1．78）




| \％tG－ | $\nabla^{\circ} \mathrm{G}$ | 9 1 ト1 | $\checkmark$－ 21 | Kends ueəos | $\angle$ |
| :---: | :---: | :---: | :---: | :---: | :---: |
| \％L8－ | 6.21 | 8 8 21 | LOOZ | səınıиəл ио！̣елоиu | 9 |
| \％LE－ | 9.92 | て＇で | ¢＇乙て | ॥ng pәy | G |
| $\%$ ¢ | で8乙 | ع 81 | LOL | uołd！ 7 ！ $\mathrm{sd}_{\text {d }}$ | $\dagger$ |
| \％68－ | ガカヤ | 0 OL | ¢ 88 |  | $\varepsilon$ |
| \％8乙 | で99 | G．LS | どャ8 | еן○う－еэоう | $\checkmark$ |
| \％と | とでで | เ．921 | t＇z01 | oכ！sdəd | 1 |
| รันечว BLOZ-દLOZ | 8LOZ | عloz | OLOZ | Kuedmos | yuey |



We used a variety of data sources to evaluate sugary drink advertising in the United States. Through publicly available data, we document sugary drink and energy drink nutrition and advertising. Whenever possible, we used the same methods as our previous report, "Sugary Drink FACTS: 2014"1 to measure changes over time.

Our methods include evaluating the nutrition content of sugary drinks, as well as energy drinks and energy shots, and analyzing syndicated data on advertising spending and TV advertising exposure from Nielsen. These methods are described in detail in the following sections.

We did not have access to beverage industry proprietary documents, such as privately commissioned market research, media, and marketing plans, or other strategic documents. Therefore, we do not attempt to interpret beverage companies' goals or objectives for their marketing practices.

Rather, we provide transparent documentation of:

- The nutrition content and ingredients in sugary drinks and energy drinks;
- Advertising expenditures in all measured media, and comparisons to advertising for diet drinks;
- The extent of exposure to TV advertising by preschoolers, children, and teens;
- TV advertising targeted to Black and Hispanic youth, including on Spanish-language TV; and
- Changes in advertising spending and exposure that occurred from 2010 and 2013 to 2018.


## Scope of the analysis

These analyses focus on sugary drinks, defined as any non-alcoholic refreshment beverage containing any added sugars, including sugar from all sources except fruit juice concentrate, fruit juice, or fruit puree. We also include diet energy drinks and energy shots in our analyses of unhealthy drinks. In some analyses, we also include diet soda and other diet drinks for comparison purposes. This report excludes children's sugary drinks (drinks that are marketed as intended specifically for children), which were previously reported in the Rudd Center's 2019 Children's Drink FACTS report. ${ }^{2}$

To narrow down the list of drink products to evaluate, we utilized Nielsen data to identify sugary drink and energy drink brands that spent more than $\$ 100,000$ on advertising in 2018, excluding children's drinks that were previously reported. We also identified diet drinks in the same categories.

## Sugary drink market

We assigned a company, brand, sub-brand (if applicable), and drink category designation to all products identified above.

- Company refers to the company listed on the product package or that owns the official website for the product.
- Brand refers to the main marketing unit for each beverage. Brands may include numerous flavors or varieties of the same product (e.g., Gatorade Flow, Gatorade Frost, Gatorade G2). Brands can also have products in multiple drink categories (e.g., Glaceau Vitaminwater flavored water and Vitaminwater Zero diet drink, Snapple fruit drinks and Snapple iced tea). When a brand offered products in more than one category, each brand/category combination is presented separately in our analyses. For example, advertising for Snapple iced tea and Snapple fruit drinks are identified separately.
- Sub-brand is a subset of products within a brand that differ substantially in nutrition quality and/or product category. For example, Coca-Cola advertises both full-calorie Coke and reduced-calorie Coke Life. Results for the Coke regular soda brand includes both sub-brands, but advertising that specifically identifies either full-calorie Coke or Coke Life is also described separately in the results. Products with significant amounts of advertising spending are also included as separate sub-brands (e.g., Sprite Cranberry and Sprite [original]).
- Varieties include different flavors and/or package sizes of a brand or sub-brand. Individual varieties are highlighted or described in more detail in the nutrition section.


