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How adolescent boys perceive their bodies, body parts, and weight: Letting adolescent boys' voices be heard

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Introduction

Childhood overweight and obesity continues to be a problem in the United States and internationally. By identifying adolescent perceptions of their bodies, researchers can create, target, and implement efficacious weight management interventions to help adolescents maintain and attain a healthy body. In a systematic review for the US Preventive Services Task Force, Whitlock and colleagues (2010) suggested confronting the problem of obesity among children and adolescents by assessing a youth's perception of self and make that assessment part of routine screening and referral procedures. In addition, one way to examine how adolescents perceive their bodies, body parts, and weight is to study how their perceptions relate to their intention and action to change or maintain weight. The purpose of this paper is to describe a study that uses semistructured interviews guided by theory to identify how adolescent boys 11 to 14 years of age perceive their bodies, body parts, and weight.

The few investigators who have examined adolescents' perceptions of their bodies, body parts, and weight used questionnaires (Gronhoj, Bech-Larsen, Chan, & Tsang, 2013), focus groups (Shrewsbury, 2010), individual interviews (Alm et al., 2008; Hester, McKenna, & Gately, 2010; Lindelof, Nielsen, & Pedersen, 2010; Thomas & Irwin, 2009; Wills, Backett-Milburn, Gregory, & Lawton, 2006) and a combination of individual interviews and focus groups (Amiri et al., 2011; Murtagh, Dixey, & Rudolf, 2006). Their sample consisted of mostly obese and/or overweight adolescent boys and girls between the ages of 8 and 17 who identified barriers and facilitators to a healthy body weight and the role of peers, family, and healthcare providers.

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Barriers and Facilitators

Investigators identified several barriers to children and adolescents achieving or maintaining healthy body weights. Barriers included an unsupportive family (Alm et al., 2008; Hester et al., 2010; Murtagh et al., 2006); insufficient help from family and unhealthy role models (Amiri et al., 2011), including fathers who sabotage efforts for a healthy lifestyle (Thomas & Irwin, 2009); lack of willpower (Amiri et al., 2011; Wills et al., 2006); lack of self-esteem and levels of confidence (Murtagh et al., 2006); fear of ridicule when participating in sports; lack of knowledge on how to adhere to a healthy diet; high cost of healthy foods (Amiri et al., 2011) lack of healthy choices in nutrition at home, school, or in neighborhood; lack of time to consume food as the adolescents feel rushed with school or extracurricular schedules (Murtagh et al., 2006); insufficient time (usually 1 to 2 hours/week) allotted for physical activity class at school (Alm et al., 2008); lack of amenities such as health-related programs, friends, and recreational opportunities due to living in remote locations (Thomas & Irwin, 2009); and difficulty making sacrifices such as unrealistic strict dietary guidelines to achieve weight loss (Murtagh et al., 2006).

Investigators also documented that adolescents named facilitators to achieving a healthy body weight. These facilitators included family support (Alm et al., 2008; Thomas & Irwin, 2009), mother's role modeling of physical activity (Gronhoj et al., 2013; Thomas & Irwin, 2009), a safe and accessible place for regular unstructured physical play, and weight coaching on a consistent regular basis (Alm et al., 2008).

Peers, Family, and Healthcare Providers

Adolescents referred to peers, family, and healthcare providers as influences in their pursuit of a healthy body weight. The adolescents, during individual interviews, expressed a desire to blend in with peers and also referred to being bullied by their peers in school (Murtagh et al., 2006; Thomas & Irwin, 2009; Wills et al., 2006). Yet, during focus groups with adolescents of all sizes, Shrewsbury (2010) noted that adolescents did not acknowledge hurtful teasing. Perhaps the adolescents did not feel comfortable discussing hurtful teasing in a focus group setting.

