

A Word to the Wise: Adolescent Reactions to Parental Communication about Weight

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Abstract

Background: With high rates of adolescent obesity, many parents are talking to adolescents about their body weight. Parental “weight talk” is linked with adverse health behaviors in youth, but we know little about what parents say in these conversations. Using a weight loss treatment-seeking sample of adolescents, the present study assessed adolescents’ emotional reactions to words their parents use to describe their weight and preferred language for these interactions.

Methods: Adolescents enrolled in a national weight loss camp ($N = 148$) completed a questionnaire assessing their preferences for, and emotional reactions to, parental use of 18 words to describe their body weight.

Results: Findings showed a diverse range of weight language used by parents, with many words inducing negative emotional reactions of embarrassment, shame, and sadness in adolescents. Emotional responses to weight language varied according to adolescents’ gender, BMI, and experience of weight-teasing from family members.

Conclusions: Findings underscore the need to carefully consider language; parents should avoid making assumptions about what language to use in conversations with adolescents about their weight. Educating parents how to identify negative weight talk may help promote more supportive parental communication about weight-related health.

Keywords: body weight; language; communication; parent; stigma

Introduction

With high rates of obesity in adolescents,¹ parents commonly report engaging in conversations with adolescents about their body weight.² Understanding the nature of this parental-adolescent communication is important to identify ways that parents may be promoting or hindering productive and supportive conversations about weight-related health. Studies with diverse samples show a substantial proportion of adolescents reporting negative “weight talk” from their parents, including comments about weight, encouragement to diet, weight-related health concerns, and appearance-based comments.^{3–7} Parental weight talk, particularly from mothers, has been consistently associated with poor psychological health (*e.g.*, depression), harmful weight control, and disordered eating behaviors in adolescent girls, but has no associations with healthy weight control strategies.^{3,4,8}

Qualitative research examining parental perceptions suggests that parents feel torn or conflicted in approaching

weight with their children, especially in regard to competing concerns of wanting their child to lose weight for health reasons, while simultaneously showing acceptance of their child and protecting his/her self-esteem.^{9,10} Some parents may engage in weight talk because a medical professional has expressed concern with their child’s weight-related health; others may not be aware that they are engaging in weight talk when they are.¹¹ Collectively, this evidence suggests that parental weight talk may have harmful implications for adolescent health, even if parental comments stem from concerns about their child’s health.

Absent from this literature is examination of specific words that parents use to describe their child’s body weight. A range of terminology can be used to describe body weight, ranging from terms common in the medical field like “obesity” or “BMI” to more colloquial terms such as “fat,” “chubby,” or “overweight,” and more neutral words such as “weight” or “unhealthy weight.” These words carry different connotations and some may be interpreted in ways that reinforce shame, stigma, or blame. Body weight can be an

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emotional issue for adolescents¹² who may be sensitive to weight-based communication during a developmental period involving considerable bodily changes and increased salience of physical appearance.^{13,14}

An amassing literature has assessed perceptions of weight terminology among adults, demonstrating preferences for neutral words such as “weight” rather than words such as “fat,” “obese,” or “heavy,” which are viewed to be more stigmatizing and less motivating for encouraging weight loss.^{15–21} When it comes to youth, however, we know comparatively little. A longitudinal study found that girls who were labeled “fat” by parents had increased odds of obesity nine years later, suggesting that weight labels communicated by parents could contribute to unhealthy weight outcomes in their daughters.²² A recent preliminary investigation of 50 adolescents attending a weight loss program reflects the first systematic examination of word preferences in adolescents; neutral words (such as “weight,” “BMI”) were most preferred, although some differences emerged for boys (who preferred “overweight,” “heavy”) vs. girls (who preferred “curvy”).²³ Many adolescents, particularly girls, reported emotional distress in reaction to parental use of certain words to describe their body weight. These initial findings suggest that research is warranted to identify what language parents use to discuss their child’s weight, how this language is perceived by adolescents, and what words adolescents would prefer parents use. These issues have not been adequately studied, but could be valuable in informing efforts to better support parents in their communication with adolescents and their efforts to promote healthy lifestyle behaviors.

