

# Study suggests childhood obesity linked to poor school performance and coping skills

November 2 2018

TABLE 1: Demographics based on Body Mass Index (BMI) for U.S. children aged 10-17 years: National Survey of Children's Health, 2016 (N=22,914)

	BMI Class			p-value	
	Normal 66.7% (N=16,339) Weighted %	Overweight 16% (N= 3,474) Weighted %	Obese 17.2% (N= 3,101) Weighted %		
<b>Age</b>					
	10-13 years	46.1%	56.4%	51.4%	p< 0.0001
	14-17 years	53.9%	43.7%	48.6%	
<b>Sex</b>					
	Female	51.8%	51.2%	39.6%	p< 0.0001
	Male	48.2%	48.8%	60.5%	
<b>Race</b>					
	White only	70.3%	64.8%	63.4%	p=0.0003
	Black only	12.4%	16%	19.3%	
	Other	17.4%	19.2%	17.3%	
<b>Ethnicity</b>					
	Hispanic/Latino	21.1%	27.6%	33.3%	p< 0.0001
	Non-Hispanic/Latino	78.9%	72.4%	66.7%	
<b>Poverty Level</b>					
	<200% FPL	35.9%	42.5%	54.9%	p < 0.0001
	200 to < 400% FPL	27.6%	27.4%	26.6%	
	400% or more FPL	36.6%	30.1%	18.6%	
<b>Depression</b>					
	Yes	6%	6.4%	11.5%	p < 0.0001
	No	94%	93.6%	88.5%	
<b>Highest Level of Education in Adult</b>					
	Less than High School	7.8%	9.4%	16.4%	p< 0.0001
	High School	18.2%	23.3%	28.4%	
	More than High School	74.1%	67.3%	55.2%	
<b>Average Sleep Hours Per Day</b>					
	Less than 9 hours	60.3%	60%	65.9%	p= 0.035
	9 or more hours	39.7%	40%	34.1%	
<b>Average DME Hours Per Day</b>					
	2 or less hours	25.7%	20.8%	17.2%	p= 0.0001
	More than 2 hours	74.4%	79.2%	82.8%	
<b>Does all required homework</b>					
	Definitely True	71.9%	69.7%	61.5%	p<0.0001
	Somewhat/Not True	28.1%	30.3%	38.5%	
<b>Shows interest in learning new things</b>					
	Definitely True	81.7%	80.4%	73%	p<0.0001
	Somewhat/Not True	18.3%	19.6%	27%	
<b>Works to finish tasks he or she starts</b>					
	Definitely True	67.2%	65.2%	55.1%	p<0.0001
	Somewhat/Not True	32.8%	34.8%	44.9%	
<b>Stays calm when faced with a challenge</b>					
	Definitely True	55.5%	50.6%	42.8%	p<0.0001
	Somewhat/Not True	44.5%	49.4%	57.2%	
<b>Cares about doing well in school</b>					
	Definitely True	79.2%	76.4%	67.2%	p<0.0001
	Somewhat/Not True	20.8%	23.6%	32.8%	
<b>Total number for flourishing markers</b>					
	All 5 Markers	40.5%	38%	28.9%	p<0.0001
	Less than 5 Markers	59.5%	62%	71.1%	

Demographics based on Body Mass Index (BMI) for US children aged 10-17 years: National Survey of Children's Health, 2016 (N=22,914). Credit: Natasha Gill

A new study suggests that childhood obesity, now at epidemic levels in the United States, may affect school performance and coping skills for challenging situations. The study abstract, "Childhood Flourishing is Negatively Associated with Obesity," will be presented on Saturday, Nov. 3, during the American Academy of Pediatrics (AAP) 2018 National Conference & Exhibition.

Researchers analyzed responses from 22,914 parents and caregivers of children aged 10-17 years who participated in the 2016 National Survey of Children's Health. The goal was to determine the independent association between [body mass index](#) (BMI) and five markers of "flourishing," or overall well-being as it relates to the development of positive psychosocial and coping skills.

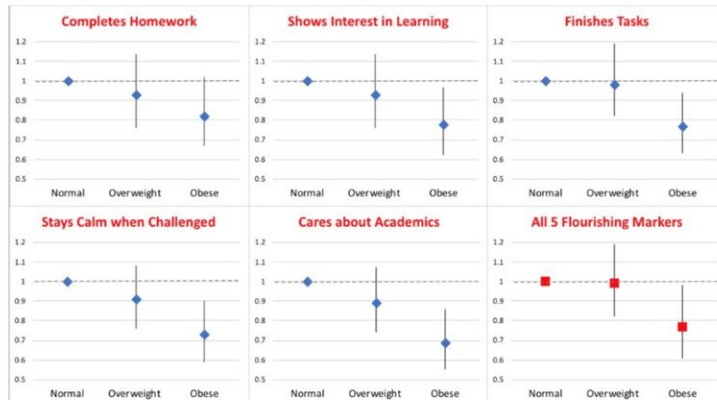
"Childhood obesity is one of the biggest public health challenges we face today," said Natasha Gill, MD, FAAP, a Pediatric Emergency Medicine Fellow at the Alpert Medical School of Brown University and Hasbro Children's Hospital. "We know that children with obesity are at a greater risk for long-term health conditions that can last into adulthood, and we wanted to see whether obesity affects a child's immediate well-being as it relates to development of psychosocial skills and other signs of flourishing."

Adjusting for several confounding variables, including gender, child depression status, average sleep hours per night, average digital media exposure per day, highest parental education level, and household poverty status, Dr. Gill and her colleagues analyzed parents' responses to questions about whether their child:

- "Shows interest and curiosity in learning new things"
- "Works to finish tasks he or she starts"
- "Stays calm and in control when faced with a challenge"
- "Cares about doing well in school"

- "Does all required homework"

Figure 1: Adjusted odds ratios\* for childhood flourishing markers based on body mass index: National Survey of Children's Health, 2016 (n=22,914)



\*Model adjusted for age, gender, child's depression status, average sleep (in hours per day), average digital media exposure (in hours per day), highest parental education level, and household poverty status

Adjusted odds ratios for childhood flourishing markers based on body mass index: National Survey of Children's Health, 2016 (N=22,914)\*Model adjusted for age, gender, child's depression status, average sleep (in hours per day), highest parental education level, and household poverty status. Credit: Natasha Gill

Researchers found that only 27.5 percent of children with obesity, defined as a BMI at or above the 95th percentile for children and teens

of the same age and sex, were reported to have all five flourishing markers. This compares with 36.5 percent of those in the overweight range, with BMI at or above the 85th percentile, and 39 percent of children with normal BMI.

"The negative relationship between obesity and flourishing markers suggests that when compared to children with a normal BMI, obese youth may be less likely to develop healthy relationships, positive attitudes, a sense of purpose and responsibility, and interest in learning," Dr. Gill said. "Individual markers of flourishing have been shown to stay the same over time like a person's personality," she said, "so it may be important to monitor these markers in childhood to ensure optimal development into adulthood."

"We want all children to reach their maximum potential," she said. "If we can intervene early enough, we can promote positive physical, mental, and social development for these at-risk children and help them become responsible, hard-working members of society." She said her study's findings support the need for focused and coordinated efforts and resources from schools and [health care providers](#) that target [obesity](#) to improve overall well-being.

Provided by American Academy of Pediatrics

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