In one study the adolescents conveyed that their parents blamed the adolescents for being obese (Lindelof et al., 2010). However, the adolescents blamed their parents for not taking action because they failed to recognize and engage the adolescent until his or her weight was a problem (Murtagh et al., 2006). Many adolescents indicated that weight was discussed between the adolescents and their parents, while some said weight was never discussed. One important finding by Shrewsbury (2010) was that adolescents preferred direct actions, meaning that parents should cook more vegetables, cook better foods, and take family walks. Using actions puts the focus on behaviors associated with weight but not on weight itself. The adolescents in this study also emphasized the importance of parents showing sensitivity (Shrewsbury et al., 2010).

Adolescents also mentioned healthcare providers during the interviews and focus groups. The adolescents reported success when they set concrete goals with not only the aid of a coach or family member but also with a nutritionist or physician (Alm et al., 2008). They

supported healthcare providers measuring their height and weight and discussing weight status; however, they again emphasized the need for the healthcare provider to be sensitive. The adolescents suggested ways physicians could make young people feel more comfortable: discuss the purpose of the measurements, mention it is routine procedure, and provide advice on nutrition and physical activity that meets their individual needs (Shrewsbury et al., 2010).

Integrated Behavior Model

The integrated behavior model (IBM) (Montano & Kasprzyk, 2008) posits behavioral intention that leads to carrying out (action) the behavior is determined by three constructs: attitude, perceived norm, and personal agency. The importance of these constructs in determining behavioral intention may vary from one behavior to another and from one population to another. A particular behavior is likely to occur if (a) a person has a strong behavioral intention and the knowledge and skill to carry out the behavior, (b) there is no serious environmental constraint preventing performance, (c) the behavior is perceived as important, and (d) the person has performed the behavior previously. Intention to perform a behavior may be largely determined by attitude for the behavior or normative influence. To influence behavioral intentions, first it is necessary to determine the degree to which that intention is influenced by attitude, perceived norm, and personal agency.

The complexity of behavior lends itself to examination of the possible antecedents to the behavior, that is, young adolescent boys' thoughts and feelings about weight before addressing behavior to change weight. Guided by the IBM, the interviews were conducted to document the following: feelings and beliefs toward weight (attitude), social pressure one feels about weight (perceived norm), one's control or ability to be in charge of weight (personal agency), and one's perception of the degree that various environmental factors influence weight (personal agency).

Adolescent Boys

Concern for childhood overweight and obesity indeed exists for both boys and girls. However, according to the 2007–2008 National Health and Nutrition Survey, there is a higher prevalence of overweight, obese, or high body mass index (BMI) for boys 12 through 19 years of age than girls 12 through 19 years of age (Ogden, Carroll, Curtin, Lamb, & Flegal, 2010). Ogden and colleagues (2010) identified those children and adolescents with BMI-for-age-percentile greater than or equal to 97th percentile as high BMI. There were no significant changes in obesity prevalence for youth in 2011–2012 (Ogden, Carroll, Kit, & Flegal, 2014). In addition, universal prevention programs have demonstrated favorable outcomes among girls but not boys (Goran & Reynolds, 2005; Mo-suwan et al., 1998; Plachta-Danielzik et al., 2007; Stice et al., 2004). Future research that is guided by theory and examines ways for existing prevention programs to be altered or new approaches undertaken is needed for favorable obesity-related outcomes to exist for boys. Due to the limited literature on how adolescent boys perceive their bodies, body parts, and weight, understanding their perspectives can help create ways for them to attain and maintain a healthy body. Montano and Kasprzyk (2008) suggested conducting elicitation interviews to document participants' attitudes, perceived norms, and personal agency. They recommend

that the sample for the elicitation interviews consist of 15 to 20 individuals from each target group, about half of whom have performed or intend to perform the behavior under investigation and half of whom have not performed the behavior. The boys' perceptions of their bodies, body parts, and weight were the focus of the semistructured interviews in this study. The target group for the study was determined by the weight category of the boy as determined by BMI-for-age percentile. Boys desire to lose and gain weight (Bearman et al., 2006; McCabe et al., 2001; Neumark-Sztainer et al., 2006); therefore, to understand adolescent boys' perceptions of weight, boys in all weight categories were targeted. Targeting only bigger or only smaller boys might not allow for broad perceptions of weight. Montano and Kasprzyk (2008) estimated that 15 to 20 interviews would provide unique responses without duplication of responses.

