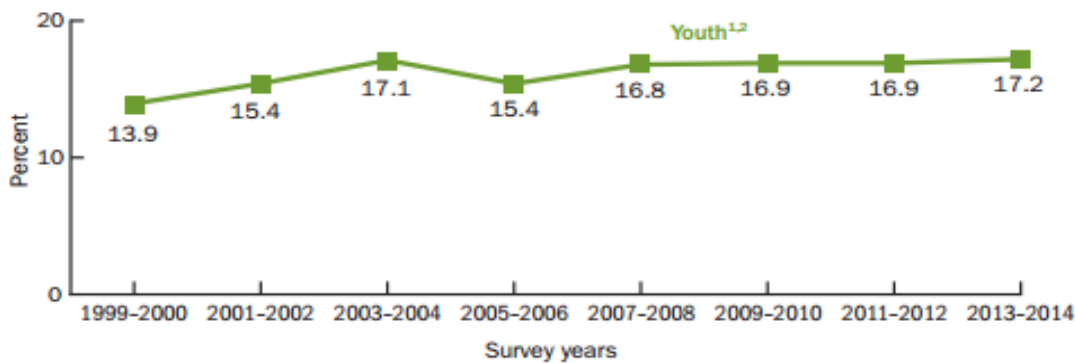


## Appendix I -- Federal and State Context

### National: Obesity

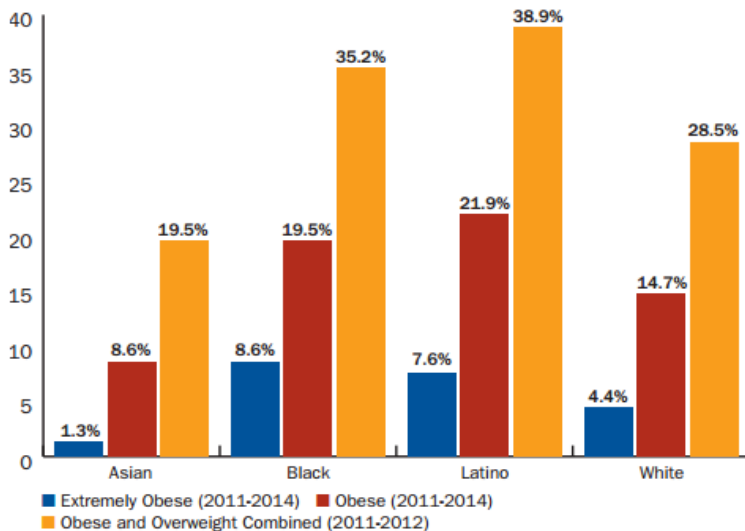
When reviewing results from the National Health and Nutrition Examination Survey (NHANES), after decades of increasing, the national childhood (2-19 years) obesity rates have remained stable over the last decade at around 17%, and the rise in adult Obesity is beginning to slow.<sup>9</sup>

**Trends in obesity prevalence among youth aged 2–19 years: United States, 1999–2000 through 2013–2014**



<sup>1</sup> Significant increasing linear trend from 1999–2000 through 2013–2014.  
<sup>2</sup> Test for linear trend for 2003–2004 through 2013–2014 not significant ( $p > 0.05$ ).  
 SOURCE: CDC/NCHS, National Health and Nutrition Examination Survey.

**Obesity and Overweight Rates for Children Ages 2 to 19, NHANES**



Note: The Centers for Disease Control and Prevention uses the term Hispanic in analysis.  
 § = non-Hispanic; Extreme obesity in children = BMI at or above 120% of the 95th percentile on BMI-for-age growth charts.

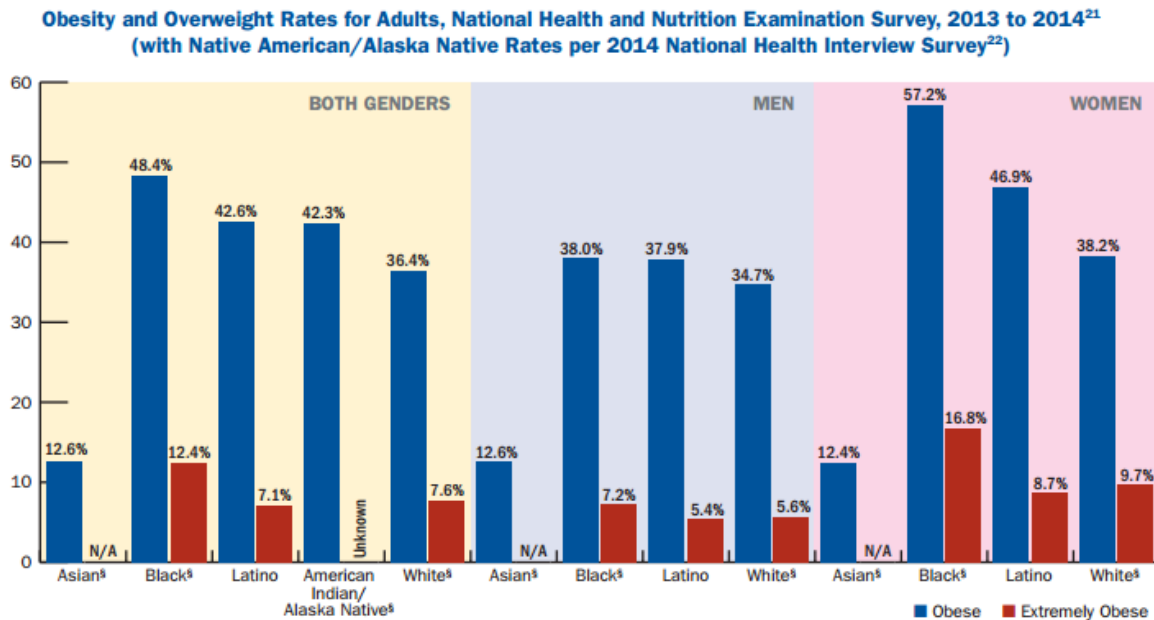
The 2011-14 childhood obesity rates were similar for boys (17.1%) and girls (16.9%).<sup>9</sup>