Informed by this preliminary work and a clear need for additional research in this understudied area, the present study assessed perceptions of weight-based language in a weight loss treatment-seeking sample of adolescents. We assessed adolescent perceptions of, and emotional reactions to, words that their parents use to refer to their body weight and what words they would most want their parents to use when talking about their weight. As a secondary objective, we also examined factors associated with adolescents’ emotional distress in response to parental use of particular words, including adolescents’ own body weight, frequency of parental comments about their weight, perceived weight-teasing from family members, and internalized weight stigma (self-blame for stigma).

Methods

Participants

Participants (50% female) were 148 adolescents enrolled in a national summer weight loss camp (Camp Shane) in 2017. Camp Shane has six locations across the country (Arizona, California, Georgia, New York, Texas, and Wisconsin) and adolescents at all camp locations were invited to participate in the study. Respondents were primarily from New York (43.9%) and California (31.8%), followed by Georgia (12.2%), Texas (6.1%), Arizona (4.7%), and Wisconsin (1.4%). All adolescents were re-

quired to complete a physician’s appointment and medical history before attending the camp session.

During the camp online registration process, parental consent was obtained for adolescents to participate in an optional, anonymous online questionnaire, created for this study. Parents were provided with a 2-page permission form describing the study, and indicated their permission on this page if they consented for their child to participate. This form was submitted online along with all other camp registration materials. Parents who provided consent were e-mailed the survey weblink to share with their adolescent to complete the survey. Participation was voluntary and adolescents were invited to complete the survey in a private setting (*e.g.*, at home) after they had successfully completed camp registration. Once they provided assent, adolescents could enter the study website at their leisure (hosted by Qualtrics.com) and were prompted with survey questions. Participants received a gift card to an online retailer following completion of the survey. Data collection occurred between April and July 2017, and the study was approved by the University of Connecticut’s Institutional Review Board. In total, 459 campers enrolled in the 2017 summer camp session; 306 were adolescents in the eligible age-range (13–18 years) of which 48.4% completed the survey. Compared to all eligible participants, adolescents who completed the questionnaire were on average slightly older ($M = 15.97$ years vs. $M = 15.26$ years), and more likely to be male than female in relationship to those who opted not to participate.

Measures

Demographic and anthropometric information. Participants were asked to provide demographic (age, gender, race/ethnicity) and anthropometric (current height and body weight) information. BMI percentiles for age and sex were calculated and categorized using tools provided by the Centers for Disease Control and Prevention.²⁴ Weight categories corresponding to BMI percentiles include healthy weight (≥ 5 th to < 85 th percentile), overweight (85th to < 95 th percentile), and obesity (≥ 95 th percentile).

Perceptions of parental use of words to describe body weight. To assess perceptions of and preferences for parental use of words to describe adolescents’ body weight, participants were provided with a list of 18 words describing body weight (*weight, healthy weight, BMI, high BMI, higher body weight, weight problem, unhealthy weight, overweight, chubby, plus size, curvy, obese, large, heavy, big, fat, and extremely obese*). Participants were asked “Which words do your parents use to describe your weight?,” and then asked to rate the frequency that their parent(s) used each word on the list using a 5-point Likert scale (1 = “I’ve never heard my parent(s) use this word,” 2 = “My parent(s) doesn’t use this word much,” 3 = “Not sure,” 4 = “My parent(s) uses this word sometimes,” and 5 = “My parent(s) uses this word a lot”). After completing these questions, adolescents were provided with the same list of words again, this time

with the following instructions: "If your parent(s) use any of the following words to talk about your weight, how does it make you feel? You can select more than one answer." For each word, adolescents could select whether parental use of the word made them feel "sad," "embarrassed" and/or "ashamed," "not sure," "fine, it doesn't bother me" or "my parent(s) does not use this word." Each negative emotion reported (sadness, embarrassment, shame) was assigned a value of 1 and summed to create a negative emotion score ranging from 0 to 3 for each word. If participants indicated their parents did not use a particular word, then they did not receive a negative emotion score for that word.