The purpose of this study was to conduct elicitation, semistructured interviews with young adolescent boys 11 to 14 years of age to document their attitudes, perceived norms, personal agency, intentions, and actions about their weight. The long-term goal of the study is to understand how boys perceive their bodies, body parts, and weight.

Methods

Design and Sample

The descriptive study employed semistructured interviews for data collection. The target population was young adolescent boys ages 11 to 14 in five weight categories: underweight (< 5th percentile), about-right weight (5th up to the 85th percentile), overweight (85th to less than 95th percentile), obese (95th to less than 97th percentile), and high BMI (97th percentile). The category about-right weight is used in place of healthy weight. The inclusion criteria were (a) male gender, (b) between ages of 11 and 14, and (c) speak, read, and write English. Parents needed to be able to read and write English to provide consent and complete a brief demographic form. Subject exclusion criteria were (a) cognitive disabilities that would limit understanding the interview and (b) a chronic medical condition that affects weight or the ability to eat independently.

Measures

A semistructured, grade 4 reading level interview guide was developed based on the concepts of the IBM. The intention was to find out what boys thought about changing their weight; what they liked and disliked about their bodies; if they thought weight was important; if weight was something that was discussed among the boys and their parents, friends, or others in their lives; if they felt they were in charge of their weight; and what they wanted to do about their weight. Eight questions with probes were asked of each boy (Table 1). The parents provided information about child gender, ethnicity, race, and age and about their own gender, ethnicity, race, marital and occupational status, income, number of adults and children 18 years of age and under in the household, and education.

The university's Health Sciences Institutional Review Board and the school district's External Research Review Committee reviewed and approved the study procedures. Each parent provided written informed consent, and each adolescent boy provided written assent.

Recruitment—Boys from a Midwestern public middle school and a private weight management clinic were invited to participate in the study from September 2011 to September 2012. In the middle school, the research team explained the study during the boys' homerooms. In the weight management clinic, providers distributed a printed announcement to boys during wellness checkups. Those parents and boys who were interested in the study contacted the researcher by phone or email. The researcher explained the study by phone; confirmed eligibility based on the parent's report of height, weight, and age; and determined what weight category by BMI-for-age percentile. The goal was to recruit four boys into each of the five weight categories (underweight, about-right weight, overweight, obese, and high BMI), for a total sample of 20 boys. The weight category was determined by entering the parent's report of boy's weight, height, and birthdate into the CDC BMI calculator <http://apps.nccd.cdc.gov/dnpabmi/>. The place and time for a private interview was determined once the weight category was established.

Data Collection—The parent completed a brief demographic form using paper and pencil. The adolescent boy completed semistructured, face-to-face, audiotaped interviews, approximately ten minutes in length that were guided by constructs of the IBM (Montano & Kasprzyk, 2008). Following the semistructured interviews, the boys' height, weight, and body fat percentage were measured with a stadiometer and bioelectrical impedance scale. The parent received \$5 and the boy, \$20 cash.

Analytic Strategy

Deductive content analysis to test categories and concepts from the IBM was used to analyze the data (Elo & Kyngas, 2007). The semistructured interviews were professionally transcribed verbatim and printed. A research team consisting of four members analyzed the responses according to the Elo and Kyngas (2007) process, which included the following three phases: preparation, organizing, and reporting. The preparation phase included selecting the unit of analysis and making sense of the data as a whole. The organizing phase included developing a categorization matrix and coding the data according to the categories. The reporting phase included describing the results of the analysis process. The research team included a PhD-prepared pediatric nurse researcher, a pediatric nursing doctoral student, and two undergraduate nursing students.

Results

Sample

Table 2 displays the descriptive variables of the boys' age, race, ethnicity, weight, height, body fat percentage, BMI weight category, and desire to change weight. The sample consisted of one underweight, nine about-right weight, four overweight, four obese, and two high BMI boys. Due to misreporting by the parents over the phone prior to the interviews, seven of the 20 adolescent boys were categorized into one weight category prior to the interview (reported) and categorized in another weight category post interview (actual).

