

Adolescent Exposure to Food and Alcohol Advertising on TV in the U.S., 2013–2022



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Introduction: Reducing adolescent consumption of unhealthy foods and alcohol is a primary public health objective. Youth exposure to food and alcohol marketing is associated with increased consumption. This study measured changes in adolescents' exposure to food-related and alcohol TV advertising from 2013 to 2022 and the nutrition quality of advertised food and beverage products.

Methods: This repeated cross-sectional study assessed U.S. TV ratings data on advertising exposure among adolescents aged 12–17 years (including separate ratings for Black and White adolescents) from The Nielsen Company for 2013, 2014, 2015, 2018, and 2022. For food and beverage product advertisements, nutrient content information was used to identify products high in nutrients to limit.

Results: Adolescents' exposure to food-related advertising declined from 2013 to 2022 by 83.8%, from 5,983 to 969 TV advertisements per year. Exposure to alcohol advertising also fell substantially over this period but to a lesser extent—down by 70.6% with 95 advertisements seen per year in 2022. The percentage of food and beverage advertisements seen for products high in nutrients to limit fell modestly from 77.5% in 2013 to 69.0% in 2022. The proportion of food and beverage products high in sugar fell from 51.6% to 40.6%, whereas the proportion of products high in sodium increased from 19.3% to 25.1%. Similar changes in exposure were observed between White and Black adolescents; thus, the racial gap in marketing exposure persisted.

Conclusions: Adolescents' exposure to TV advertising for food-related products and alcohol fell substantially over the last decade, yet adolescents still see almost 1,100 of such advertisements annually, primarily for unhealthy products. This suggests that current voluntary industry self-regulatory standards are insufficient to fully reduce youth exposure to harmful marketing, which may require broader mandatory policies that limit their total exposure to food-related and alcohol advertising.

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INTRODUCTION

Reducing consumption of added sugars, saturated fat, and sodium among the U.S. population is a core public health goal, and trans-fat intake is recommended to be as low as possible.¹ This is of particular concern for adolescents who are establishing dietary patterns that may continue into adulthood.² More than 30% of calories consumed by adolescents (aged 9–13 and 14–18 years) are empty calories in the form of solid fats or added

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sugars,³ and only 26% of those aged 9–13 and 14–17 years meet the U.S. Department of Agriculture (USDA)–recommended limits for sodium intake.⁴ In addition, reducing adolescent alcohol consumption is a primary public health objective,⁵ with 17% of adolescents (aged 12–17 years) reporting that they drank alcohol in the past year.⁶

Extensive marketing of unhealthy food, beverages, and alcohol to adolescents presents a major barrier to reducing unhealthy consumption patterns.^{7–9} Exposure to food marketing increases children's and adolescents' preferences and consumption of advertised brands as well as the categories of foods marketed most frequently.⁷ Exposure to alcohol marketing is both associated with and causally linked to higher initiation of alcohol consumption and binge or hazardous drinking by youth.^{8,9} As a result, the WHO has called for comprehensive mandatory policies to protect children aged up to 18 years from unhealthy food, beverage, and alcohol marketing as global health priorities.^{10,11}

Some countries prohibit all alcohol advertising.¹² However, most governments continue to rely on industry self-regulation to limit marketing of unhealthy food, beverages, and alcohol to children and adolescents, such as the Children's Food and Beverage Advertising Initiative (CFBAI) and advertising codes established by the distilled spirits, beer, and wine trade associations in the U.S.^{12,13} Yet, research consistently demonstrates that industry voluntary self-regulatory policies do not protect children and adolescents from extensive exposure to or negative impacts of unhealthy marketing.^{12,14} In addition, most policies that limit unhealthy food marketing, including the CFBAI, only cover children aged up to 12 or 13 years and primarily address advertising on children's TV programming.¹³ As a result, the proportion of food marketing targeted to adolescents relative to that targeted to younger children increased after the introduction of the CFBAI in 2006.¹⁵ Although studies from the last decade have shown some declines in adolescents' exposure to food and alcohol advertising,^{16–18} these declines can be primarily attributed to substantial reductions in time spent viewing TV.¹⁶ In addition, adolescent-targeted food marketing is often aimed at youth of color,^{16,19} who also experience higher rates of obesity than non-Hispanic White youth.²⁰ Furthermore, although studies have found declines in adolescents' exposure to food and alcohol advertising on TV, the absolute level of exposure has remained high, underscoring the importance of continued monitoring, including assessing differences by race.