After completing their responses, participants were provided with the same list of words a third time, and asked, "Which words would you most want your family to use to talk about your weight?" Participants rated each word on a 5-point Likert scale (1 = "No, my parent(s) should never use this word," 2 = "This word bothers me," 3 = "Not sure," 4 = "This word is okay, I don't mind it," 5 = "Yes, I prefer them to use this word"), with higher ratings indicative of stronger preferences for parents to use the word when talking about their body weight. Content and items for this word preference measure were developed and tested in 2016 by the authors²³; items were selected from previous studies on weight-based terminology preferences in adults¹⁵ and youth,²³ and modified following consultation with clinical experts treating youth in pediatric obesity treatment programs.

Parental comments about weight. To assess frequency of parental comments about adolescents' body weight, adolescents were asked two questions "How often does your mother [father] make comments to you about your weight?" Participants responded to both questions on a 5-point Likert scale from 1 = "Never," 2 = "Rarely," 3 = "Sometimes," 4 = "Often," 5 = "Very Often." These questions were adapted from previous research and have demonstrated good psychometric properties.⁶

Experienced weight stigma from family members. Adolescents were asked a yes/no question to indicate whether or not their family members had teased or treated them unkindly because of their weight. This question was adapted from previous research with adolescents, including those seeking weight loss treatment.²⁵

Internalized weight stigma. Participants completed the modified version of the Weight Bias Internalization Scale (WBIS-M).^{26,27} The WBIS has been used previously with adolescents seeking weight loss²⁸ and examines the extent that individuals apply negative weight-based stereotypes to themselves and judge themselves negatively due to their weight. The WBIS-M contain 10 items rated for extent of agreement on a Likert scale from 1 (*strongly disagree*) to 7 (*strongly agree*). Cronbach's alpha in the present sample was $\alpha = 0.86$.

Analytic Strategy

All data were analyzed using SPSS version 22.0. Gender differences for (1) words used by parents, (2) negative emotions in response to words used by parents, and (3) weight-based word preferences were examined using independent *t*-tests. Similarly, differences in words used by parents, negative emotions in response to words used by parents, and word preferences by adolescents' BMI category were examined using one-way ANOVA. *Post hoc* tests to determine precise differences among adolescent BMI categories (healthy weight, overweight, obesity) were examined using least squared differences tests. Finally, we conducted five linear regressions using the five words that yielded the highest scores for negative emotions reported by adolescents. These regressions predicted negative emotions in response to weight-based language as a function of adolescents' race, gender, BMI, experienced weight stigma, internalized weight stigma, frequency of parental weight comments (mother, father), and the interaction of BMI and gender. In these regressions, race was categorized as white vs. non-white, given the small number of non-white participants. For gender, females were coded as 1, and males were coded as 0. To interpret significant gender by BMI interactions, each regression was run separately for males and females.

Results

Sample Characteristics

Adolescents ranged in age from 13 to 18 years ($M = 15.97$, $SD = 1.25$). The racial and ethnic composition of the sample was 90.5% white, 4.7% Latino/Hispanic, 2.7% Asian, and 2% black. The body weight distribution of participants included 34.5% of adolescents with a BMI percentile in the "obesity" range and 37.2% in the "overweight" range. The remaining adolescents (28.4%) had a BMI percentile in the "healthy weight" range, as they had previously experienced weight loss at the camp and were returning that summer to focus on maintaining their weight loss. Among the total sample, 60.1% reported that family members had teased or treated them unkindly about their body weight. Participants reported high levels of weight bias internalization ($M = 5.45$, $SD = 0.88$). Adolescents reported that mothers ($M = 4.23$, $SD = 0.72$) made more comments about their body weight than fathers ($M = 3.62$, $SD = 0.93$) $t(145) = 6.99$, $p < 0.001$. Additional sample characteristics are presented in Table 1.