The ages of the boys ranged from a minimum of 11 years 5 months to a maximum of 14 years 11 months, measured weight from a minimum of 84.8 pounds to a maximum of 203.8

pounds, measured height from a minimum of 58.5 inches to a maximum of 73 inches, and percent body fat (as measured by a body impedance scale) from a minimum of 2.7% to a maximum of 34.1% (Table 2). Of the nine boys who were in the about-right category, three were currently trying to lose weight, and one was currently trying to gain weight.

Of the thirteen boys who had a BMI of 85% (overweight) or greater, seven were currently trying to lose weight and three currently trying to stay the same. Of the parent participants, thirteen were mothers and four were fathers. One mother had two sons who participated (Participants 101 and 102), and one father had a set of twins and an older son participate (Participants 106, 107, and 108). All the parents and boys were non-Hispanic, except one mother and her son and one other boy. Over half of the boys reported they were Caucasian ($n=11$), and over a third reported that they were African American ($n=7$). Two boys chose both Caucasian and African American as their races. All the parents had at least finished high school. According to the 2011 Health and Human Services (HHS) Poverty Guidelines based on income and numbers of persons in the home, four families (20%) were considered to be living in poverty (National Center Health Statistics, 2011).

Phases of Analysis

Preparation phase—The units of analysis were the boys' responses. Each member of the research team individually read the interviews several times.

Organizing phase—Research team members evaluated responses according to each interview question. Team members individually created a categorization table to account for the participant responses. All the tables were compared and contrasted by the principal investigator.

Reporting phase—If there was disagreement among the team members, each team member was asked to reread the selected text and indicate whether he or she would maintain his or her initial code. After reviewing all the potential disagreements, all team members adjusted their codes such that there was 100% agreement among all the team members.

The frequencies of the boys' responses to the interview questions are sorted by weight categories and displayed in Table 3. When asked what they would like their weight to be, boys used the terms "lower", "skinnier", "comfortable now", "less", "just right", and "normal." Thirteen boys indicated they were not planning to change their weight, while seven wanted to lower their weight. There were boys in the about-right, overweight, and obese categories who wanted stay the same or lower their weight.

When asked what they liked about their bodies, boys used the terms "all of it," "everything," "legs," "face," and "tall." Eight boys said they liked nothing about their body, while seven boys said they liked their whole body. There were boys in the about-right, overweight, and obese categories who liked their whole body.

To the question, "What do you dislike about your body?" eight boys said there was nothing they disliked about their body. Eight boys (four about-right, three overweight, and one obese) stated they disliked their "stomach." One each responded using terms of "weight,"

“chest,” “butt,” and “flabby” to describe what they disliked. At least one boy in each weight category indicated there was “nothing” that he disliked about his body. The question about importance of weight yielded answers from “not very” by six boys, to “a lot” by four boys to “would get bullied less if smaller” by one boy. The responses to the degree of importance varied among the boys in each weight category.

When asked if others talk with the boys about weight, most boys ($n=8$) said “no one” does. Additional responses included that they “felt no pressure,” to they have “been told not to overeat,” and they were “too heavy when tackle (others).” Examples of those with whom they talk about their weight included their doctor, teachers, friends, parents, and coaches. The responses to those who talked about weight varied among the boys in each weight category

For personal agency, many boys ($n = 8$) thought they were “fully,” “solely,” or “100% in charge” of their weight. Others responded ($n=12$) they were “a lot/very much”, “somewhat/pretty much,” and “half” responsible for their weight. The boys who responded to “100% in charge” and “a lot/very much” were in the about-right, overweight, obese, and high BMI categories. When asked to provide examples of how they were in charge of their weight, the boys said “by exercising” and “eating.” To the item designed to elicit what boys are currently doing about their weight, half said they wanted to “lose,” nine wanted to “stay the same,” while one boy wanted to “get bigger.” The boys who wanted to lose weight or stay the same were in the about-right, overweight, obese, and high BMI categories.