Hispanic children had the highest obesity rates at 21.9%, followed by Black (19.5%) and White (14.7%) children. Asian children had the lowest obesity rate at just 8.6%.<sup>9</sup>

When reviewing state Behavior Risk Factor Surveillance System data (BRFSS), adult obesity rates have remained level in almost every state, after three decades of increases. Just 30 years ago, the highest adult

obesity rate for any state was still lower than the lowest obesity rate today.<sup>8</sup>

Looking at NHANES data from 2013-2014, nearly 38% of adults are obese (BMI-30+), with nearly 8% considered extremely obese (BMI-40+).<sup>9</sup> Adult obesity rates were higher among women (40.4%) compared to men (35.0%). Women were almost twice as likely to be extremely obese (9.9%) compared to men (5.5%).<sup>9</sup>



Note: The Centers for Disease Control and Prevention uses the term Hispanic in analysis. § = non-Hispanic; N/A data only included 2 participants.

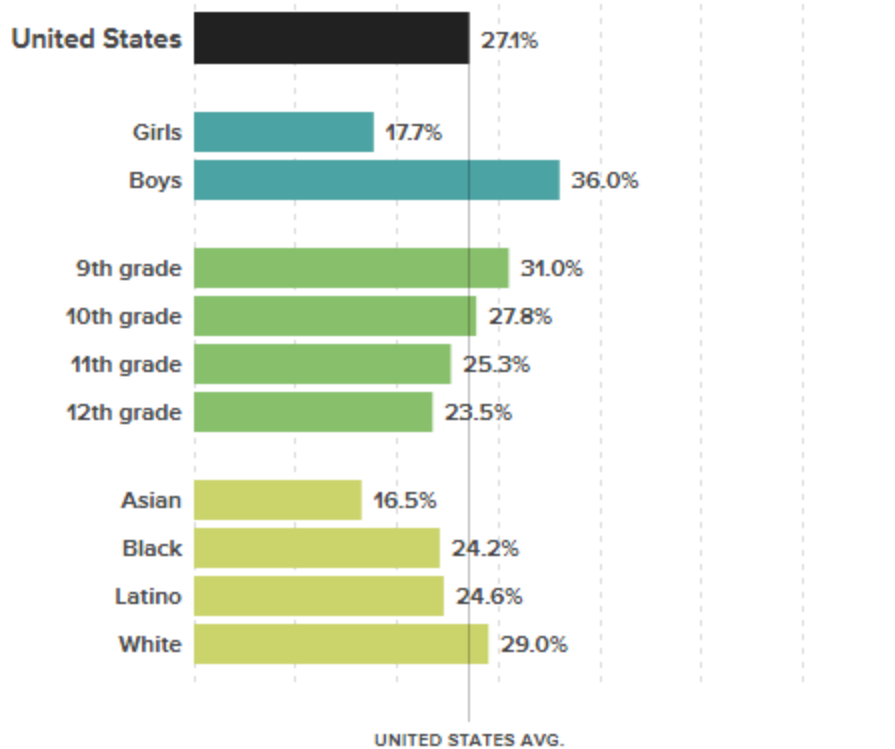
There were also racial and ethnic inequities. Obesity was highest among Black non-Hispanic (48.4%) and Hispanic (42.6%) adults, compared to White non-Hispanic (36.4%) and Asian non-Hispanic (12.6%) adults.<sup>9</sup> There were also education and income inequalities. More than 35% of adults who did not graduate from high school were obese, compared to 21.3% of those who graduated from college. More than 31% of adults who earned less than \$25,000 per year were obese, compared to 25.4% who earned \$50,000 or more per year.<sup>8</sup>

### National: Physical Activity and Nutrition

Regular exercise is important to health. Almost half of adults and nearly 72% of high school students in the U.S. did not meet CDC's recommended physical activity levels, and American adults walk less than adults in any other industrialized country.<sup>11</sup>