Data from 2 decades ago (2003–2004) showed that 89.4% of food and beverage product advertisements seen by adolescents aged 12–17 years on TV were high in fat,

sugar, and/or sodium, with even higher rates (97.8%) for children aged 2–11 years.²¹ Research has not continued to monitor the overall nutritional quality of food and beverage product advertisements seen by adolescents, particularly since the introduction of the uniform nutrition standards as part of the CFBAI food industry self-regulation of advertising to children. However, research has tracked changes in the nutritional quality of advertisements seen by younger children. In 2009, 84.1% and 84.4% of food and beverage advertisements seen by children aged 2–5 and 6–11 years, respectively, on all programming were high in trans-fat, saturated fat, sugar, or sodium.²² These proportions continued to decline slightly to 80.4% and 82.3%, respectively, in 2013 and then fell to 68.9% and 68.4%, respectively, in 2022.²³

The fact that there are no mandatory regulations to restrict advertising of unhealthy food and beverages, including alcohol, in the U.S. and that food industry self-regulation does not cover children aged ≥ 13 years further emphasizes that it is paramount to monitor adolescents' exposure to TV advertisements for these unhealthy products. This study examines changes in exposure to TV advertisements for food-related and alcohol products among individuals aged 12–17 years, providing important updated and relevant data over the last decade, from 2013 to 2022, including an assessment of the extent to which food and beverage product advertisements seen are for products high in saturated fat, trans-fat, sugars, and sodium, recommended nutrients to limit (NTLs) that pose health risks. This study also assesses changes in adolescents' exposure by race, which can provide important insights into the context of unhealthy food marketing and its contribution to health disparities.

METHODS

Study Sample

TV ratings data based on a national sample of TV-equipped households were licensed from The Nielsen Company for the years 2013, 2014, 2015, 2018, and 2022. Ratings data (which measure the percentage of a population who saw a program or advertisement) used in this study were obtained for food-related and alcohol advertisements seen by adolescents aged 12–17 years, including separate ratings for White and Black adolescents, and were aggregated across households for each product seen on various programs and channels. The data covered broadcast network, cable network, and syndicated TV advertising as well as local spot market TV advertising, although they did not include exposure from Spanish-language programming; in addition, spot TV advertising was not available by race. The data are

described in greater detail elsewhere.²³ This study did not require IRB approval or informed consent because no individual participant data were used, in accordance with 45 CFR §46.

Measures

Exposure to food-related product advertisements was assessed overall and by 7 categories, including beverages, cereal, snacks, sweets, other foods (e.g., fruits, vegetables, meats, pasta, and condiments), fast-food restaurants, and full-service restaurants. Exposure to advertisements for alcohol was assessed overall and separately by categories for beer, wine, spirits, and other alcohol (e.g., mixed beverages such as cocktail mixes [e.g., margaritas], hard cider, hard seltzer, and hard iced tea). The nutritional content of products was assessed for the 5 nonrestaurant categories. Information on products' energy, grams of saturated fat, trans-fat, and total sugars and milligrams of sodium was obtained from either the manufacturer's website, the product's food label nutrition facts panel, the USDA Food Data Central (formerly USDA Nutrient Database), or the Minnesota Nutrient Data System. Nutrition information was unavailable for <5% of food and beverage product advertisements seen by adolescents owing to the product being nonspecific or not available from the sources noted earlier. The nutrient content information was used to determine whether each advertised product was high in each of the 4 recommended NTL of saturated fat, trans-fat, sugars, and sodium in food and beverage products marketed to children²³ on the basis of the guidelines (footnotes of [Table 2](#) provide details) made by the U.S. Interagency Working Group.²⁴

Statistical Analysis

This repeated cross-sectional study provided descriptive analyses of adolescents' exposure in 2013, 2014, 2015, 2018, and 2022 to the annual number of food and beverage, restaurant, and alcohol advertisements seen, including subcategories and exposure by race. Analyses also examined changes over time in the proportion of food and beverage product advertisements seen that were for products that exceeded the recommended guidelines for NTL. Analyses were conducted in Stata/MP 18.0.