When comparing body fat percentage with BMI percentile, three boys with less than 20% body fat had a BMI that categorized them as overweight or bigger (Participants 109, 111, and 116). In addition three boys (Participants 105, 106, and 115) were categorized as about-right weight using BMI, yet they indicated they wanted to “lose weight”. On the other hand, one boy (Participant 112) who was also categorized as about-right weight was trying to get “bigger.”

Discussion

Little research exists on what boys think about their bodies, body parts, and weight as spoken in their own words. The 20 boys who were interviewed were willing to talk; however, they rarely elaborated about weight. Similarly, when asked open-ended questions about what they were trying to do about weight, they did not give an answer; when given a choice of lose, gain, or stay the same, they readily chose one of the three options. Almost half of the boys, representing each weight category, indicated that weight was not important or that others did not talk about weight. If weight is not important or rarely discussed, these boys may not want to elaborate on the topics of weight and their bodies. These interviews may have been the first time someone asked about their weight.

This study has led to reconceptualization of screening for weight among adolescent boys. BMI is limited to body mass, does not differentiate muscle from fat, and does not address body parts. Some of these boys interviewed could be inappropriately referred for weight loss treatment based on BMI instead of body fat percentage. Parents and healthcare providers

may not recognize other boys as needing or wanting to change their bodies, for they are classified as “healthy” according to BMI. These boys clearly have opinions about their bodies and body parts and how they would like it and them to be. They also were well informed about how to change their bodies, body parts, and weight and perceived they had substantial control over them. How then should health professionals in primary care or other frontline healthcare settings approach weight screening with young adolescent boys? Five factors are proposed that should be taken into consideration.

First, it is noted that almost all the boys and parents were inaccurate in their report of height and weight. Seven parents reported a height and weight for their son that did not match their measured height and weight. As a result of this inaccuracy, the actual weight category the boys were recruited into was incorrect. These parents may not actually have measured their sons’ height and weight on a regular basis; therefore, they were incorrectly estimating both. If their boys did not look as though they have excess fat or did not stand out from other boys, the parents were more likely to underestimate their son’s weight. The parents may not have realized the actual weight of their son or if their son’s weight even posed a problem. According to Murtagh (2006), the adolescents in the study blamed their parents for their delay in action as they failed to identify and involve the adolescent in handling the problem before it became too great. The parents in this study were inaccurate in their assessments of their sons’ heights and weights, and in turn may also postpone action.

Boys’ answers similarly did not match the measured heights and weights used to calculate BMI. Other investigators have documented that adolescent boys misclassify their own weight status and that underestimation was more common than overestimation (Brenner, Eaton, Lowry, & McManus, 2004; Standley, Sullivan, & Wardle, 2009). Therefore, boys’ heights and weights should be assessed regularly at routine healthcare visits or in the school setting so that they can be monitored before the problem becomes too great.

Second, according to the CDC (www.cdc.gov/obesity/childhood/basics.html), children’s body fat ratio fluctuates; therefore, there is no standard for healthy body fat percentage for children and teens. For adult men, the body fat percentage recommendation is 18 to 20% (Burke, 2000). Because there is no standard to what is an acceptable amount of body fat for teens, it is difficult to interpret percent body fat for those boys with less than 20%. The three boys with less than 20% body fat who had a BMI-for-age that categorized them as overweight or bigger may have an acceptable amount of body fat. They could be referred for intervention inappropriately based on their BMI weight category. These boys indicated they were “slightly overweight” when given the choice to describe themselves, yet when asked what weight they wanted to be, they answered “fine.” Providers could indicate that according to their BMI-for-age, these boys are above the about-right (healthy) weight category. However, this type of reporting could be detrimental to their self-esteem and confusing when trying to attain and maintain a healthy body.

In addition the three boys categorized as about-right weight using BMI-for-age, indicated they wanted to lose weight. Unless the boys indicated a certain body part or area they were not satisfied with or weight they wanted to lose, a provider or parent may not realize changes were needed for the boys to attain a healthy body. On the other hand, the one boy

who was also categorized as about-right weight was trying to get “bigger.” Before approaching the actions needed to reach his goal of getting “bigger”, the provider or parent again would need to understand the boy’s goal, including his desire to gain weight, muscle, or fat and to what parts of his body. These are examples of how BMI alone may not be an appropriate measure for referral of weight management. Providers using BMI alone to guide recommendations made to adolescent boys have the potential to exclude body composition and specific perceptions of their bodies and body parts.

