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Accuracy of Child and Adolescent Weight Perceptions and Their Relationships to Dieting and Exercise Behaviors: NHANES

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Abstract

Objective—Recent public health and media attention on child obesity may have altered accuracy of self-perception of obesity and associated weight control behaviors in children and adolescents. Thus, we examined whether accuracy of weight perceptions were associated with weight loss behaviors.

Study design—We examined children 8–15 year olds in the National Health and Nutrition Examination Survey (2005–2010) who reported themselves as: “overweight/too fat,” “about right,” or “underweight/too thin.” Children reported on efforts to lose weight and engagement in specific weight control behaviors, including how frequently he/she had “been on a diet, starved, cut back on eating, skipped meals, or exercised” to lose weight. We categorized obesity based on measured BMI, and determined accuracy of weight perceptions. We used chi-squared tests to examine age- and sex-based differences in accuracy of perceptions and relationship to weight loss behaviors.

Results—Girls and older children more accurately perceived weight status. Both girls and boys of all ages who perceived themselves as overweight were more likely to engage in weight loss behaviors. Children who were overweight engaged in more weight loss behaviors than healthy weight children perceiving themselves as overweight. Among children who reported themselves as “about right,” overweight children engaged in more weight loss behaviors than healthy weight children but less so than those who accurately perceived being overweight.

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Conclusions—The perception of being overweight and actual overweight status are both strongly associated with weight loss behaviors. These findings have important implications for counseling patients who may have inaccurate weight perceptions.

Keywords

weight perceptions; obesity; weight control behaviors; sex differences

Introduction

Prior reports have called attention to adolescents' perception of themselves as overweight when they are healthy weight.^{1,2} As the prevalence of overweight and obesity among US children and adolescents has almost tripled over the past three decades, concern about weight has shifted towards obesity. Mass media and public health efforts have focused more on the obesity epidemic, and the importance of recognizing and addressing it. Recognition of obesity may be a necessary, though not sufficient step in addressing childhood and adolescent obesity, as weight perception may be an important predictor of weight control behaviors.^{3,4}

It would seem that the recent public focus on obesity might mean that more overweight children and adolescents are able to recognize themselves as overweight or obese, and as a result, may be making dietary and physical activity changes. While some recent studies have, indeed, found that children and adolescents are able to recognize obesity in themselves,^{2,4} other studies have shown that many adolescents still do not accurately perceive their overweight or obese status.^{5,6} However, many of the prior studies have used self-reported height and weight to classify weight status and accuracy of weight perceptions, which generally underestimates actual weight status.^{7–10}

Perception of being overweight has been shown to promote both healthy and unhealthy weight control behaviors, for both healthy weight and overweight/obese adolescents, and inaccurate perception of being overweight in healthy weight adolescents result in unnecessary weight control behaviors.^{2,11,12} However, correct perceptions among overweight children appear to be associated with attempts to lose weight or with weight control activities like exercising to lose weight.^{4,13,14} Prior work has revealed that girls are more likely to overestimate their weight, and that overweight/obese girls are more accurate in weight perception than overweight/obese boys.¹⁵ Racial differences also exist for accuracy of weight perception with African Americans being less likely to overestimate their weight compared to whites and Asian Americans being more likely to underestimate their weight versus whites.¹⁵ To date, most studies have focused on adolescents, and none has examined a recent, nationally representative sample of both children and adolescents to examine the relationships between weight perceptions and weight control behaviors using objectively measured height and weight.

The goal of this study was to examine how children and adolescents perceive their weight status, compared to their actual measured weight status. Additionally, we aimed to examine how these perceptions are associated with weight loss efforts and behaviors. We stratified the sample by sex and age groups to determine if there are differences in accuracy of

perception and weight loss behaviors in boys versus girls and in younger children versus adolescents.

Methods

Data

We examined data from the National Health and Nutrition Examination Survey (NHANES), 2005–2010. NHANES is a cross-sectional, stratified, multistage probability sample of the United States' population. It consists of a detailed questionnaire, physical examination, and laboratory analyses.