RESULTS

From 2013 to 2022, adolescents' exposure to food-related TV advertising fell by 83.8%, from 5,983 to 969 advertisements per year ([Table 1](#)). Across the 5 food and beverage categories, exposure fell the most for sweets (down by 89.1%) and the least for beverages (down by 82.1%). Among restaurant categories, exposure to fast-

food restaurant advertisements fell to a lesser extent than for full-service restaurants (down by 76.0% vs 89.2%). Although fast-food advertisements were consistently the most common category of food-related advertisements seen by adolescents on TV across all years, fast-food restaurants' share of total food-related advertisements increased from 27.7% in 2013 to 41.1% in 2022.

Similarly, adolescents' exposure to alcohol advertisements fell substantially but somewhat less than the declines in food-related advertisements. From 2013 to 2022, adolescents' exposure to alcohol advertisements fell by 70.6%, from 325 to 95 advertisements per year. Beer remained the most advertised alcohol category (52.0% of alcohol advertisements seen), followed by spirits (29.5%), although these categories fell at slightly higher rates than the average (71.3% and 75.0%, respectively).

Black and White adolescents' exposure to food-related and alcohol advertisements fell by similar proportions ([Table 1](#)), so greater exposure to advertisements among Black adolescents persisted. In 2022, Black adolescents saw 61.4% more food-related (1,319 vs 817) and 33.3% more alcohol advertisements (116 vs 87) than their White counterparts. In comparison, Black adolescents spent 39% more time watching TV in 2022 than White adolescents (data not shown). Therefore, differences in alcohol advertising exposure between Black and White adolescents were similar to differences in TV viewing times, but greater exposure to food-related advertisements cannot be attributed to greater TV viewing.

[Table 2](#) shows a modest decrease in the proportion of food and beverage advertisements seen by adolescents for products high in NTL, from 77.5% in 2013 to 69.0% in 2022; thus, the majority of advertisements seen remained for unhealthy products. Across all product categories, products high in sugar fell the most, from 51.6% to 40.6% of advertisements seen. In contrast, the proportion of products high in sodium increased from 19.3% to 25.1%. [Table 3](#) shows the changes by product category. The proportion of products high in NTL decreased the most for cereal advertisements (from 75.9% to 38.0%), explained by a large fall in the proportion of cereal advertisements that were high in sugar (down from 75.5% to 22.1%; data not shown). However, the proportion of cereal advertisements high in sodium increased from 0.0% to 23.8% (data not shown). In addition, the proportion of beverage and sweets advertisements high in NTL increased slightly. Advertisements for beverages high in any NTL increased from 37.4% to 45.5%, including increases in high-in-sugar beverages (34.5%–40.1%) and high-in-sodium beverages (3.6%–8.9%) (data not shown). Advertisements for sweets high in any NTL

Table 1. Adolescents' (Ages 12–17 Years) Exposure to Food-Related and Alcohol Advertisements by Product Category and Race, 2013–2022