In the literature, it is reported that healthy weight and underweight adolescents may overestimate their weight and in turn adopt unhealthy weight control behaviors and eating disorders and may receive inappropriate treatment (Felts, Parillo, Chenier, & Dunn, 1996; Field et al., 1999; Goodman et al., 2000; Strauss, 1999; Talamayan, Springer, Kelder, Gorospe, & Joyce, 2006). The about-right weight (healthy) boys interviewed had similar responses to the boys in the overweight, obese, and high BMI categories when asked about their likes, dislikes, degree of importance, others who talk about weight, and how much in charge of their weight they are. Even though they were categorized as about-right weight, they still had concerns about their bodies, body parts, and weight. Are providers missing the opportunity to help boys change their bodies appropriately and effectively?

Furthermore, those boys who were categorized as overweight, obese, or high BMI or underweight but indicated they wanted to stay the same might also not recognize the need to make changes to their bodies. Wang et al. (2009) and Brener et al. (2004) found those in the overweight and/or obese category underestimated their weight category. Those overweight adolescents who underestimate their weight are less likely to take steps to reduce their weight, may not receive necessary treatment, and risk additional complications (Strauss, 1999; Goodman et al., 2000; Wardle, Haase, & Streptoe, 2005). A screening procedure is needed that assesses whether boys are accurate in their assessments of not needing to change their bodies or body parts. Screening appropriately could contribute to adolescent boys attaining and maintaining a healthy body in a safe way.

Third, the words these boys spoke revealed that assessing only height and weight and using a BMI calculator was not adequate for prevention and intervention. It was necessary to include their words and interpretations to assess their perceptions of their bodies, body parts, and weight.

Four, the IBM constructs provided a useful guide to describe boys’ thoughts, feelings, and perceptions about their bodies, body parts, and weight. Using the questions guided by the attitudes construct allowed the boys to indicate their feelings and beliefs. These boys indicated likes and dislikes of certain body parts and discussed whether weight was an important topic in their lives. Regarding perceived norms, the boys indicated if there were positive or negative social pressures about their weight from those in their lives and affected the actions they took to change their bodies. In addition, the boys felt they were in charge of their weight, indicating personal agency. It was important for parents and providers to understand whether or not the adolescent boys feel they can make changes on their own or need a significant amount of help to achieve their goals (Thunfors et al., 2009). Although the interviews focused on their bodies, body parts and weight, discussion led to their intentions

and actions. Finally, researchers and providers can help develop programs guided by the IBM that routinely monitor adolescent boys' height, weight, BMI percentile, and perceptions of their bodies and make appropriate referrals for treatment.

Limitations

One limitation existed when categorizing the boys initially, as the calculated BMI-for-age used self-reported height and weight. As a result, this method allowed for more boys in certain weight categories and less in other weight categories. Fewer boys were in the extreme weight categories (underweight and high BMI) as projected. Even though boys in these weight categories were given information at the school and clinic, they did not express interest in talking about weight. Although the adolescent boys provided insightful information, this may have been the first time that weight was addressed.

One recruitment site was a weight management clinic where adolescents were referred to for weight management. Those participants from the clinic may provide a different perception about weight than those not seen for weight management. In addition, two parents accounted for five of the adolescent boys, possibly violating independence. The research team was striving to obtain the boys' perceptions, therefore, were willing to include those from a clinic and siblings in the study. Some may think that a sample of 20 boys was small. Having approximately four persons in each weight category seemed adequate as new ideas were not observed after interviewing all the boys in each weight category.

Conclusion

Childhood overweight continues to be a problem that requires providers in the community correctly identifying and classifying adolescents whose weight and perceptions place them at increased risk for health problems. Developing programs that assess adolescents' perceptions of their bodies, body parts, and weight and using that assessment to routinely screen and refer adolescents can aid in reducing childhood obesity.

