

Inaccurate Weight Perceptions among 4th, 8th, and 11th Grade Students in Texas by Grade, Sex and Race/Ethnicity, School Physical Activity & Nutrition Project (SPAN) 2009-2011



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Introduction

- Over the past 20 years, there has been an increase in the prevalence of overweight and obese children or adolescents in the U.S.
- In spite of the increased attention by government organizations and media on the public health problems of obesity, many children do not recognize their own weight status.
- A substantial percentage of girls and boys misclassify their own weight status.
- Body weight perception is a strong determinant of nutritional habits and weight management among adolescents.
- SPAN is a surveillance system to monitor the prevalence and secular trends in obesity in students in Texas
- SPAN identifies factors in Texas students that may be associated with obesity
- Information from SPAN will assist in development of programs/policies targeted to address obesity in Texas youth.

Research Questions

- What proportion of students in 4th, 8th and 11th grade in Texas misperceived their weight status?
- Does this inaccurate weight perception differ by grade, sex, and race/ethnicity?

Methods & Measures

- Methodology:** Data collected from Texas students on the 2009-2011 SPAN surveys included 70 school districts and 280 schools.
- Student height and weight were measured using a stadiometer and digital scale.
- Self-reported perceived weight as compared to other students in same grade of the same height.
- Healthy BMI is defined as BMI between 5th and <85th percentile on the Centers for Disease and Prevention Control (CDC) growth chart
- Study population:** 11,751 students in Texas (5,035 – 4th graders, 3,931 - 8th graders, and 2,785 – 11th graders).
- Outcome variables examined:**
 - BMI
 - Perceived weight

Methods & Measures

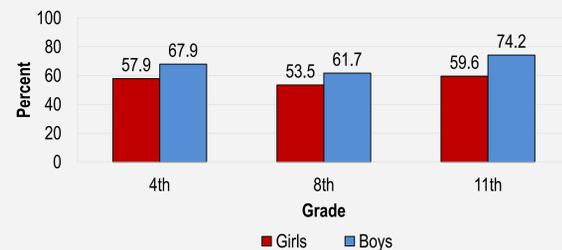
- Analysis:** Descriptive statistics and chi-square analysis were conducted to compare BMI and weight perceptions among students by grade, sex, and race/ethnicity

Results

Table 1: Distribution of BMI and Weight Perception by Grade, Texas SPAN 2009-2011

	% (95% CI)
Overall BMI Distribution	
Grade 4	
Underweight	1.7 (0.9-2.4)
Healthy Weight	55.5 (52.1-58.9)
Overweight	42.8 (39.2-46.5)
Grade 8	
Underweight	3.5 (2.0-5.1)
Healthy Weight	56.0 (50.5-61.6)
Overweight	40.4 (34.3-46.6)
Grade 11	
Underweight	1.7 (0.6-2.8)
Healthy Weight	63.0 (59.0-67.0)
Overweight	35.3 (31.3-39.4)
Overall Weight Perception	
Grade 4	
Too Little	16.5 (14.6-18.3)
Healthy Weight	60.5 (57.2-63.8)
Too Much	23.0 (20.3-25.8)
Grade 8	
Too Little	16.0 (12.5-19.5)
Healthy Weight	60.7 (55.1-66.3)
Too Much	23.3 (20.3-26.3)
Grade 11	
Too Little	16.4 (13.4-19.4)
Healthy Weight	67.8 (63.5-72.2)
Too Much	15.8 (12.4-19.2)

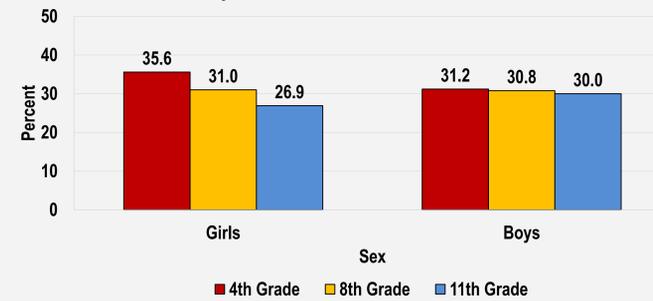
Figure 1: Inaccurate Weight Perception for Overweight Students by Grade & Sex, Texas SPAN 2009-2011



- Overweight/Obese boys are significantly more likely to have an inaccurate weight perception compared to girls, regardless of grade level.

Results

Figure 2: Inaccurate Weight Perception for Healthy Weight Students by Sex & Grade, Texas SPAN 2009-2011



- Inaccurate weight perceptions for healthy weight girls decline with grade level and age but remains unchanged for boys.

Table 2: Inaccurate Weight Perception of 8th Grade Students by Race/Ethnicity, Texas SPAN 2009-2011

	8 th Grade		
	Black (n=523)	Hispanic (n=2182)	White (n=1226)
	% (95% CI)	% (95% CI)	% (95% CI)
Healthy Weight			
Perceived weight			
Overweight ^a	3.4 (1.3-5.5)	9.7 (6.4-13.1)	10.8 (7.0-14.6)
Underweight ^b	20.6 (9.9-31.2)	20.7 (16.7-24.6)	22.6 (12.8-32.3)
Overweight/Obese			
Perceived weight			
Underweight ^b	4.9 (0.5-9.3)	7.3 (5.0-9.6)	1.9 (0.0-4.4)
Healthy weight ^c	69.2 (55.4-82.9)	49.8 (42.5-57.1)	48.2 (34.6-61.8)

^aAll proportions are weighted. Student reported that they weigh (a) 'too much', (b) 'too little', or (c) 'about the right weight' compared to classmates of the same height.

- Healthy weight Hispanic and White 8th grade students are significantly more likely to report that they perceive their weight as too much as compared with Blacks.
- One-fifth of healthy weight students in Texas perceive their weight as too little as compared with classmates of the same height, regardless of grade level.
- 4th grade overweight boys are significantly more likely to have an inaccurate weight perception than 4th grade overweight girls.

Results

Table 3: Inaccurate Weight Perception of 11th Grade Students by Sex, Texas SPAN 2009-2011

	11 th Grade	
	Girls (n=1389)	Boys (n=1396)
	% (95% CI)	% (95% CI)
Healthy Weight		
Perceived weight		
Overweight	11.4 (7.7-15.2)	2.1 (0.4-3.9)
Underweight	15.4 (9.6-21.3)	27.9 (21.4-34.4)
Overweight/Obese		
Perceived weight		
Underweight	2.6 (0.0-6.0)	5.3 (0.1-10.5)
Healthy weight	57.0 (43.5-70.5)	68.9 (59.4-78.4)

^aAll proportions are weighted. Student reported that they weigh (a) 'too much', (b) 'too little', or (c) 'about the right weight' compared to classmates of the same height.

- 11th grade healthy weight boys are significantly more likely to perceive themselves as weighing too little than 11th grade healthy weight girls

Discussion

- Results from this survey indicate that although nearly 40 percent of students had measured BMIs that classified them as overweight, more than one-half of overweight students perceived themselves as normal weight, regardless of grade, age, sex, or race/ethnicity.
- This analysis supports other literature that indicates Blacks appear to have a greater social acceptance of overweight and less body weight dissatisfaction compared to other racial or ethnic groups.
- To effectively curb the obesity epidemic, children and adolescents must develop an accurate self-perception of their weight status.
- Adolescents who are underweight or healthy weight but perceive themselves as overweight are at increased risk for eating disorders such as anorexia
- With substantial prevalence of weight misperception among students, clinicians should consider perceived weight status when counseling patients

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