Beginning in 2005–2006 and continuing through the study period, a “weight history” component was included for children aged 8–15 years. In this computer-assisted questionnaire, children responded to questions about how they perceived their current weight, what efforts they were making to manage their weight, and about specific weight-management behaviors. We included all children and adolescents (N=4355) who completed the weight history component from 2005–2010.

Measures

Obesity—Height and weight were measured as part of the NHANES physical examination component.¹⁶ Height and weight were recorded at standardized mobile examination centers with a digital scale and wall-mounted stadiometer with socks and lightweight examination gowns. Weight was measured to the nearest 0.1 kilogram and height was measured to the nearest millimeter. We calculated body mass index (BMI) percentiles according to current Center for Disease Control and Prevention growth charts.^{17,18} We classified children using standard definitions: underweight, <5th percentile; healthy weight, 5th to <85th percentile; overweight, 85th to <95th percentile; and obese, 95th percentile.¹⁸

Weight perceptions—Children were asked, “Do you consider yourself now to be...?” Available responses were “fat or overweight,” “about the right weight,” and “too thin.” In order to compare weight perceptions to actual weight, we collapsed the two highest weight categories (85th percentile representing overweight and obesity) into a single category. We then identified children as having over-reported (i.e. reported that they were overweight when actual BMI was at a healthy weight), correctly reported, or underreported (i.e. reported that they were about right when their measured weight was >85th percentile).

Weight-control behaviors—Children were asked to report what they were currently trying to do about their weight: lose weight, gain weight, maintain their weight, or nothing. Children were asked how often they had tried to lose weight in the past year: never, sometimes, or often. Those reporting that they “sometimes or often” attempted to lose weight were then asked how frequently they had engaged in the following behaviors to lose weight: been on a diet, starved, cut back on eating, skipped meals, and exercised.

Demographics—We categorized children as non-Hispanic white, non-Hispanic black, Hispanic, or “other race.” Income was calculated based on reported household income as a percentage of the federal poverty level. We separated boys and girls in all analyses. Finally,

we stratified participants into two age groups: ages 8–11 years and ages 12–15 years since we were interested in whether there are differences by age groups in accuracy of weight perception and in associated weight loss behaviors.

Statistical analyses

We examined weight perceptions and accuracy of perceptions by measured BMI category using cross-tabs and tested for differences using an adjusted Wald test. We then examined differences in reported behaviors by measured weight, perceived weight, and accuracy of weight perceptions. All analyses were statistically weighted and adjusted for the complex survey design of NHANES and performed using Stata 12.0 (College Station, TX). This study was exempted from human subjects review by the University of North Carolina Office of Human Research Ethics IRB Review Board (IRB #12-2164).

Results

Sample Characteristics

Each of the age groups had similar number of boys and girls (1118 vs. 1050 girls and 1096 vs. 1091 boys for 8–11 year olds and 12–15 year olds respectively). The age groups were similar by race/ethnicity and had approximately 55–60% Non-Hispanic Whites, 13–15% Non-Hispanic Blacks, and 18–21% Hispanics (Table 1). There were no significant differences by sex for either age groups. There were no sex differences in measured BMI or for weight perceptions and accuracy of weight perception for younger children. However, there were differences by sex for perceived weight category and accuracy of weight perception for older children. Older overweight boys were less likely than older overweight girls to perceive themselves as overweight. Older boys were also less likely than older girls to correctly perceive their weight status.

Some sex differences were also noted in reported current weight change behaviors with younger boys more likely to report trying to gain weight. Among older adolescents, more girls were trying to lose weight while boys were trying to gain weight.

Weight Perceptions and Accuracy of Perceptions

Weight perceptions were significantly related to actual weight status in both sexes at all ages (Table 2). Younger children were less likely to recognize that they were overweight than older children. Among 8 to 11 year olds, 41% of overweight girls and 35% of overweight boys believed he/she were overweight. Among 12 to 15 year olds, 54% of overweight girls reported their weight as overweight while only 41% of overweight boys reported their weight correctly. Additionally, few healthy weight children reported that they were “overweight,” and no underweight children reported they were “overweight.”