Product category	2013	2014	2015	2018	2022	Percentage change, 2013–2022
All adolescents						
Total number of food-related and alcohol ads per year	6,307	5,856	5,082	3,087	1,064	–83.1%
Total number of food-related ads per year	5,983	5,537	4,764	2,863	969	–83.8%
Beverages	574	517	502	361	103	–82.1%
Cereal	528	422	350	186	73	–86.1%
Snacks	408	376	306	187	60	–85.3%
Sweets	1,123	1,039	870	449	122	–89.1%
Other	996	967	817	446	138	–86.2%
Fast-food restaurants	1,660	1,565	1,423	937	398	–76.0%
Full-service restaurants	694	652	496	297	75	–89.2%
Total number of alcohol ads per year	325	318	318	224	95	–70.6%
Beer	173	167	197	141	50	–71.3%
Wine	13	14	15	5	5	–61.2%
Spirits	113	93	72	55	28	–75.0%
Other	27	45	34	23	13	–52.5%
Black adolescents						
Total number of food-related and alcohol ads per year	9,415	10,029	9,155	5,507	1,434	–84.8%
Total number of food-related ads per year	8,988	9,602	8,717	5,190	1,319	–85.3%
Beverages	864	907	929	662	141	–83.6%
Cereal	822	767	656	380	125	–84.7%
Snacks	642	672	588	347	85	–86.7%
Sweets	1,861	2,006	1,820	920	179	–90.4%
Other	1,435	1,596	1,395	791	193	–86.6%
Fast-food restaurants	2,362	2,593	2,481	1,578	494	–79.1%
Full-service restaurants	1,001	1,061	850	512	101	–89.9%
Total number of alcohol ads per year	427	427	437	317	116	–72.9%
Beer	197	215	261	184	58	–70.5%
Wine	17	19	20	6	6	–66.5%
Spirits	174	140	108	93	36	–79.2%
Other	39	53	49	34	16	–59.2%
White adolescents						
Total number of food-related and alcohol ads per year	5,482	4,854	4,170	2,664	904	–83.5%
Total number of food-related ads per year	5,181	4,569	3,887	2,453	817	–84.2%
Beverages	490	412	412	319	91	–81.5%
Cereal	468	362	301	158	61	–86.9%
Snacks	370	323	258	168	54	–85.5%
Sweets	976	861	705	383	110	–88.8%
Other	910	845	699	414	112	–87.6%
Fast-food restaurants	1,365	1,221	1,102	769	329	–75.9%
Full-service restaurants	603	544	410	243	61	–89.8%
Total number of alcohol ads per year	301	285	283	210	87	–71.1%
Beer	169	160	180	137	46	–72.9%
Wine	11	11	11	5	5	–57.6%
Spirits	98	81	64	47	25	–74.9%
Other	23	33	29	21	12	–48.3%

Note: Data are licensed from The Nielsen Company. Totals may not exactly equal subtotals as a result of rounding.

Table 2. Percentage of Food and Beverage Products in TV Advertisements Seen by Adolescents (Aged 12–17 Years) High in Saturated Fat^a, Trans-Fat^b, Sugars^c, Sodium^d, or any of These Nutrients to Limit, Including by Race, 2013–2022

Nutrients to limit	2013	2014	2015	2018	2022
All adolescents					
High in any nutrient to limit	77.5	78.2	78.2	70.9	69.0
High in saturated fat	47.1	48.5	48.9	45.8	44.1
High in trans-fat	2.7	2.6	0.9	0.5	0.9
High in sugars	51.6	51.1	51.8	44.4	40.6
High in sodium	19.3	18.8	24.4	20.9	25.1
Black adolescents					
High in any nutrient to limit	78.9	79.7	80.1	72.2	67.8
High in saturated fat	48.4	49.6	49.4	46.3	42.8
High in trans-fat	2.6	2.3	0.7	0.4	0.8
High in sugars	54.1	53.8	55.5	47.3	41.3
High in sodium	18.6	17.5	23.3	20.3	24.7
White adolescents					
High in any nutrient to limit	77.6	78.3	77.6	70.5	69.6
High in saturated fat	47.8	49.0	48.7	45.9	44.8
High in trans-fat	2.8	2.7	1.0	0.5	0.9
High in sugars	50.9	50.5	51.0	42.7	41.2
High in sodium	19.9	19.1	24.7	21.3	24.6

Note: Data are licensed from The Nielsen Company. It could not be determined whether certain food and beverage products were high in nutrients to limit; this affected <5% of food and beverage advertising seen by adolescents across years. Those products are not included in the denominator of the percentages in this table.