## Drink categories

Category describes the type of beverage (e.g., regular soda, sports drink). The beverage categories in this report include products that tend to be grouped together in industry reports and previous research on sugary drink consumption.
We assigned all sugary drink and energy drink brands to one the following six categories:

- Sugary drinks refer to all drinks than contain any added sugar. These drinks may contain zero-calorie sweeteners, in addition to added sugar.
- Fruit drinks are fruit-flavored drinks with added sugar and may or may not contain some juice. Manufacturers refer to these products as juice drinks, juice beverages, fruit cocktails, and fruit-flavored drinks/beverages. Children's fruit drinks are excluded from this category.
-Flavored water includes non-carbonated drinks with added sugar described as a "water beverage" on the product container or that include "water" in the product name. Children's flavored water are excluded from this category.
$\square$ Iced tea includes ready-to-serve drinks and drink mixes that are primarily described as "tea" on the product package and typically served cold.
$\square$ Regular soda refers to carbonated, sugar-sweetened soft drinks. These products are also known as "pop." This category includes all products that contain any added sugar, including "lower-calorie" products that contain less added sugar and zero-calorie sweeteners.
$\square$ Sports drinks are marketed as drinks intended to accompany physical activity and/or improve hydration or performance. They may contain the phrase "sport drink" on product packaging or in promotion materials. Ready-toserve and drink mix varieties are included in this category.
- Energy drinks are caffeinated beverage products labeled by the manufacturer as "energy drink" or "energy supplement." This category includes carbonated, canned varieties, with or without added sugar, as well as concentrated energy shots (sold in 1.93-oz containers).

As a point of comparison with sugary drinks, we also analyzed advertising for diet drinks (diet soda and other diet drinks) offered by brands that also offer sugary drinks.

- Diet soda refers to carbonated soft drinks with zero-calorie sweeteners and no added sugar.
- Other diet drinks include fruit drink, flavored water, sports drink, and iced tea products that do not contain added sugar. They often contain zero-calorie sweeteners, but not always. Plain and sparkling unsweetened water and 100\% fruit juice are excluded from this category.


## Nutrition content

We collected nutrition information for all sugary drinks and energy drinks in our analysis from company or brand websites in December 2019 to February 2020. If nutrition and/or ingredient information was not provided online, researchers visited local stores to obtain nutrition information on beverage packaging. In some cases, products had to be ordered online because they could not be found in stores. If information was still missing after searching online and in stores, researchers contacted company customer service representatives via telephone to obtain the necessary information.

Across drink brands, available single-serve container sizes varied greatly, making it difficult to compare calorie and sugar content between drink categories and brands. The reported serving size for each variety was determined based on available single-serve containers within each sub-brand. Nutrition information is reported for a 12-ounce single-serve container size when available. If the product did not come in a 12-ounce container, then nutrition information for the single-serve container size closest to 12 ounces is reported. In cases where the nutrition facts panel information was not
reported for the entire single-serve container, researchers calculated the content for the entire container based on the given nutrition facts per serving. For example, Rockstar only reported nutrition information for an 8-ounce serving on some 16 -ounce cans. If nutrition information was not available for a single-serve container, then nutrition for a 12-ounce serving was reported based on the nutrition facts panel information on a multi-serve container, including on containers that reported nutrition information for an 8-ounce serving size.

We report the following measures of nutrition content for the sugary drink and energy drink products in our analysis:

- Nutrition information includes calorie and sugar content per serving reported on nutrition facts panels. Median and range per serving are reported by brand/sub-brand and category.
- Ingredient information includes caffeine content (mg per serving), juice content (reported as \% of total volume), and the presence of zero-calorie sweeteners (yes or no). Zero-calorie sweetener content was obtained from product ingredient lists, and caffeine and juice amounts were obtained from additional information provided on product packaging and/or company websites.
- Zero-calorie sweeteners refer to all nonnutritive (non-caloric) sweeteners, including artificial and natural sweeteners and sugar alcohols. Artificial sweeteners in this report include acesulfame potassium, aspartame, sucralose, and neotame. Natural sweeteners reported include stevia (also called rebiana or Reb A) and monk fruit extract. The only sugar alcohol found in drinks in this report was erythritol.