In terms of race/ethnicity, there were only differences in accuracy of perception for girls 8–11 years old and boys 12–15 years old with Non-Hispanic black and Hispanic participants were more likely to underestimate their weight status (Table 3). 32% of Non-Hispanic blacks and 30% Hispanics 8–11 year old girls underestimated their weight status as healthy weight when they were actually overweight/obese while 22% of Non-Hispanic whites did

also. For 9–15 year old boys, 31% of Non-Hispanic blacks, 31% Hispanics, and 39% other race underestimated their weight status while 21% of Non-Hispanic whites did also.

Weight Loss Behaviors by Accuracy of Weight Perception

Interesting sex-based patterns of actual weight and perceived weight were seen in relationship to weight management behaviors (Table 4). For girls and younger boys, children who correctly perceived themselves as overweight were more likely to be attempting weight loss than those who believed they were overweight but were actually healthy weight. There were more children who were overweight but reported themselves as “about right” attempting to lose weight than healthy weight children, but less than overweight children who perceived themselves as overweight.

Overweight girls and boys of all ages who correctly perceived themselves as overweight were more likely to report trying to lose weight “sometimes” or “a lot” compared to those who consider themselves “about right” but were actually overweight.

Of those who perceived themselves as overweight, they were more likely to be trying to lose weight when their weight status was actually overweight. Finally, many of those who perceive themselves as healthy weight but were actually overweight were trying to lose weight. These patterns remained similar for all types of weight control behaviors, with actual weight and perception of weight being both important factors: those who were actually overweight reported more weight control behaviors, and those who perceived themselves as overweight were even more likely to report these behaviors.

Discussion

Boys vs. Girls

Similar to findings in prior studies, it appears that girls are better able to recognize obesity than boys.^{3,5,6,15} However, 46% of older girls and 59% of older boys who are overweight are still unable to recognize themselves as such. Previous reports using recent data have shown better congruency between obesity and self-perception.^{4,19} One possible reason for the differences in our data is that children were only given three options “overweight, about right, or underweight.” Other surveys allow children to report “very overweight or slightly overweight” which children may be more comfortable in reporting than a singular “fat or overweight” category used in the survey design of NHANES.

Younger Children vs. Older Children and Adolescents

Our study adds to prior work by examining younger children and the differences in younger versus older children in accuracy of weight perception and weight loss intentions and behaviors in a large, nationally representative cohort using objective measurements of height and weight. Accurate perception of obesity is better in older children than younger children. This is not surprising, as older children may have had more exposure to messages about obesity. However, there were minimal differences in weight control behaviors by age based on weight perception, although younger children were not more likely to engage in unhealthy weight control behaviors such as starving to lose weight when they perceived

themselves as overweight. This indicates that younger children who correctly identify themselves as overweight are capable of making efforts to manage their weight, and attempt to do so using healthy methods such as exercising to lose weight. We are unable to determine how children interpreted “cut back on eating to lose weight” vs. “been on a diet to lose weight” though percentages of children reporting each of these differ. Further research should explore whether there are differences in how children perceive dieting and cutting back on eating as weight control behaviors.

Self-perception and Weight loss behaviors

Although perception of weight is strongly associated with behaviors, it also appears that messages about dieting may be influencing all children, not just those who recognize themselves as overweight (and report themselves as such). Even among children who report themselves as “about right,” 19–28% report currently trying to lose weight and engaging in weight control behaviors such as dieting or cutting back on eating to lose weight. We are unable to determine in this study the extent to which these behaviors in healthy weight children are extreme or unhealthy due to the survey design of NHANES.

Our study confirms that self-perception of overweight or obesity, whether accurate or not, is associated with weight loss behaviors in both girls and boys. Recognition of obesity results in a 20–30 percent increase in the prevalence of weight loss efforts. Our study also demonstrates an important association between actual obesity and perception of obesity. Boys and girls of all ages who report their weight as “about right” are far more likely to be attempting weight loss when they are overweight/obese by objective measures, compared to those who are healthy weight. Accurate self-perception that he/she is overweight/obese is associated with greater weight loss effort. However, weight loss intentions in those who do not accurately report themselves as overweight/obese may suggest that even those who may be unwilling to report himself/herself as overweight do recognize that they are not healthy weight. A possible explanation for this may be the limited number of response options. If they had been given more options, such as “slightly overweight,” some overweight children may have been more willing to report other than “about right.”