Youth Risk Behavior Survey (YRBS) collects data from national and state high school students.<sup>12</sup> In 2015, only 27.1% of high school students were physically active at least 60 minutes per day for all seven days before the survey. Boys (36.0%) were twice as physically active as girls (17.7%). Physical activity decreased as grade increased. White students (29.0%) were more physically active than Hispanic (24.6%), Black (24.2%) or Asian (16.5%) students.<sup>12.</sup>

Were physically active at least 60 minutes per day on all seven days before the survey (doing any kind of physical activity that increased their heart rate and made them breathe hard)



In 2015, about 41.7% of high school students used a computer or played video games three or more hours a day for fun outside of school work. This was a 32% increase from the rate in 2011 (31.1%). In 2015, 24.7% of high school students watched television for three or more hours a day, down 24% from 2011 (32.4%).<sup>12, 13</sup>

About 80% of American adults do not meet the government’s national recommendations for aerobic and muscle strengthening activity. About 45% of adults are not sufficiently active to achieve health benefits. Around \$117 billion in healthcare costs are associated with inadequate physical activity. Adults who are inactive pay \$1,437 more per year in healthcare costs than physically active adults.<sup>14</sup>

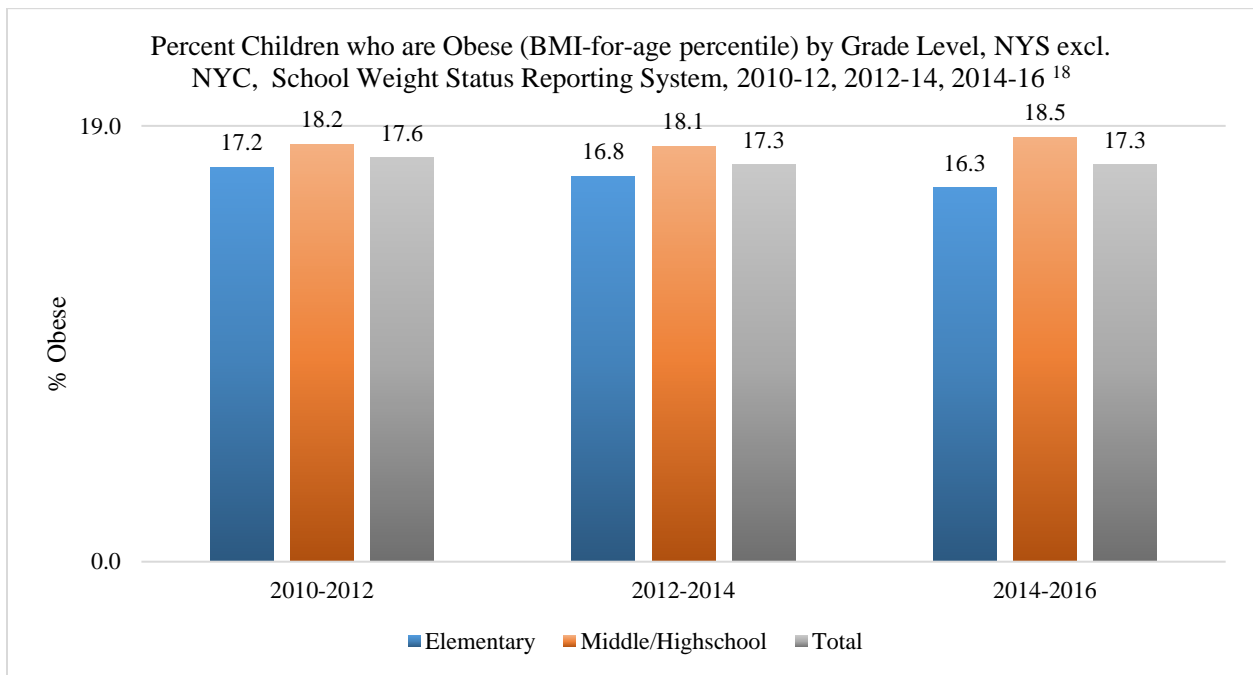
Sugary drinks or sugar-sweetened beverages are the largest sources of added sugar in the diets of Americans. They provide empty calories and are of little or no nutritional value.<sup>15</sup> YRBS data from 2015 indicate that 20.4% of high school students drank soda at least once a day. This rate is 29% lower than the 2011 rate of 28.7%. Boys (24.3%) had higher rates than Girls (16.4%). Black students (22.7%) had higher rates than Hispanic (21.7%), White (19.7%) or Asian (8.9%) students.<sup>16</sup>

## New York State: Obesity

Obesity among young children aged 2-4 years from low-income families (WIC participants) has shown a decrease over the last decade in New York State (NYS) from 17.4% in 2004 to 14.3% in 2014. This was similar to the national rate of 14.5%.<sup>17</sup>