## Advertising

To analyze advertising spending and TV advertising exposure, we licensed 2018 data from Nielsen in the following non-alcoholic beverage categories: drink product, soft drink, regular soft drink, diet soft drink, drinks-isotonic, bottled water, fruit drinks, fruit juice, iced tea, drink mix, iced tea mix, and drink mix-isotonic. These Nielsen categories incorporate all of the sugary drink and diet drink categories in our analysis.

However, the Nielsen categories and brands do not always correspond directly with the categories and brands in our analyses. For example, Nielsen's drink-isotonic category includes both energy drinks and sports drinks, and its bottled water category includes both plain and flavored water. Therefore, we used the descriptions provided by Nielsen to assign each Nielsen brand to the appropriate brand, sub-brand, and category in our analysis. In some cases, the description could apply to more than one brand and/or category (e.g., Coca-Cola soft drinks). When brands included products in more than one sub-brand or category and the Nielsen data did not specify the product advertised, we assigned the brands to one of two brand-level categories.

- The soda brand category includes brand-level advertisements that cannot be classified as either regular or diet soda advertising. Soda brands sometimes advertise both regular and diet versions of the brand in the same advertisement, or they advertise the brand (e.g., Coke) but not a specific product (e.g., Coke Classic or Diet Coke). In these instances, Nielsen classifies the category as "soft drink."
- Brand-level advertising that promotes products in other (not soda) drink categories are categorized as drink brand advertising. For example, some Snapple advertising is classified by Nielsen as "drink products." This advertising supports Snapple products in multiple categories, including fruit drinks, regular iced tea, and diet iced tea products. The drink brand category also includes advertising that promotes a company but does not identify a specific brand (e.g., Dr Pepper Snapple Group). These ads are also categorized as "drink products" by Nielsen.

In all advertising analyses, soda brand and drink brand advertising are identified separately, unless otherwise noted.

## Advertising spending

Nielsen tracks total media spending in 18 different media including TV (including Spanish-language TV), internet, radio, magazines, newspaper, free standing insert coupons (FSIs), and outdoor advertising. These data provide a measure of advertising spending. We licensed these data for all nonalcoholic beverage categories for 2018 and report these numbers by category, company, and brand/sub-brand.

## TV advertising exposure

To measure exposure to TV advertising, we also licensed 2018 gross rating points (GRP) data from Nielsen for the same beverage categories. GRPs measure the total audience delivered by a brand's media schedule. They are expressed as a percent of the population that was exposed to each commercial over a specified period of time across all types of TV programming. GRPs are the advertising industry's standard measure to assess audience exposure to advertising campaigns, and Nielsen is the most widely used source for these data. ${ }^{3}$ GRPs, therefore, provide an objective assessment of advertising exposure.

In addition, GRPs can be used to measure advertisements delivered to a specific audience, such as age or other demographic groups (also known as target rating points, or TRPs), and provide a per capita measure to examine relative exposure between groups. For example, if a sugary drink brand had 2,000 GRPs in 2018 for 2- to 5-year-olds and 1,000 GRPs for 25- to 49-year-olds, then we can conclude that preschoolers saw twice as many ads for that brand in 2018 compared with adults.

The GRP measure differs from the measure used to evaluate food industry compliance with their CFBAI pledges. The
pledges apply only to advertising in children's TV programming as defined by audience composition (e.g., programs in which at least $35 \%$ of the audience are younger than age 12). ${ }^{4}$ However, less than one-half of all advertisements viewed by children younger than 12 occur during children's programming. ${ }^{5}$ In contrast, GRPs measure children's total exposure to advertising during all types of TV programming. Therefore, GRPs indicate whether participating companies reduced total TV advertising to this age group.