Adolescents' body fat ratio fluctuates, and BMI does not distinguish between body fat percentage and muscle. As illustrated in this study, there were adolescent boys with a low percentage of body fat (less than 20%) who were classified using BMI in a weight category of overweight who do not necessarily require a weight loss intervention. Conversely, there were also adolescents with high percentage of body fat who were classified using BMI in the about-right weight category or lower who could benefit from an intervention. By adding adolescents' perceptions to BMI classification, providers and researchers can be more accurate in their referral and treatment of weight management. The next step is for providers and researchers to work with adolescents and their families to incorporate the adolescents' perceptions to develop programs that can be used in conjunction with BMI to reveal adolescent boys' perceptions of self. Targeting all adolescent boys in the community can help adolescent boys appropriately attain and maintain healthy bodies.

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Table 1

Interview questions

Preface	I am interested in learning what boys think and feel about weight. You can share with me what is comfortable for you. There are no right or wrong answers to these questions. Your answers are private and secret. I will tell your parents or guardian about your answers only if I think they need to know something you have told me. I would tell them if you say something about harming yourself or others or doing something illegal. If you want to skip a question or come back to it at the end that is okay too. Do you have any questions for me? Let's start with your height and weight.
Question 1	What is your height and weight?
Question 2	How do you describe your weight in relation to what the medical community recommends for weight?" (underweight, about right weight, overweight, slightly overweight, or very overweight)
Question 3	Some boys may not be in the weight category they want to be but are satisfied with how their body looks. What weight do you want to be? Tell me how you feel about the way your body looks. What parts do you like/dislike?
Question 4	How important is it that you are in a certain weight category or look a certain way?
Question 5	How do your parents or relatives talk to you about weight? How do your friends talk to you about weight? Is there anyone else who talks to you about weight? What do they say? Are they positive or negative comments? What are others' expectations about your weight? Do they pressure you to be a certain weight?
Question 6	How much do you think you are in charge of your weight? (1) not at all, (2) a little bit, (3) somewhat or (4) very much? How much are you certain that you can be in charge of your weight? Can you give me an example of what you think or an incident about being in charge of your weight?
Question 7	What would you like to do about your body weight?
Question 8	Are you currently trying to...(1) lose weight, (2) stay the same weight, (3) gain weight or (4) not trying to do anything about weight? How are you trying to _____"

Table 2

Description of the sample (n=20)

ID	Age	Boy race	Boy ethnicity	Parent report weight (lbs)	Actual weight (lbs)	Parent report height (inches)	Actual height (inches)	Body fat percentage	BMI weight category based on parent report	Actual BMI weight category	Want to do about weight
101	12yrs 10mos	C	NH	94	92.8	58	59.5	13.1	68th AR	50th AR	Stay same
102	14yrs 2mos	C	NH	82	87.8	60.5	62.5	2.7	3rd U	3rd U	Stay same
103	12yrs 4 mos	C	NH	110	109.6	63	65.25	8.2	74th AR	50th AR	Stay same
104	14yrs 4mos	AA	NH	130	125.4	72	73	4.5	34th AR	7th AR	Stay same
105	11yrs 5mos	AA	NH	75	96	61	59	17.7	1st U	76th AR	Lose
106	12yrs 4 mos	C	NH	111	99	57	59	19.4	94th Ov	75th AR	Lose
107	14yrs 11mos	C	NH	125	122	73.5	71	9	3rd U	9th AR	Stay same
108	12yrs 4 mos	C	NH	80	84.8	58.5	58.5	12.6	22nd AR	39th AR	Stay same
109	12yrs 11mos	AA, C	NH	169	169.8	69	70	17.2	94th Ov	91st Ov	Lose
110	12yrs 2mos	AA	NH	164	159	62	62	34.1	98th BMI	98th BMI	Stay same
111	14yrs	AA	NH	176	173.6	67	67	19.8	96th Ob	96th Ob	Stay same
112	14yrs 1mo	C	H	136	136.2	64	66	22.5	88th Ov	81st AR	Gain
113	13yrs 5mos	AA, C	NH	160	153.4	63	64	26.8	97th BMI	95th Ob	Lose
114	12yrs 3mos	C	NH	203	203.8	67.5	69	24.3	98th BMI	98th BMI	Lose
115	12yrs 5mos	C	NH	110	100.4	60	61	21.9	85th Ov	63rd AR	Lose
116	13yrs 1mo	AA	NH	184	181.2	70.75	71	18.8	95th Ob	95th Ob	Lose
117	12yrs 11mos	AA	NH	155	161.6	66.5	66.75	27	94th Ov	95th Ob	Lose
118	14yrs 10mos	C	H	190	184.4	72	71	27.6	93rd Ov	93rd Ov	Stay same
119	12yrs 5mos	C	NH	140	142.4	66	67	22.7	90th Ov	89th Ov	Lose
120	13yrs 4mos	AA	NH	155	162	67	67.5	27.3	92nd Ov	94th Ov	Lose
Mean					137.3		65.5	18.9	Totals	Totals	Totals
Min					84.8		58.5	2.7	U=3	U=1	Lose=10
Max					203.8		73	34.1	AR=4	AR=9	Stay same=9
C=Caucasian, AA=African American											
									Ov=8	Ov=4	Gain=1