When reviewing YRBS self-reported height and weight from high school students, the 2015 obesity rate for NYS high school students was 13.1%, lower than the national rate of 13.9%. The 2015 YRBS-based obesity rate for NYS students was higher than the 2005 rate of 10.3%.<sup>17</sup> Males (16.1%) had higher obesity rates than females (10.1%); Hispanic (14.9%) and Black (13.5%) students had higher obesity rates than White (11.9%) or Asian (7.8%) students.<sup>12</sup>

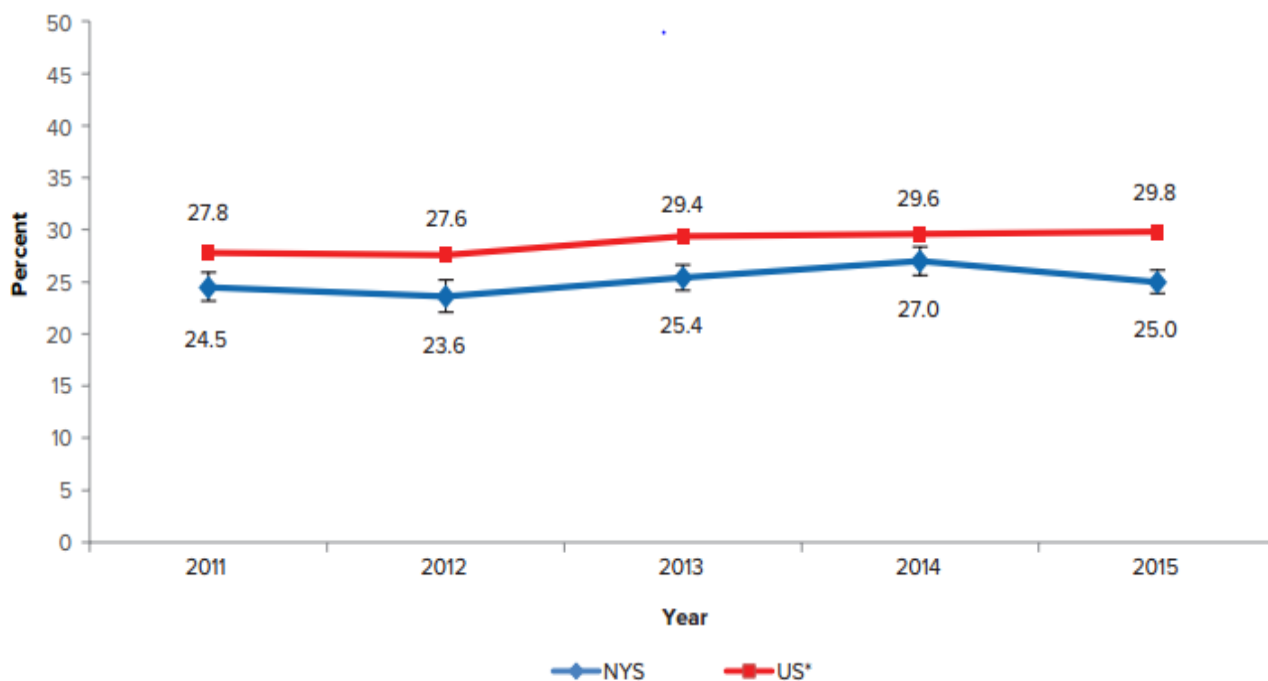
The NYS Department of Health has also been collecting weight status from public school aged students since 2010 via the School Weight Status Category Reporting System.<sup>18</sup>



New York State, excluding NYC (Upstate) school children's obesity rate decreased slightly from 17.6% in 2010-12 to 17.3% in 2014-16. The decrease is seen in the elementary school students rather than the middle/high school students.<sup>18</sup>

Behavioral Risk Factor Surveillance System (BRFSS) collects information on weight status for adult NYS residents. The 2015 NYS obesity rate (>30 BMI) of 25.0% was the eighth lowest state obesity rate in the nation. The NYS obesity rate has been stable since 2011 and consistently lower than the nation.<sup>17</sup>

**Prevalence of Obesity among US and NYS Adults, by BRFSS survey Year.<sup>19</sup>**



\*Median percent; includes data from all 50 states and the District of Columbia.

Note: Error bars represent 95% confidence intervals.

In addition to the 25% adult NYS residents who were obese, another 34.5% were overweight (BMI 25-30), the total an estimated 8.4 million adult NYS residents. The combined NYS overweight or obesity rate of 59.5% was lower than the comparable US rate of 65.3%.<sup>20</sup> Males had slightly higher obesity rates (26.8%) compared to females (24.3%). Rates were higher in the 35-44 yr. (29.4%), 45-54 yr. (30.2%), and 55-64 yr. (30.1%) age groups. Black non-Hispanic (30.9%) and Hispanic (29.3%) New Yorkers had higher obesity rates compared to White non-Hispanic (24.2%) and Other non-Hispanic (13.1%) residents. The obesity rates were highest for residents with incomes less than \$25,000 per year (31.2%), and for residents with less than a high school education (32.8%).<sup>19</sup>