^aHigh in saturated fat: if an individual item contained >1 g per RACC or >15% of total calories came from saturated fats; if meals/main dishes contained >1 g of saturated fat per 100 g of the item or >10% of total calories from saturated fats; milk, whole egg, and nut products were exempted.

^bHigh in trans-fat: if products contained ≥0.5 g of trans-fat per RACC for individual items or the labeled serving size for meals/main dishes.

^cHigh in sugars: if products contained >13 g total sugars per RACC for individual items or labeled serving size for meals/main dishes; fruit and 100% fruit/vegetable juice products were exempt. Although the Interagency Working Group recommended a limit of 13 g of added sugars per RACC for individual items or labeled serving size for meals/main dishes, nutrition facts panels did not list added sugars before 2020, so this was instead assessed for each year in terms of total sugars with an allowance for naturally occurring sugars (an allowance of 25.5 g total sugars for plain or flavored milk products, 29 g for yogurt) to provide a consistent measure over time.

^dHigh in sodium: if products contained >210 mg per RACC for individual items or 450 mg per labeled serving size for meals/main dishes. RACC, reference amount customarily consumed.

increased from 88.9% to 92.1%. Tables 2 and 3 show similar changes over time for Black and White adolescents, with approximately 7 in 10 advertisements seen by both groups in 2022 being high in NTL.

DISCUSSION

The results from this study reveal a decline of 83.8% in adolescents' exposure to food-related advertising from 2013 to 2022, from 5,983 to 969 TV advertisements per year. Similar declines have been reported for younger children (approximately 78%), who saw just over 1,000 advertisements per year in 2022, primarily on nonchildren's programming.²³ Exposure to alcohol advertising also fell substantially over this period but to a lesser extent—down by 70.6% compared with 83.8% for food-related advertisements—so that in 2022, adolescents were exposed to TV advertisements for alcohol at the rate of 95 advertisements per year. These findings reflect improvements in trends from the previous decade, when

youth exposure to food-related advertisements increased by about one fifth, from about 5,000 advertisements per year in 2002 to about 6,000 in 2012,¹⁷ and their exposure to alcohol advertisements on TV increased by 71% from 2001 to 2009.²⁵ The reductions found in this study over the last decade in exposure to food-related and alcohol advertisements can be attributed to similar declines in youths' TV viewing time.^{16,17}

Despite these substantial declines in food and beverage product advertisements seen by adolescents, the proportion of products seen that were for unhealthy foods and beverages (i.e., high in NTL) fell modestly over the same period from 77.5% to 69.0%. By comparison, the proportion of food and beverage advertisements for unhealthy products seen by younger children declined at a slightly greater rate during this time, from just over 80% in 2013 to almost 69% in 2022.²³ Therefore, in 2022, the majority (just under 7 in 10 food and beverage advertisements) seen by both children and adolescents were for unhealthy products.

Table 3. Percentage of Food and Beverage Products in TV Advertisements Seen by Adolescents (Aged 12–17 Years) High in Nutrients to Limit, by Product Category and Race, 2013–2022

Product category	2013	2014	2015	2018	2022
All adolescents					
All foods and beverages	77.5	78.2	78.2	70.9	69.0
Beverages	37.4	36.2	48.3	45.7	45.5
Cereal	75.9	78.5	69.2	47.0	38.0
Snacks	85.5	87.4	90.4	76.6	77.8
Sweets	88.9	89.6	87.7	87.5	92.1
Other	86.1	85.0	86.4	82.7	79.1
Black adolescents					
All foods and beverages	78.9	79.7	80.1	72.2	67.8
Beverages	40.9	39.1	55.0	48.3	46.2
Cereal	77.2	79.8	70.4	49.2	33.2
Snacks	87.9	90.9	91.8	80.1	79.6
Sweets	88.6	89.2	87.3	86.9	92.3
Other	86.9	86.2	87.7	83.6	78.6
White adolescents					
All foods and beverages	77.6	78.3	77.6	70.5	69.6
Beverages	37.7	36.2	46.4	44.8	46.9
Cereal	75.2	77.8	69.1	45.6	37.8
Snacks	84.9	86.6	90.0	75.1	79.2
Sweets	88.7	89.7	87.9	87.9	91.9
Other	86.0	84.3	85.7	82.3	79.6