ID	Age	Boy race	Boy ethnicity	Parent report weight (lbs)	Actual weight (lbs)	Parent report height (inches)	Actual height (inches)	Body fat percentage	BMI weight category based on parent report	Actual BMI weight category	Want to do about weight
NH= Non-Hispanic, H=Hispanic											
U= Under, AR=About-Right (Healthy), Ov=Overweight, Ob=Obese, BMI=High BMI											
									Ob=2	Ob=4	
									BMI=3	BMI=2	

Table 3

Frequencies of responses to interview questions and sorted by weight categories

Question and responses	Number of boys (n)	Underweight (n)	About-right (n)	Overweight (n)	Obese (n)	High BMI (n)
What weight want to be						
No change	13	1	7	3	2	-
Lower	7	-	2	1	2	2
What like about body						
Nothing	8	1	5	-	2	-
Whole body	7	-	4	2	1	-
Being tall	1	-	-	-	-	1
Legs	1	-	-	1	-	-
Face	1	-	-	-	-	1
Height and weight	1	-	-	-	1	-
Abs	1	-	-	1	-	-
What dislike about body						
Nothing	8	1	4	1	1	1
Stomach	8	-	4	3	1	-
Weight	1	-	-	-	1	-
Chest	1	-	1	-	-	-
Butt	1	-	-	-	-	1
Flabby	1	-	-	-	1	-
How important is weight						
Not very	6	1	3	1	1	-
Not that	5	-	1	2	1	1
A lot/Very	4	-	3	-	-	1
Little	3	-	2	-	1	-
Important	1	-	-	1	-	-
Not get bullied	1	-	-	-	1	-
Others talk about weight						
No one	8	-	3	2	2	1

Question and responses	Number of boys (n)	Underweight (n)	About-right (n)	Overweight (n)	Obese (n)	High BMI (n)
Doctors	4	-	2	-	1	1
Friends	2	-	1	1	-	-
Teachers	1	-	-	1	-	-
Dad	1	-	1	-	-	-
Brother	1	-	1	-	-	-
Coaches	1	-	-	-	1	-
Don't overeat	1	-	1	-	-	-
Eat more	1	1	-	-	-	-
How much in charge						
100%/All of it	8	1	3	1	3	-
A lot/Very much	6	-	2	2	1	1
Somewhat/ Pretty	4	-	3	-	-	1
Half	2	-	1	1	-	-
Examples of being in charge						
Both exercise and eat healthy	16	-	7	4	3	2
Exercise	3	-	2	-	1	-
Eat healthy	1	1	-	-	-	-
Do about weight/currently trying						
Lose	10	-	3	3	3	1
Nothing/stay same	9	1	5	1	1	1
Bigger	1	-	1	-	-	-