Additionally, overweight children and adolescents of both sexes with correct weight status perception were more likely to be engaged in weight loss behaviors such as cutting back on eating and exercising to lose weight. Younger boys who incorrectly perceive themselves as overweight are more likely than boys with accurate weight perception to have engaged in unhealthy behaviors such as skipping meals to lose weight. However, for adolescent boys, this reverses, with boys who are actually overweight more likely to report skipping meals—a pattern similar to that seen for younger girls. As unhealthy weight control behaviors including skipping meals and restrictive eating habits are predictive of weight gain over time,^{20,21} it may be important to improve accuracy of weight perception in both children and adolescents so that disordered eating and future weight gain are circumvented.

Limitations

There are several limitations to our study. First, the analysis included cross-sectional data so causality cannot be inferred from our results. Additionally, as mentioned above, nuances

about weight perception may not be evident since the participants were asked to choose from only three choices when describing their weight status. Lastly, we are unable to know whether “cutting back on eating to lose weight” was unhealthy restriction/disordered eating or healthy portion control due to the survey design.

Though there are limitations, our study has several strengths. Most studies examining weight perceptions and weight control behaviors have been completed in mainly adolescents and do not provide a comparison between younger children and adolescents. Our study also used measured weight and height to classify accuracy of weight perceptions, which is often not available in large surveys. Finally, the study used recent nationally representative data, which is important since perceptions could be changing in light of recent public health efforts to stem the tide of obesity.

Conclusions

The implications of these findings are important when caring for children and adolescents, as self-perception of overweight/obesity is strongly associated with weight loss behaviors. Both children and adolescents who recognize their obesity report efforts to lose weight. Interventions to influence accuracy of weight perceptions and to assess weight perceptions as part of routine well child care or obesity programs may help to increase and promote weight control behaviors like increased physical activity or healthy portion control. Future research should examine in greater detail whether weight control efforts such as dieting and exercising are actually implemented by children and adolescents in healthy ways.

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Abbreviations

BMI	Body Mass Index
NHANES	National Health and Nutrition Examination Survey

References

1. Strauss RS. Self-reported weight status and dieting in a cross-sectional sample of young adolescents: National Health and Nutrition Examination Survey III. *Archives of pediatrics & adolescent medicine*. Jul; 1999 153(7):741–747. [PubMed: 10401809]
2. Talamayan KS, Springer AE, Kelder SH, Gorospe EC, Joye KA. Prevalence of overweight misperception and weight control behaviors among normal weight adolescents in the United States. *Scientific World Journal*. 2006; 6:365–373. [PubMed: 16565773]
3. Foti K, Lowry R. Trends in perceived overweight status among overweight and nonoverweight adolescents. *Archives of pediatrics & adolescent medicine*. Jul; 2010 164(7):636–642. [PubMed: 20603464]