## Overweight and obesity<sup>a</sup> among New York State adults, 2015 BRFSS

	Neither overweight nor obese		Overweight <sup>b</sup>		Obese <sup>c</sup>	
	% <sup>d</sup>	95% CI <sup>d</sup>	%	95% CI	%	95% CI
<b>New York State (NYS) [n=12,357]</b>	40.5	39.2-41.7	34.5	33.3-35.7	25.0	23.9-26.1
<b>Sex</b>						
Male	34.2	32.4-36.0	40.0	38.2-41.8	25.8	24.1-27.4
Female	46.6	44.9-48.3	29.1	27.6-30.7	24.3	22.9-25.7
<b>Age (years)</b>						
18-24	62.1	57.6-66.7	25.1	21.1-29.2	12.7	9.7-15.7
25-34	48.6	45.1-52.0	31.3	28.1-34.6	20.1	17.2-23.0
35-44	37.6	34.4-40.7	33.0	29.9-36.0	29.4	26.4-32.5
45-54	32.7	30.1-35.2	37.1	34.4-39.9	30.2	27.7-32.8
55-64	32.7	30.1-35.3	37.2	34.6-39.8	30.1	27.6-32.5
65+	35.4	33.4-37.5	39.7	37.6-41.8	24.9	23.0-26.7
<b>Race/ethnicity</b>						
White non-Hispanic	40.7	39.2-42.2	34.9	33.4-36.3	24.4	23.2-25.7
Black non-Hispanic	34.1	30.5-37.7	35.0	31.5-38.5	30.9	27.5-34.3
Hispanic	36.6	33.2-39.9	34.1	31.0-37.3	29.3	26.3-32.3
Other non-Hispanic	54.8	49.9-59.6	32.2	27.7-36.6	13.1	9.9-16.3
<b>Income</b>						
<\$25,000	36.5	33.9-39.1	32.3	29.9-34.7	31.2	28.9-33.6
\$25,000-\$34,999	39.3	35.0-43.6	34.4	30.2-38.5	26.4	22.6-30.1
\$35,000-\$49,999	39.3	35.3-43.3	35.7	32.0-39.5	25.0	21.7-28.2
\$50,000-\$74,999	39.2	35.6-42.8	35.4	32.0-38.7	25.4	22.2-28.6
\$75,000 and greater	41.4	39.3-43.5	37.1	35.1-39.2	21.5	19.8-23.2
Missing <sup>e</sup>	47.9	44.3-51.4	31.2	28.0-34.5	20.9	17.9-23.9
<b>Educational attainment</b>						
Less than high school (HS)	35.3	31.4-39.2	32.0	28.3-35.6	32.8	29.1-36.4
High school or GED	36.5	34.0-39.0	34.9	32.5-37.3	28.6	26.4-30.9
Some post-HS	38.8	36.3-41.3	34.7	32.3-37.1	26.5	24.3-28.6
College graduate	47.4	45.5-49.2	35.4	33.7-37.1	17.2	15.9-18.5
<b>Disability<sup>f</sup></b>						
Yes	31.3	28.8-33.9	31.4	28.9-33.9	37.2	34.6-39.8
No	43.0	41.6-44.5	35.2	33.8-36.6	21.8	20.6-22.9
<b>Region</b>						
New York City (NYC)	44.2	42.1-46.2	33.3	31.3-35.2	22.6	20.8-24.3
NYS exclusive of NYC	37.7	36.2-39.3	35.4	33.9-36.9	26.9	25.5-28.2

a Based on categories of body mass index (BMI), calculated as weight in kilograms divided by the square of height in meters

b Overweight, 25.0<BMI<30.0

c Obese, BMI>30.0

d % = weighted percentage; CI = confidence interval.

e "Missing" category included because more than 10% of the sample did not report income.

f All respondents who reported having at least one type of disability (cognitive, mobility, vision, self-care, or independent living)

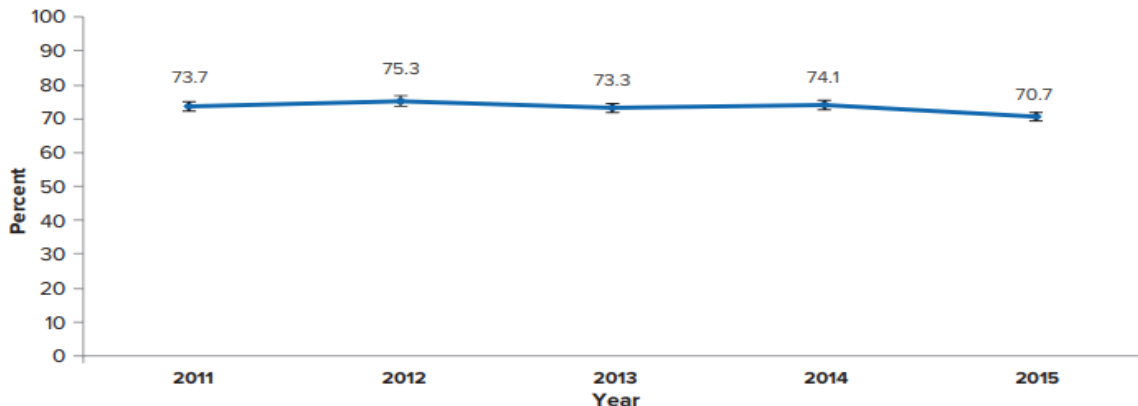
## New York State: Physical Activity and Nutrition