Note: Data are licensed from The Nielsen Company. Products are high in nutrients to limit if they are high in any of the following nutrients: saturated fat, trans-fat, sugars, or sodium as defined in Table 2. It could not be determined whether certain food and beverage products were high in nutrients to limit; this affected <5% of food and beverage advertising seen by adolescents across years. Those products are not included in the denominator of the percentages in this table.

The largest improvement in the proportion of advertisements seen for an individual NTL was for products high in sugars, which declined between 2013 and 2022 from 51.6% to 40.6%. These findings align with trend data that show that household purchases of food and beverage products containing sugars have decreased from 2002 to 2020.^{26,27} However, a recent study based on TV ratings data for 2022 found that 12.3% of food and beverage product advertisements on TV seen by adolescents were for products that contained a non-nutritive sweetener.²⁸ Furthermore, research based on household purchase data from 2002 and 2018 reported a nearly 30 percentage point increase in the proportion of households purchasing products that contained both caloric and non-nutritive sweeteners, driven by an increase in households purchasing beverages containing a combination of caloric and non-nutritive sweeteners (15.9% in 2002 to 49.4% in 2018).²⁶ Given these recent trends in purchases and consumption of sweetened products, it will be important to continue to monitor exposure to advertising for products that contain both caloric and non-nutritive sweeteners.

These results also support concerns about targeted advertising of unhealthy products to youth of color and

its impact on health disparities experienced by their communities. This research found similar patterns of change in exposure to food-related and alcohol advertising for Black and White adolescents over the 2013–2022 time period, which meant that the racial gap in marketing exposure persisted. The results suggest continued targeting of food-related advertising, given that in 2022, Black adolescents spent 39% more time watching TV but saw 61% more food-related advertisements than their White counterparts. These results are particularly concerning given that previous research has also found that food marketing incorporates Black and Latino cultural themes (e.g., music, sports) that appeal to all youth but have greater resonance for youth of color.^{16,29} Although exposure to alcohol advertisements fell to a slightly greater extent for Black than for White youth, Black youth still saw a third more alcohol advertisements in 2022, which was similar to differences in time spent watching TV. However, this disparity was greater than found in a previous study using 2009 data. That study found that Black youth aged 12–20 years were exposed to 17% more alcohol advertising on TV than all youth, which was much lower than the 53% more time they spent watching TV than for all youth in 2010.³⁰ Overall,

the results from this study point to the continued persistence of the racial gap in marketing exposure between White and Black adolescents. This suggests that industry self-regulation has failed to address the negative impact of disparities in unhealthy food marketing exposure among communities of color.

Study findings demonstrate continued limitations in current self-regulatory policies, which focus on unhealthy food marketing to younger children but not adolescents. This focus on younger children was based on early child development research on consumer behavior that demonstrated that until the age of 11 or 12 years, children do not have the cognitive ability to fully understand the nature of marketing or defend against marketing attempts.³¹ However, more recent research demonstrates that adolescents' more developed cognitive abilities do not reduce the persuasive effects of marketing for unhealthy but appealing products, including food and beverages.^{32,33} Evidence also shows that for both children and adolescents, food advertisements lead to larger brain responses than nonfood advertisements and may play a role in self-control, emotional responses, and habit formation.³⁴ Moreover, adolescents may be even more vulnerable to marketing of unhealthy products than children owing to their unique stage of neurobiological development, characterized by heightened reward sensitivity and reduced impulse control.³⁵ Furthermore, dietary behaviors worsen during adolescence, and food preferences and behaviors established at this age predict weight gain and development of diet-related diseases in adulthood.³⁶