4. Edwards NM, Pettingell S, Borowsky IW. Where perception meets reality: self-perception of weight in overweight adolescents. *Pediatrics*. Mar; 2010 125(3):e452–458. [PubMed: 20142281]
5. Goodman E, Hinden BR, Khandelwal S. Accuracy of teen and parental reports of obesity and body mass index. *Pediatrics*. Jul; 2000 106(1 Pt 1):52–58. [PubMed: 10878149]
6. Brener ND, Eaton DK, Lowry R, McManus T. The association between weight perception and BMI among high school students. *Obes Res*. Nov; 2004 12(11):1866–1874. [PubMed: 15601984]
7. Neumark-Sztainer D, Hannan PJ. Weight-related behaviors among adolescent girls and boys: results from a national survey. *Archives of pediatrics & adolescent medicine*. Jun; 2000 154(6):569–577. [PubMed: 10850503]
8. Park E. Overestimation and underestimation: adolescents' weight perception in comparison to BMI-based weight status and how it varies across socio-demographic factors. *J Sch Health*. Feb; 2011 81(2):57–64. [PubMed: 21223272]
9. Sherry B, Jefferds ME, Grummer-Strawn LM. Accuracy of adolescent self-report of height and weight in assessing overweight status: a literature review. *Archives of pediatrics & adolescent medicine*. Dec; 2007 161(12):1154–1161. [PubMed: 18056560]
10. Gorber SC, Tremblay M, Moher D, Gorber B. A comparison of direct vs. self-report measures for assessing height, weight and body mass index: a systematic review. *Obes Rev*. Jul; 2007 8(4):307–326. [PubMed: 17578381]
11. Neumark-Sztainer D, Wall M, Eisenberg ME, Story M, Hannan PJ. Overweight status and weight control behaviors in adolescents: longitudinal and secular trends from 1999 to 2004. *Preventive medicine*. Jul; 2006 43(1):52–59. [PubMed: 16697035]
12. Felts WM, Parrillo AV, Chenier T, Dunn P. Adolescents' perceptions of relative weight and self-reported weight-loss activities: analysis of 1990 YRBS (Youth Risk behavior Survey) national data. *J Adolesc Health*. Jan; 1996 18(1):20–26. [PubMed: 8750424]
13. Yost J, Krainovich-Miller B, Budin W, Norman R. Assessing weight perception accuracy to promote weight loss among U.S. female adolescents: a secondary analysis. *BMC Public Health*. 2010; 10:465. [PubMed: 20696060]
14. Ojala K, Vereecken C, Valimaa R, et al. Attempts to lose weight among overweight and non-overweight adolescents: a cross-national survey. *Int J Behav Nutr Phys Act*. 2007; 4:50. [PubMed: 17935629]
15. Martin MA, Frisco ML, May AL. Gender and race/ethnic differences in inaccurate weight perceptions among U.S. adolescents. *Womens Health Issues*. Sep-Oct; 2009 19(5):292–299. [PubMed: 19733799]
16. CDC. Anthropometry Procedures Manual. 2002. http://www.cdc.gov/nchs/data/nhanes/nhanes_01_02/body_measures_year_3.pdf
17. Kuczmarski RJ, Ogden CL, Guo SS, et al. 2000 CDC Growth Charts for the United States: methods and development. *Vital Health Stat*. May; 2002 11(246):1–190.
18. Ogden CL, Flegal KM. Changes in terminology for childhood overweight and obesity. *Natl Health Stat Report*. Jun 25. 2010 (25):1–5. [PubMed: 20939253]
19. Yan AF, Zhang G, Wang MQ, Stoesen CA, Harris BM. Weight perception and weight control practice in a multiethnic sample of US adolescents. *South Med J*. Apr; 2009 102(4):354–360. [PubMed: 19279513]
20. Neumark-Sztainer D, Wall M, Story M, Standish AR. Dieting and unhealthy weight control behaviors during adolescence: associations with 10-year changes in body mass index. *J Adolesc Health*. Jan; 2012 50(1):80–86. [PubMed: 22188838]
21. Neumark-Sztainer D, Wall M, Story M, Sherwood NE. Five-year longitudinal predictive factors for disordered eating in a population-based sample of overweight adolescents: implications for prevention and treatment. *Int J Eat Disord*. Nov; 2009 42(7):664–672. [PubMed: 19642214]

What's New

We provide recent, nationally representative information on accuracy of weight perceptions in both US children and adolescents and examine associated weight control behaviors, providing comparison between children and adolescents by sex, which could better tailor interventions and counseling efforts.