When reviewing 2015 YRBS data, only 23.3% of New York high school students were physically active at least 60 minutes per day for all seven days before the survey. This was a 7% decrease from the 2011 rate of 25.1%. New York's physical activity rate was much lower than the national rate of 27.1%. Boys were more physically active as girls (27.8 % vs.19.0%). White students (26.7%) were more physically active than Hispanic (19.4%), Asian (19.8%) or Black (22.4%) students.<sup>12</sup>

In 2015, about 37.2% of New York's high school students used a computer or played video games three or more hours a day for fun outside of school work. This was an 11% increase from the 2011 rate of 33.5%. However, the NYS rate was lower than the national rate of 41.7%. In 2015, 24.2% of New York's high school students watched television for three or more hours a day, down 21% from 2011 rate of 30.6%. The NYS rate was similar to the 2015 national rate of 24.7%.<sup>12</sup>

An estimated 70.7% of adult New Yorkers were leisure time physically active (LTPA) in 2015 (BRFSS), a 4% decrease from the 2011 rate of 73.7%.<sup>20, 21</sup> New York's rate was the 12<sup>th</sup> poorest state rate in the U.S.<sup>14</sup> Leisure time physical activity decreased with age from 79.6% in the 18-24 year age group to 66.7% for New Yorkers 65 years of age and older. Male LTPA rates were higher than female residents (73.2% vs. 68.3%). Hispanic New Yorkers have lower LTPA rates (60.1%) compared to Black non-Hispanic (68.5%) and White non-Hispanic (74.0%) residents. LTPA increases with income from 59.4% for adult with annual incomes under \$15,000 to 77.5% for residents with incomes \$50,000 and greater. LTPA also increases with educational status. Only 53.4% of adults with less than high school education participated in LTPA, while the rate was 81.9% for residents with college education or greater. Only 62.2% of adult New Yorkers who were obese, participated in LTPA.<sup>20, 21</sup>

### Percent Leisure Time Physical Activity\*among NYS Adults by BRFSS Survey Year, 2011-2015 <sup>21</sup>



\* Other than your regular job, participation during the past month in any physical activities or exercises such as running, calisthenics, golf, gardening, or walking for exercise.

Note: Error bars represent 95% confidence intervals.

The National Physical Activity Guidelines recommend that adults participate in moderate-intensity aerobic physical activities for at least 150 minutes per week, or 75 minutes of vigorous-intensity aerobic physical activity per week, or an equivalent combination of moderate- and vigorous-intensity aerobic physical activity.<sup>10</sup> Less than half (47.1%) of NYS adults met the recommendations for aerobic activity in 2015, a rate lower than the US rate of 51.3%. Female New Yorkers had lower aerobic activity rates compared to males (45.8% vs. 48.5%). Hispanic adults had the lowest aerobic activity rates (37.7%), followed by Asian non-Hispanic (43.7%), Black non-Hispanic (44.8%), and White non-Hispanic (50.8%) New York residents. The aerobic activity rates were lowest for residents with incomes less than \$15,000 per year (38.7%), and incomes between \$15,000 and \$24,999 per year (41.8%) compared to residents with incomes over \$50,000 per year (53.2%). In 2015, NYS adult aerobic activity increased as education increased. Residents with less than a high school education had the lowest rates (33.4%), followed by high school graduates (44.3%), and college graduates (54.9%).<sup>20, 21</sup>