Adolescent Perceptions of Parental Weight Language

Adolescents reported that the most common words used by parents to describe their weight were "weight problem," "chubby," "plus size," "BMI," "unhealthy weight," and "higher body weight" (Table 2). The least common words parents used to discuss their child's weight were "fat," "healthy weight," "obese," "curvy," and "extremely obese." Differences in words used by parents emerged as a function of adolescent BMI. Adolescents with a BMI percentile in the

Table 1. Sample Characteristics and Key Measures

	Full sample (N = 148)				Males (n = 74)		Females (n = 74)	
	Range	M	SD	M	SD	M	SD	
Age	13.00	18.00	15.97	1.25	15.80	1.22	16.15	1.27
BMI	18.10	39.50	27.06	4.39	28.20	3.79	25.93	4.67
BMI percentile	13.60	99.20	85.92	16.69	91.92	10.64	79.92	19.36
Weight bias internalization scale	2	7	5.45	0.88	5.49	0.78	5.40	0.97
Mom weight comment frequency	1	5	4.23	0.72	4.33	0.75	4.14	0.67
Dad weight comment frequency	1	5	3.61	0.92	3.74	0.80	3.49	1.02
	N	%			N	%	N	%
Race/ethnicity								
White	134	90.5			70	94.6	64	86.5
Black	3	2.0			1	1.4	2	2.7
Asian	4	2.7			0	0	4	5.4
Latino	7	4.7			3	4.1	4	5.4
Sex								
Male	74	50.0						
Female	74	50.0						
BMI category								
Healthy weight	42	28.4			7	9.5	35	47.3
Overweight	55	37.2			35	47.3	20	27.0
Obesity	51	34.5			32	43.2	19	25.7
History of family weight teasing								
Yes	89	60.1			48	64.9	41	55.4
No	59	39.9			26	35.1	33	44.6

"Mom Weight Comment Frequency" and "Dad Weight Comment Frequency" reflect the mean frequency of comments about weight made by adolescents' mothers and fathers.

healthy weight or overweight range reported that their parents were less likely to use the words "weight problem," "chubby," "plus size," and "unhealthy weight," but these words were more likely to be used by parents of adolescents with obesity. In addition, adolescents with obesity indicated that their parents were less likely to use neutral words to describe their weight ("BMI," "weight," "curvy"), as well as words such as "heavy," "large," "fat," "obese," "extremely obese" compared with adolescents with lower BMI levels. The words "unhealthy body weight," "overweight," and "high BMI" were mostly likely to be used by parents of adolescents with a BMI in the overweight range, followed by healthy weight, followed by obesity.

Gender differences in word preferences only emerged for the following words: "weight problem," "plus size," "weight," "healthy weight," and "obese." More boys than girls reported their parents used words such as "weight problem" ($M=4.04$, $SD=1.04$ vs. $M=3.66$, $SD=0.98$, $t(146)=2.27$, $p=0.024$), "plus size," ($M=3.61$, $SD=0.90$;

$M=3.22$, $SD=0.90$, $t(146)=2.65$, $p=0.009$), and "healthy weight" ($M=3.11$, $SD=0.88$ vs. $M=2.77$, $SD=0.94$, $t(126)=2.25$, $p=0.026$). More girls than boys reported that their parents used the word "weight" ($M=3.55$, $SD=0.97$; $M=3.08$, $SD=1.13$, $t(146)=-2.73$, $p=0.007$) and "obese" ($M=3.08$, $SD=1.09$; $M=2.53$, $SD=1.39$, $t(146)=-2.70$, $p=0.008$).