Table 1

Descriptive statistics by age and sex¹

N=4355	n	Ages 8–11 (n=2214)		Ages 12–15 (n=2141)		
		Girls	Boys	Girls	Boys	p
		1118	1096	1050	1091	
Race/Ethnicity						
Non-Hispanic White		55.2	58.7	59.8	59.9	0.572
Non-Hispanic Black		15.0	13.2	14.7	13.3	
Hispanic		20.7	19.6	18.6	18.4	
Other		9.1	8.6	7.0	8.5	
Income						
<100% Federal Poverty Level (FPL)		23.5	20.6	19.3	20.8	0.206
100–199% FPL		24.3	21.9	22.1	20.3	
200–299% FPL		14.0	18.1	19.0	14.6	
300–399% FPL		15.1	11.9	11.7	13.4	
400–499% FPL		9.5	11.5	8.9	12.2	
>500% FPL		13.7	16.1	19.0	18.8	
Measured Weight Status						
Overweight/obese (>85th percentile)		34.8	36.6	36.7	32.9	0.260
Healthy Weight (5–85th percentile)		62.1	60.7	60.3	62.5	
Underweight (<5th percentile)		3.1	2.7	3.1	4.6	
Perceived Weight Status						
Overweight		16.1	14.7	0.535	24.5	15.3 <0.0001
About Right		77.3	77.5	70.1	75.5	
Underweight		6.6	7.8	5.4	9.2	
Accuracy of Perception						
Underestimates		25.3	30.1	0.124	20.1	25.7 0.027
Correct		71.4	66.1	74.2	70.8	
Overestimates		3.4	3.8	5.7	3.5	
Currently trying to do about weight:						
Lose		31.7	30.7	<0.0001	40.3	25.6 <0.0001

N=4355	Ages 8–11 (n=2214)			Ages 12–15 (n=2141)		
	Girls	Boys	p	Girls	Boys	p
Gain	7.0	13.9		5.0	18.9	
Stay the same	27.7	27.2		26.3	24.5	
Nothing	33.6	28.1		28.4	31.0	
How often tried to lose weight:						
Never	49.5	48.0	0.562	47.7	62.5	<0.0001
Sometimes	41.5	41.6		41.9	29.7	
A lot	9.0	10.4		10.3	7.7	
How often been on a diet to lose weight:						
Never	59.3	57.9	0.799	48.9	58.7	0.054
Sometimes	35.8	36.3		45.3	37.4	
A lot	5.0	5.8		5.8	3.9	
How often starved to lose weight:						
Never	83.6	75.6	0.001	83.4	87.1	0.089
Sometimes	14.3	22.8		14.1	12.4	
A lot	2.1	1.6		2.5	0.5	
How often cut back on eating to lose weight:						
Never	36.5	24.8	0.001	18.6	28.6	0.028
Sometimes	55.9	65.8		66.3	58.6	
A lot	7.7	9.4		15.1	12.8	
How often skipped meals to lose weight:						
Never	72.1	57.2	<0.0001	64.5	69.8	0.391
Sometimes	24.6	34.9		30.3	25.9	
A lot	3.3	7.9		5.2	4.4	
How often exercised to lose weight:						
Never	59.3	57.9	0.799	48.9	58.7	0.054
Sometimes	35.8	36.3		45.3	37.4	
A lot	5.0	5.8		5.8	3.9	

[†] Significance test of difference between boys and girls.

Table 2

Weight perceptions and accuracy of perceptions by measured weight.[†]

BMI Percentile	Girls			Boys			p	
	>85th	5th-85th	<5th	>85th	5th-85th	<5th		
Perceived Weight								
<i>Ages 8-11</i>								
Overweight	41.1	2.8	0.0	<0.0001	34.5	3.5	0.0	<0.0001
About right	57.8	89.5	51.6		63.9	86.4	62.7	
Underweight	1.1	7.6	48.4		1.6	10.2	37.3	
<i>Ages 12-15</i>								
Overweight	54.0	7.7	0.0	<0.0001	41.1	2.8	0.0	<0.0001
About right	45.6	86.9	33.9		58.8	87.1	37.5	
Underweight	0.3	5.4	66.1		0.1	10.1	62.5	
Accuracy of Perception								
<i>Ages 8-11</i>								
Underestimates	58.9	7.6	0.0	<0.0001	65.5	10.2	0.0	<0.0001
Correct	41.1	89.5	48.4		34.5	86.4	37.3	
Overestimates	0.0	2.8	51.6		0.0	3.5	62.7	
<i>Ages 12-15</i>								
Underestimates	46.0	5.4	0.0	<0.0001	58.9	10.1	0.0	<0.0001
Correct	54.0	86.9	66.1		41.1	87.1	62.5	
Overestimates	0.0	7.7	33.9		0.0	2.8	37.5	

[†] Adjusted Wald test of difference between weight status classifications.