### Participation in levels of physical activity among New York State adults, 2015 BRFS

	Adequate Physical Activity							
	LTPA <sup>a</sup>		Aerobic <sup>b</sup>		Muscle Strength <sup>c</sup>		Aerobic and Muscle Strength <sup>d</sup>	
	% <sup>e</sup>	95% CI <sup>e</sup>	%	95% CI	%	95% CI	%	95% CI
<b>Total New York State (NYS) [n=12,357]</b>	70.7	69.5-71.9	47.1	45.8-48.4	30.2	29.0-31.4	20.0	18.9-21.1
<b>Sex</b>								
Male	73.2	71.5-75.0	48.5	46.5-50.5	35.8	33.9-37.7	23.2	21.5-24.9
Female	68.3	66.8-69.9	45.8	44.0-47.5	25.1	23.6-26.7	17.2	15.8-18.6
<b>Age (years)</b>								
18-24	79.6	75.7-83.5	51.0	46.0-55.9	45.1	40.2-50.0	30.0	25.2-34.8
25-34	74.2	71.0-77.4	45.4	41.8-48.9	36.3	32.9-39.8	22.2	19.1-25.3
35-44	68.2	65.0-71.5	44.4	40.9-47.8	29.3	26.3-32.4	19.0	16.2-21.7
45-54	68.3	65.6-71.0	44.7	41.8-47.5	27.8	25.3-30.3	18.8	16.7-20.9
55-64	69.6	67.1-72.1	48.6	45.8-51.3	25.8	23.6-28.0	17.5	15.6-19.4
65+	66.7	64.6-68.8	50.1	47.9-52.3	22.6	20.8-24.3	16.4	14.8-18.0
<b>Race/ethnicity</b>								
White non-Hispanic	74.0	72.7-75.4	51.1	49.5-52.6	31.0	29.5-32.4	21.2	19.8-22.5
Black non-Hispanic	68.5	64.9-72.1	45.3	41.3-49.3	34.1	30.4-37.9	22.1	18.7-25.5
Hispanic	60.1	56.8-63.4	37.7	34.3-41.1	27.4	24.2-30.7	16.9	14.0-19.8
Other non-Hispanic	72.6	68.0-77.2	44.2	39.0-49.5	27.1	22.6-31.6	17.9	13.8-22.0
<b>Annual household income</b>								
<\$15,000	59.4	55.2-63.6	38.7	34.4-43.0	19.9	16.5-23.3	11.9	9.1-14.7
\$15,000-\$24,999	63.8	60.4-67.2	41.8	38.1-45.5	25.6	22.3-28.9	15.7	12.7-18.7
\$25,000-\$49,999	67.9	65.1-70.7	44.2	41.2-47.3	27.9	25.1-30.8	17.9	15.4-20.5
≥\$50,000	77.5	75.9-79.0	53.2	51.3-55.1	35.8	34.0-37.6	25.0	23.3-26.7
Missing <sup>f</sup>	68.2	64.8-71.6	42.7	39.0-46.3	27.5	24.3-30.8	17.1	14.2-20.0
<b>Educational attainment</b>								
Less than high school (HS)	53.4	49.4-57.4	33.4	29.4-37.4	19.6	16.3-22.9	10.9	8.2-13.6
High school or GED	66.2	63.7-68.6	44.3	41.6-47.0	25.1	22.6-27.6	17.2	14.8-19.6
Some college	71.5	69.2-73.8	48.0	45.3-50.6	32.4	29.8-34.9	21.0	18.7-23.3
College graduate	81.9	80.5-83.3	54.9	53.1-56.8	37.4	35.6-39.2	25.6	24.0-27.3
<b>Disability<sup>g</sup></b>								
Yes	54.4	51.7-57.2	33.8	31.2-36.5	19.1	16.9-21.3	9.5	7.8-11.2
No	74.9	73.7-76.2	50.6	49.1-52.1	33.1	31.7-34.5	22.8	21.5-24.1
<b>Weight status</b>								
Neither overweight nor obese	75.9	74.1-77.8	52.9	50.6-55.1	36.4	34.2-38.5	24.8	22.8-26.8
Overweight	72.4	70.4-74.4	48.5	46.3-50.8	31.6	29.5-33.7	21.2	19.3-23.1
Obese	62.2	59.8-64.7	38.7	36.2-41.2	21.5	19.3-23.6	13.5	11.6-15.3
<b>Region</b>								
New York City (NYC)	69.3	67.2-71.3	44.9	42.7-47.1	28.9	26.9-30.8	19.3	17.5-21.0
NYS exclusive of NYC	71.7	70.3-73.1	48.7	47.1-50.3	31.2	29.7-32.7	20.6	19.2-22.0

a LTPA = Leisure-time physical activity during the past month.

b Prevalence of respondents who report engaging in at least 150 minutes per week of moderate-intensity aerobic physical activity or 75 minutes of vigorous-intensity aerobic physical activity per week, or an equivalent combination of moderate- and vigorous-intensity aerobic physical activity.

c Prevalence of respondents who report participating in muscle-strengthening physical activity at least 2 times per week.

d Met both the aerobic and muscle strengthening guidelines.

e %=weighted percentage; CI= Confidence Interval

f "Missing" category included because more than 10% of the sample did not report income.

g All respondents who reported having at least one type of disability (cognitive, mobility, vision, self-care, or independent living)



New York State YRBS data from 2015 indicate that 14.0% of high school students drank soda at least once a day, a rate lower than the national rate of 20.0%. The NYS rate was also a 35% decrease from the 2011 rate of 21.4%. Boys had higher rates than Girls (16.4% vs.11.3%). Black students (16.2%) had higher rates than Hispanic (15.5%), White (12.4%) or Asian (11.7%) students.<sup>12</sup>