Adolescent Emotional Reactions to Parental Weight Language

Table 3 displays the percentage of adolescents who reported negative emotions in response to their parents using particular words, and includes a column for the number of participants whose parents did not use a particular word. Approximately 20% of adolescents reported feeling sad when their parents used the words "weight," "fat," or "high BMI." At least 35% of adolescents reported embarrassment when their parents used the words "fat," "heavy," "big," "large," "curvy," or "overweight" to describe their weight.

Table 2. Words That Parents Use to Describe Adolescent Body Weight

Word	Full sample (N = 148)		Healthy weight (n = 42)		Overweight (n = 55)		Obesity (n = 51)		F	p
	M	SD	M	SD	M	SD	M	SD		
Weight problem	3.85	1.03	3.50 ^a	0.71	3.51 ^a	1.03	4.51 ^b	0.92	20.22	<0.001
Chubby	3.61	0.85	3.36 ^a	0.79	3.53 ^a	0.88	3.90 ^b	0.81	5.38	0.006
Plus size	3.41	0.92	3.36 ^a	0.93	3.15 ^a	0.89	3.75 ^b	0.84	6.16	0.003
BMI	3.37	0.87	3.60 ^a	0.66	3.69 ^a	0.81	2.84 ^b	0.83	17.96	<0.001
Unhealthy weight	3.36	0.87	3.33 ^a	0.79	3.09 ^a	0.93	3.68 ^b	0.77	6.53	0.002
Higher body weight	3.36	0.83	3.31 ^a	0.56	3.67 ^b	0.82	3.06 ^a	0.93	7.98	0.001
Weight	3.32	1.08	3.40 ^a	0.99	3.75 ^a	0.99	2.78 ^b	1.03	12.43	<0.001
High BMI	3.29	1.07	3.38 ^a	0.82	3.81 ^b	0.93	2.67 ^c	1.07	19.20	<0.001
Overweight	3.22	1.07	3.19 ^a	0.94	3.76 ^b	0.90	2.65 ^c	1.05	17.60	<0.001
Big	3.12	0.83	3.17	0.88	3.18	0.84	3.02	0.79	0.59	0.558
Heavy	3.01	0.98	3.33 ^a	0.79	3.29 ^a	0.94	2.45 ^b	0.94	15.25	<0.001
Normal weight	2.99	0.93	3.12	0.95	2.93	0.86	2.96	0.99	0.56	0.572
Large	2.99	0.93	3.19 ^a	0.77	3.27 ^a	0.89	2.51 ^b	0.92	11.75	<0.001
Fat	2.97	1.13	3.12 ^a	0.99	3.46 ^a	0.99	2.33 ^b	1.09	16.54	<0.001
Healthy weight	2.94	0.93	2.98	0.90	2.76	0.84	3.10	1.02	1.79	0.171
Obese	2.80	1.28	3.17 ^a	0.76	3.47 ^a	1.07	1.78 ^b	1.19	38.60	<0.001
Curvy	2.66	1.12	3.21 ^a	0.84	2.98 ^a	0.99	1.86 ^b	1.02	27.58	<0.001
Extremely obese	2.51	1.30	3.14 ^a	0.98	2.89 ^a	1.23	1.59 ^b	1.08	27.62	<0.001

Higher values indicate more frequent parental use of words with the following scale: 1 = "I've never heard my parent(s) use this word," 2 = "My parent(s) doesn't use this word much," 3 = "Not sure," 4 = "My parent(s) uses this word sometimes," and 5 = "My parent(s) uses this word a lot." Superscript letters (a, b, c) indicate significant differences in means between BMI groups within a given row; these reflect least squared difference *post hoc* tests where differences are $p < 0.05$. For example, the word "weight problem" is used equally often by parents of adolescents with BMI's in the normal weight and overweight range, but more often for adolescents with obesity.

Similarly, over 40% of adolescents reported feeling shame when parents referred to their body weight as "fat," "higher body weight," "large," "high BMI," or "big."