Table 3Accuracy of Perceptions by Age, Gender, and Race/Ethnicity¹⁻²

	Underestimates Weight Status (%)	Correct (%)	Overestimates Weight Status (%)	p
Girls				
<i>Ages 8–11</i>				
Non-Hispanic White	21.8	75.5	2.8	0.046
Non-Hispanic Black	32.3	63.8	3.9	
Hispanic	30.4	66.8	2.7	
Other race	23.0	69.5	7.4	
<i>Ages 9–15</i>				
Non-Hispanic White	18.4	75.9	5.7	0.27
Non-Hispanic Black	25.0	72.2	2.7	
Hispanic	22.7	71.3	6.0	
Other race	17.7	71.6	10.7	
Boys				
<i>Ages 8–11</i>				
Non-Hispanic White	28.3	67.6	4.1	0.16
Non-Hispanic Black	36.0	62.2	1.8	
Hispanic	34.7	60.1	5.2	
Other race	23.4	74.9	1.7	
<i>Ages 9–15</i>				
Non-Hispanic White	21.2	74.6	4.1	0.01
Non-Hispanic Black	30.6	68.1	1.3	
Hispanic	30.5	66.2	3.3	
Other race	39.1	58.3	2.6	

¹ Adjusted Wald test of difference between groups (accuracy of weight perception).

² “Underestimates” weight status is defined as perception of being healthy weight when actually overweight/obese; “Overestimates” weight status is defined as perception of being overweight/obese when actually healthy weight.

Table 4

Percent reporting weight loss behaviors by accuracy of weight perception¹

	Girls						Boys					
	Perceived Overweight			Perceived Healthy Weight			Perceived Overweight			Perceived Healthy Weight		
	Accurate	Inaccurate	p	Accurate	Inaccurate	p	Accurate	Inaccurate	p	Accurate	Inaccurate	p
Currently trying to do about weight:												
<i>Ages 8-11</i>												
Lose	80.1	63.3	14.9	49.5	<0.0001	90.0	72.0	8.8	54.0	<0.0001		
Gain	0	0	6.5	1.0		0	2	16.4	1.1			
Stay the same	5.0	14.3	36.1	25.3		5.8	4.3	35.5	25.8			
Nothing	14.9	22.4	42.5	24.2		4.3	21.6	39.3	19.1			
<i>Ages 12-15</i>												
Lose	88.4	67.9	19.3	56.3	<0.0001	73.2	79.3	9.6	46.9	<0.0001		
Gain	0	0	2.1	0		0.3	0	17.4	4.9			
Stay the same	3.6	3.1	39.8	23.9		8.4	0	33.1	23.8			
Nothing	8.0	29.0	38.8	19.8		18.2	20.7	39.9	24.5			
How often tried to lose weight:												
<i>Ages 8-11</i>												
Never	8.5	7.5	64.7	33.2	<0.0001	5.9	31.9	64.7	24.5	<0.0001		
Sometimes	64.9	71.9	32.7	51.6		62.3	59.1	32.6	56.6			
A lot	26.6	20.6	2.6	15.2		31.9	9.0	2.7	18.9			
<i>Ages 12-15</i>												
Never	11.6	8.8	63.5	35.1	<0.0001	17.1	23.9	76.1	40.8	<0.0001		
Sometimes	62.7	54.4	33.4	54.2		58.4	45.7	21.5	46.0			
A lot	25.7	36.9	3.2	10.8		24.4	30.4	2.4	13.2			
How often been on a diet to lose weight:												
<i>Ages 8-11</i>												
Never	38.1	37.0	73.1	58.3	<0.0001	47.4	34.4	73.0	48.9	<0.0001		
Sometimes	54.1	50.8	24.2	37.2		40.4	62.5	25.3	45.0			
A lot	7.8	12.2	2.7	4.6		12.2	3.1	1.7	6.1			