In the TV advertising analyses, we obtained 2018 GRP data by age group and race. We obtained total GRPs for the following age groups: preschoolers (2-5 years), children (6-11 years), teens (12-17 years), and adults (18-49 years). These data provide total exposure to national (network, cable, and syndicated) and local (spot market) TV combined.
Nielsen calculates GRPs as the sum of all advertising exposures for all individuals within a demographic group, including multiple exposures for individuals (i.e., gross impressions), divided by the size of the population, and multiplied by 100. Because GRPs alone can be difficult to interpret, we also use GRP data to calculate the following TV advertising measures:

- Average advertising exposure. This measure was calculated by dividing total GRPs for a demographic group during a specific time period by 100. It provides a measure of ads viewed by individuals in that demographic group during the time period measured. For example, if Nielsen reports 2,000 GRPs for 2- to 5-year-olds for a brand in 2018, we can conclude that on average all 2 - to 5 -year-olds viewed 20 ads for that brand in 2018.
- Youth-targeted ratios. As GRPs provide a per capita measure of advertising exposure for specific demographic groups, we also used GRPs to measure relative exposure to advertising between demographic groups. We report the following targeted GRP ratios:
$\square$ Preschooler-targeted ratio = GRPs for 2-5 years/GRPs for 18-49 years
$\square$ Child-targeted ratio $=$ GRPs for 6-11 years/GRPs for 1849 years
$\square$ Teen-targeted ratio $=$ GRPs for 12-17 years/GRPs for 1849 years

A targeted ratio greater than 1.0 indicates that on average persons in the group of interest (e.g., children in the childtargeted ratio) viewed more advertisements than persons in the comparison group (i.e., adults). A targeted ratio of less than 1.0 indicates that the person in the group of interest viewed fewer ads. For example, a child-targeted ratio of 2.0 indicates that children viewed twice as many ads as adults viewed.

To identify advertising targeted to preschoolers, children, and teens, we compared youth-targeted ratios for categories, companies, and brands/sub-brands to the average time
spent watching TV for youth in each age group compared to adults (TV viewing time ratios). If the youth-targeted ratio is greater than the relative difference in the amount of TV viewed by each group, we can conclude that the advertiser likely designed a media plan to reach this age group more often than would occur naturally.

The average weekly amount of time spent watching TV in 2018 was obtained from Nielsen Market Breaks for each youth age group and adults. The following 2018 TV viewing time ratios were used for comparison: 0.87 for preschoolers versus adults, 0.66 for children, and 0.50 for teens. These viewing time ratios were all less than 1.0, which indicates that youth in all age groups watch less TV on average than adults watch.

## Targeted advertising

To assess exposure by Hispanic youth to Spanish-language advertising, we provide advertising spending and GRP data for advertising that occurred on Spanish-language TV.

- Spanish-language TV. TV programming presented on Spanish cable and broadcast networks (e.g., Univision, Telemundo).
- Spanish-language TV ads viewed. Spanish-language TV ads viewed by preschoolers (2-5 years), children (611 years), and teens (12-17 years) living in Hispanic households.

We also obtained GRPs for advertising viewed by Black and White youth in the same age groups on national TV to assess advertising targeted to Black youth. Nielsen does not provide spot market GRPs for Black consumers at the individual level. Spot TV advertising accounted for about 2\% of all beverage advertising viewed by children and teens during 2018. ${ }^{6}$ Therefore, these data reflect an estimated $98 \%$ of Black youth exposure to all beverage advertising on TV.

- Black-targeted ratios. We also used GRPs to measure relative exposure to advertising between Black and White youth in the same groups. We report the following targeted GRP ratios:
$\square$ Black preschooler-targeted ratio $=$ GRPs for Black preschoolers 2-5 years/GRPs for White preschoolers 2-5 years. This measure uses only national GRPs.
$\square$ Black child-targeted ratio $=$ GRPs for Black children 6-11 years/ GRPs for White children 6-11 years. This measure uses only national GRPs.
- Black teen-targeted ratio $=$ GRPs for Black teens 12-17 years/GRPs for White teens 12-17 years. This measure only uses national GRPs.

To identify advertising targeted to Black preschoolers, children, and teens, we compared Black-targeted ratios for categories, companies, and brands/sub-brands to the average time spent
watching TV for Black versus White youth in each age group. If the Black-targeted ratio is greater than the relative difference in the amount of TV viewed by each group, we can conclude that the advertiser likely designed a media plan to reach Black youth more often than would occur naturally.