The BRFSS collects information on the consumption of sugary drinks or sugar-sweetened beverages (SSBs). In 2015, an estimated 19.6% of NYS adults drank at least one soda or other SSB per day. The prevalence of daily SSB consumption decreased 12% from the 2012 rate of 22.2%. Upstate residents had lower daily SSB consumption prevalence than NYC residents (18.4% vs. 21.6%). Adult males had a significantly higher daily SSB consumption rates compared to their female counterparts (23.9% vs.15.7%). The daily SSB consumption prevalence decreased with age, from 32.6% in the 18-24 year age group to 11.8% for residents 65 years of age and older. Black non-Hispanic adults had the highest prevalence of daily SSB consumption (33.2%) followed by Hispanic (24.2%), Other non-Hispanic (21.5%) and White non-Hispanic (15.3%) residents. Daily SSB consumption prevalence decreased as income increased. Adults with incomes less than \$15,000 per year had a rate of 31.0%, while adults with incomes of \$75,000 or greater had a prevalence rate of 13.3%.<sup>15</sup>

## Daily consumption of soda and sugar-sweetened beverages (SSBs) among New York State adults, 2015 BRFSS

	Consumed At Least One Regular Soda Per Day <sup>a</sup>		Consumed At Least One Other SSB Per Day <sup>b</sup>		Consumed At Least One Regular Soda or SSB Per Day <sup>a,b</sup>	
	% <sup>c</sup>	95% CI <sup>c</sup>	%	95% CI	%	95% CI
<b>New York State (NYS) (n=5,944)</b>	11.2	9.9-12.5	10.9	9.5-12.2	19.6	17.9-21.2
<b>Sex</b>						
Male	14.1	11.9-16.3	13.0	10.8-15.2	23.9	21.2-26.5
Female	8.6	7.1-10.1	8.9	7.3-10.5	15.7	13.7-17.6
<b>Age (years)</b>						
18-24	18.0	12.5-23.5	19.5	13.4-25.6	32.6	25.3-39.9
25-34	15.6	11.2-19.9	10.3	6.6-13.9	21.9	17.2-26.7
35-44	13.0	9.4-16.6	13.3	9.4-17.2	22.1	17.5-26.7
45-54	10.7	8.2-13.2	10.7	8.0-13.4	20.6	17.1-24.1
55-64	7.2	5.3-9.1	8.0	5.6-10.5	13.8	10.9-16.7
65+	6.2	4.9-7.6	6.8	5.2-8.3	11.8	9.9-13.7
<b>Race/ethnicity</b>						
White non-Hispanic	8.9	7.5-10.3	7.8	6.4-9.2	15.3	13.5-17.0
Black non-Hispanic	16.4	12.1-20.8	21.3	16.1-26.4	33.2	27.4-39.0
Hispanic	16.8	12.7-20.9	11.5	8.1-14.9	24.2	19.5-28.8
Other non-Hispanic	9.7	5.7-13.7	13.8	8.6-19.1	21.5	15.4-27.6
<b>Income</b>						
<\$15,000	19.0	13.7-24.3	17.1	11.8-22.4	31.0	24.7-37.4
\$15,000-\$24,999	17.3	13.1-21.5	12.5	9.1-16.0	23.6	19.0-28.2
\$25,000-\$34,999	12.9	8.3-17.5	10.2	6.2-14.1	21.7	16.2-27.2
\$35,000-\$49,999	13.8	9.7-17.9	14.2	9.9-18.5	26.1	20.7-31.6
\$50,000-\$74,999	8.0	5.1-10.9	8.4	5.2-11.6	14.9	10.7-19.1
\$75,000 and greater	6.0	4.4-7.7	8.0	5.9-10.2	13.3	10.8-15.7
Missing <sup>d</sup>	12.2	7.9-16.4	11.9	7.4-16.4	20.9	15.7-26.1
<b>Educational attainment</b>						
Less than high school (HS)	20.4	15.0-25.7	15.9	10.9-21.0	29.3	23.4-35.2
High school or GED	15.5	12.7-18.3	12.7	10.0-15.3	24.7	21.2-28.1
Some post-HS	9.8	7.6-12.1	13.5	10.5-16.4	21.7	18.2-25.1
College graduate	5.2	3.8-6.6	5.3	3.9-6.7	9.7	7.9-11.5
<b>Disability<sup>e</sup></b>						
Yes	16.2	12.6-19.8	14.5	11.1-17.9	25.8	21.7-29.8
No	10.1	8.7-11.4	9.9	8.5-11.4	18.0	16.2-19.8
<b>Region</b>						
New York City (NYC)	12.1	9.7-14.5	12.7	10.2-15.2	21.6	18.6-24.6
NYS exclusive of NYC	10.7	9.3-12.2	9.8	8.3-11.3	18.4	16.4-20.3

a Includes sugar-sweetened soda only.

b Other sugar-sweetened beverages include sugar-sweetened drinks like sweet tea, sports or energy drinks or fruit drinks such as lemonade.

c % = weighted percentage; CI = confidence interval.

d "Missing" category included because more than 10% of the sample did not report income.

e All respondents who reported having at least one type of disability (cognitive, mobility, vision, self-care, or independent living)