	Girls						Boys					
	Perceived Overweight			Perceived Healthy Weight			Perceived Overweight			Perceived Healthy Weight		
	Accurate	Inaccurate	p	Accurate	Inaccurate	p	Accurate	Inaccurate	p	Accurate	Inaccurate	p
<i>Ages 12-15</i>												
Never	31.0	48.9	0.003	63.5	49.5	0.003	42.4	63.0	0.016	70.2	59.9	0.016
Sometimes	62.2	45.1		33.2	42.0		51.2	37.0		29.0	34.6	
A lot	6.8	6.1		2.2	8.5		6.4	0		0.8	5.5	
How often started to lose weight:												
<i>Ages 8-11</i>												
Never	80.6	92.7	0.741	86.2	81.9	0.741	64.8	32.6	0.182	76.7	75.8	0.182
Sometimes	17.4	7.3		11.8	15.6		35.2	56.3		20.6	22.2	
A lot	2.0	0		2.0	2.6		0.0	11.1		2.7	2.0	
<i>Ages 12-15</i>												
Never	81.5	77.8	0.232	88.9	79.5	0.232	84.5	83.8	0.749	90.9	85.8	0.749
Sometimes	14.6	22.3		8.6	19.8		14.9	16.2		8.2	14.2	
A lot	3.9	0		2.5	0.6		0.6	0		0.9	0	
<i>Ages 8-11</i>												
How often cut back on eating to lose weight:												
Never	18.7	25.3	<0.0001	54.1	23.8	<0.0001	13.4	10.0	0.002	34.7	20.5	0.002
Sometimes	68.6	55.9		42.4	68.5		77.4	78.6		58.9	69.0	
A lot	12.8	18.8		3.5	7.8		9.2	11.4		6.5	10.4	
<i>Ages 12-15</i>												
Never	10.3	26.9	0.007	22.8	18.9	0.007	15.9	24.5	0.005	40.3	25.2	0.005
Sometimes	66.0	51.3		71.1	65.7		59.8	61.2		55.8	62.6	
A lot	23.7	21.7		6.2	15.5		24.3	14.2		3.9	12.2	
How often skipped meals to lose weight:												
<i>Ages 8-11</i>												
Never	64.9	95.3	0.040	77.9	68.7	0.040	52.5	35.4	0.039	66.9	52.5	0.039
Sometimes	29.1	4.7		19.9	28.8		37.7	61.5		28.9	36.2	
A lot	6.0	0		2.3	2.5		9.8	3.1		4.2	11.3	
<i>Ages 12-15</i>												

	Girls						Boys					
	Perceived Overweight			Perceived Healthy Weight			Perceived Overweight			Perceived Healthy Weight		
	Accurate	Inaccurate	p	Accurate	Inaccurate	p	Accurate	Inaccurate	p	Accurate	Inaccurate	p
Never	57.7	64.0	71.1	65.8	0.226	52.0	83.8	82.2	70.8	<0.0001		
Sometimes	33.4	36.0	25.8	29.2		39.6	2.0	17.1	25.6			
A lot	8.9	0	3.1	5.1		8.5	14.2	0.7	3.5			
How often exercised to lose weight:												
<i>Ages 8–11</i>												
Never	38.1	37.0	73.1	58.3	<0.0001	47.4	34.4	73.0	49.0	<0.0001		
Sometimes	54.1	50.8	24.2	37.2		40.4	62.5	25.3	45.0			
A lot	7.8	12.2	2.7	4.6		12.2	3.1	1.7	6.1			
<i>Ages 12–15</i>												
Never	31.0	48.9	63.5	49.5	0.003	42.4	63.0	70.2	59.9	0.016		
Sometimes	62.2	45.1	33.2	42.0		51.2	37.0	29.0	34.6			
A lot	6.8	6.1	3.2	8.5		6.4	0	0.8	5.5			

[†] Adjusted Wald test of difference between groups (accuracy of weight perceptions).