The average weekly amount of time spent watching TV in 2018 was obtained from Nielsen Market Breaks for Black and White youth in each age group. The following 2018 TV viewing time ratios were used for comparison: 1.39 for Black versus White preschoolers, 1.69 for children, and 1.78 for teens. Viewing time ratios higher than 1.0 indicate that Black youth in all age groups watch more TV on average than White youth in the same age group watch.

## Changes in advertising from 2013 and 2010

To report changes in advertising spending and TV advertising exposure we utilized Nielsen advertising data from 2010 and 2013 previously reported in Sugary Drink FACTS 2014.The analyses of 2018 advertising data in this report used the same methods as the previous report with a few exceptions. In these cases, 2010 and 2013 advertising data were adjusted to provide a valid comparison to 2018 data as follows:

- This report excludes children's drinks that were previously reported in Children's Drink FACTS. ${ }^{8}$ Children's sugary drink brands were removed from the advertising data for 2010 and 2013 (fruit drink and flavored water categories) to provide a valid comparison to advertising for these categories in 2018.
- Drink mixes were not included in the previous report. For this report, we included iced tea and sports drink mixes in the 2018 advertising data and added drink mix advertising to the previously reported 2010 and 2013 advertising numbers for those categories. No other category advertised drink mix products.
- For this report, we included Pepsi Lipton as a separate company. Pepsi Lipton is a joint venture between PepsiCo and Unilever to sell and market their Lipton, Brisk, and Pure Leaf iced tea brands. These brands had been previously reported as PepsiCo or Unilever company brands. We reclassified the 2010 and 2013 advertising data for these brands as Pepsi Lipton company brands to report changes for PepsiCo, Unilever, and Pepsi Lipton companies over time.
- Ad exposure for Black and White preschoolers and children had been combined into one age category in 2010 and 2013: Black and White children (2-11 y). In this report, we report Black and White preschoolers (2-5 y) and children (6-11 y) separately. To compare 2018 ad exposure to previous years, we averaged ad exposure for Black and White preschoolers and children in 2018 and compared it to the combined age groups in 2013 and 2010.


## Methods

## Endnotes

1. Harris JL, Schwartz MB, Lodolce M, et al. (2014). Sugary drink marketing to youth: some progress but much room to improve. http://www.sugarydrinkfacts.org/resources/SugaryDrinkFACTS Report.pdf
2. Harris JL, Romo-Palafox M, Choi YY, Kibwana A. (2019). Children's Drink FACTS: Sales, nutrition, and marketing of children's drinks. http://sugarydrinkfacts.org/resources/ FACTS2019.pdf
3. Nielsen (2019). How we measure. https://www.nielsen.com/us/ en/solutions/measurement/
4. Council of Better Business Bureaus (2020). CFBAI Core Principles. https://bbbprograms.org/programs/all-programs/ cfbai/cfbai-core-principles
5. Harris JL, Frazier W, Romo-Palafox M, et al. (2017). Food industry self-regulation after 10 years. http://www. uconnruddcenter.org/files/Pdfs/FACTS-2017 Final.pdf
6. Rudd Center analysis of 2018 Nielsen data
7. Harris et al. (2014).
8. Harris et al. (2019).

[^0]:    *Excluding children's drinks
    Source: Analysis of 2018 Nielsen data, Sugary Drink FACTS 2014

[^1]:    *Brands that spent more than $\$ 1$ million on advertising for diet and/or low-calorie sub-brands and more than $\$ 10$ million in total. Excludes brand-level and company-level spending.
    Source: Analysis of 2018 Nielsen data

[^2]:    *Excludes brand-level and company-level spending Source: Analysis of 2018 Nielsen data

[^3]:    *TV viewing time ratios in 2018 were 0.87 for preschoolers vs. adults and 0.66 for children vs. adults
    ${ }^{* *}$ Excluding children's drinks
    Source: Analysis of 2018 Nielsen data; Sugary Drink FACTS 2014

[^4]:    *All other companies includes SK Energy and Red Bull in 2010 and 2013
    Source: Analysis of 2018 Nielsen data; Sugary Drink FACTS 2014