Multiple studies also show that the alcohol industry is not fully complying with their voluntary placement standard to not advertise where the underage audience is greater than a specified threshold. For example, in 2009, 9% of alcohol product advertisements on cable TV were on programming where the underage audience exceeded the 2009 30% threshold.²⁵ Another study showed declines in underage exposure to alcohol advertising, with, for example, exposure on cable TV declining by 6.1% (noncompliant exposure down by 14.4%) from 2017 Quarter 1 to 2018 Quarter 4; notably, of total exposure over this 2017–2018 period, 2.3% was from non-compliant placement standards.¹⁸

Limitations

Although this study provides a comprehensive overview of adolescents' exposure to food-related and alcohol advertising on TV over the last decade, it is subject to limitations. First, The Nielsen Company data provided projections for total U.S. TV households aggregated across their sample, so the authors were unable to account for sampling variability and formally test the statistical significance of observed changes. Second, The

Nielsen Company spot TV data were not available by race. Third, this study examined adolescents' exposure to advertising on English-language programming and did not include an examination of exposure on Spanish-language programming. Fourth, nutritional content was not assessed for restaurant advertisements owing to the fact that such advertisements frequently do not include specific menu items. Fifth, this study assessed alcohol advertising exposure for adolescents aged 12–17 years and did not assess exposure for older underage young adults aged 18–20 years.

It is also important to note that adolescents' TV viewing has been largely replaced by media viewing on digital devices. In 2021, adolescents (aged 13–18 years) spent on average 8.65 hours per day using screens for entertainment, an increase of 30% over 2015.³⁷ However, TV viewing (including streaming services) represented just 21% of adolescents' screentime. Teens' most frequent activities on their digital devices include gaming and visiting video-sharing and social media sites (e.g., YouTube, TikTok, Snapchat, and Instagram), where food companies now embed their marketing within entertainment content (e.g., influencer videos, livestream gaming feeds), and teens share food brand posts virally through their social media feeds.¹³ Recent studies of teens' exposure to food marketing on their digital devices have estimated annual exposure as high as $\geq 8,000$ food promotions per year.^{38,39} Moreover, digital food marketing promotes nutritionally poor products, including fast food, candy, sugar-sweetened beverages, and snacks,^{38–40} similar to traditional TV advertising, with similar negative effects on adolescents' food preferences and eating behaviors.⁷ For alcohol, a 2021 survey of adolescents found that most reported being sometimes or often exposed to alcohol marketing both while watching TV, streaming videos, or going to the movies (53.0%) and while browsing the internet (51.3%).⁴¹

CONCLUSIONS

Adolescents' exposure to TV advertising for food-related and alcohol products has fallen substantially over the last decade. Nonetheless, adolescents still see almost 1,000 food-related advertisements per year, and the majority of food and beverage advertisements seen are for unhealthy products, which continue to pose a significant public health concern. Given that the percentage of food and beverage product advertisements seen by younger children for unhealthy products has declined at a higher rate than that for adolescents, younger children and adolescents now see similar percentages of unhealthy food and beverage advertisements on all TV programming. In addition, recent evidence shows that

adolescents are exposed to a high amount of food and beverage marketing on digital media platforms, the majority of which is for unhealthy products. Protecting both children and adolescents will require broader policies that address their total exposure to food-related advertising across all platforms, not just younger children's exposure on children's programming, which has been the focus of the CFBAI. Adolescents also see almost 100 alcohol advertisements per year, suggesting that voluntary standards are not sufficient to fully protect underage youth from alcohol advertising exposure. In particular, the CFBAI self-regulatory measures that only address child-directed marketing based on TV child-audience share and the alcohol restrictions that are based on underage audience share are likely not sufficient to protect adolescents from exposure to either food-related or alcohol TV advertising. In addition, Black adolescents consistently experience higher exposure than their White peers, indicating that racial inequities in marketing exposure persist and have not been addressed effectively. Finally, as traditional TV viewing continues to decline, monitoring of exposure needs to include digital media platforms and policies need to be wide reaching.

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