As shown in Table 4, adolescents at a healthy weight or overweight endorsed a similar mean number of negative emotions in response to parental use of the following words: "higher body weight," "weight," "chubby," "fat," "large," "curvy," "big BMI," "high BMI," and "healthy weight," whereas adolescents with obesity reported more negative emotions in response to these words. The number of negative emotions that adolescents reported in response to parental use of the words "overweight" and "heavy" increased in a linear manner with BMI percentile, such that adolescents with a healthy weight reported the fewest negative emotions in response to these words, followed by adolescents with overweight, and adolescents with obesity who reported more negative emotional reactions (*i.e.*, healthy weight < overweight < obesity). In addition, adolescents at a healthy weight reported fewer negative emotions in response to the words "weight problem" and "unhealthy weight" relative to adolescents with overweight or obesity. The word "extremely obese" was associated with lower negative emotions in ad-

olescents with healthy weight and obesity relative to adolescents with overweight, although adolescents reported that this word was used least often by parents, which may explain this discrepancy.

Using 5 linear regressions, we predicted adolescents' negative emotions in response to the five words that elicited the highest mean scores for negative emotions by adolescents ("large," "big," "high BMI," "fat," "overweight"), as a function of race, gender, BMI percentile, weight bias internalization, experienced weight stigma, frequency of parental comments about weight (mother, father), and the interaction between weight and BMI percentile. Results are presented in Table 5. Each model predicted a substantial proportion of the variance in negative emotions in response to the following words: "large" ($R^2 = 0.32$, $F(8, 140) = 7.61$, $p < 0.001$), "big" ($R^2 = 0.26$, $F(8, 140) = 5.67$, $p < 0.001$), "high BMI" ($R^2 = 0.19$, $F(8, 137) = 3.69$, $p = 0.001$), "fat" ($R^2 = 0.34$, $F(8, 132) = 7.96$, $p < 0.001$), and "overweight" ($R^2 = 0.41$, $F(8, 142) = 11.56$, $p < 0.001$). Experienced weight stigma was associated with greater negative affect in response to use of the words "large" ($\beta = 0.18$, $p = 0.025$), "high BMI" ($\beta = 0.20$, $p = 0.020$), "fat" ($\beta = 0.21$, $p = 0.017$), and

Table 3. Adolescent Emotional Reactions to Parental Use of Words About Their Body Weight

Word	No. with parents who do not use that word	Negative emotions (range 0–3)		Sad		Embarrassed		Ashamed	
		M	SD	N	%	N	%	N	%
Large	5	1.06	1.07	24	16.8	60	42	67	46.9
Big	5	1.01	1.02	26	18.2	59	41.3	60	42
High BMI	9	1.00	1.10	31	22.3	44	31.7	64	46
Fat	14	1.00	1.06	32	23.9	47	35.1	55	41
Overweight	3	0.97	1.06	29	20	58	40	55	37.9
Higher body weight	3	0.96	1.03	22	15.2	49	33.8	68	46.9
Heavy	2	0.95	1.07	23	15.8	62	42.5	56	38.4
Weight	5	0.94	1.12	33	23.1	47	32.9	55	38.5
Curvy	26	0.86	1.02	22	18	43	35.2	40	32.8
Unhealthy weight	1	0.82	0.80	28	19	44	29.9	49	33.3
Extremely obese	40	0.77	1.02	25	23.1	32	29.6	27	25
Chubby	3	0.70	0.80	10	6.9	43	29.7	48	33.1
Weight problem	1	0.68	0.76	16	10.9	39	26.5	45	30.6
BMI	9	0.66	0.86	5	3.6	41	29.5	46	33.1
Obese	35	0.64	0.81	13	11.5	20	17.7	40	35.4
Plus size	6	0.58	0.76	7	4.9	32	22.5	44	31
Healthy weight	13	0.31	0.58	5	3.7	8	5.9	30	22.2
Normal weight	12	0.15	0.41	1	0.7	3	2.2	17	12.5

Percentages refer to the percentage of adolescents reporting each emotional reaction in response to parental use of each word in reference to their body weight. Means ranged from 0 to 3, with 0 reflecting no negative emotions, and 3 reflecting all three negative emotions. The “N” for each emotion represents the number of adolescents who reported experiencing that emotion in response to parental use of a particular word, while the percentage reflects the percentage of the total sample of adolescents with parents using that word. For example, 5 adolescents reported that their parents did not use the word “Large” to describe their weight, and 24 adolescents indicated feeling sad when their parents used this word. The percentage reflects the percent of adolescents who reported feeling sad in response to the use of the word “large” among those who indicated that their parents use this word (i.e., 16.8% of 143, or 5 less than the total sample of 148).

“overweight” ($\beta=0.18, p=0.015$), while weight bias internalization was only associated with negative emotions in response to use of the word “overweight” ($\beta=0.36, p<0.001$). Frequency of mothers’ comments about weight were associated with greater negative emotion in response to use of the words “large” ($\beta=0.26, p=0.008$), “big” ($\beta=0.23, p=0.024$), “high BMI” ($\beta=0.25, p=0.021$) and “fat” ($\beta=0.33, p=0.002$). Frequency of fathers’ comments about weight were associated with fewer negative emotions in response to use of the word “fat” ($\beta=-0.18, p=0.041$). Gender and BMI percentile were positively associated with negative emotions in response to the use of the words “big,” “fat,” and “overweight,” however these associations were qualified by a significant gender \times BMI percentile interactions. Higher BMI percentiles were associated with greater negative emotions in response to use of the word “big” or “fat” among boys (big: $\beta=0.26, p=0.017$; fat: $\beta=0.34, p=0.006$), but not girls (“big:” $\beta=0.10, p=0.452$; “fat:” $\beta=0.10, p=0.424$). BMI percentiles were associated with

greater negative emotions in response to use of the word “overweight” in both boys ($\beta=0.39, p<0.001$) and girls ($\beta=0.25, p=0.036$), but this association was larger for boys.

Adolescent Preferences for Weight Language by Parents

Table 6 displays mean ratings of words that adolescents would prefer their parents use when talking about their weight (means are presented for the full sample and by adolescent BMI). Adolescents most wanted parents to use words like “weight problem,” “plus size,” “chubby,” and “unhealthy weight.” In contrast, words that adolescents least preferred included “extremely obese,” “obese,” and “curvy.” Preference ratings for words like “weight” ($M=3.47, SD=1.18; M=3.26, SD=1.15; t(146)=-2.26, p=0.026$), “obese” ($M=2.97, SD=1.09; M=2.43, SD=1.35; t(146)=-2.69, p=0.008$), and “extremely obese” ($M=2.84, SD=1.11; M=2.31, SD=1.24; t(146)=-2.73, p=0.007$)

Table 4. Adolescents' Negative Emotional Reactions to Parental Use of Words to Describe Weight

Mean number of negative emotional reactions to words	Healthy weight (n = 42)		Overweight (n = 55)		Obesity, (n = 51)		F	p
	M	SD	M	SD	M	SD		
Overweight	0.32 ^a	0.52	0.74 ^b	0.93	1.76 ^c	1.05	32.45	<0.001
Higher body weight	0.48 ^a	0.51	0.65 ^a	0.93	1.73 ^b	1.05	28.40	<0.001
Weight problem	0.43 ^a	0.50	0.74 ^b	0.97	0.82 ^b	0.62	3.51	0.032
Unhealthy weight	0.45 ^a	0.55	1.02 ^b	0.97	0.92 ^b	0.67	7.06	0.001
Weight	0.39 ^a	0.49	0.51 ^a	0.70	1.82 ^b	1.28	37.22	<0.001
Heavy	0.36 ^a	0.53	0.75 ^b	0.97	1.69 ^c	1.10	26.22	<0.001
Obese	0.49	0.55	0.75	0.97	0.65	0.79	1.18	0.310
Chubby	0.40 ^a	0.50	0.67 ^a	0.92	0.98 ^b	0.79	6.20	0.003
Fat	0.63 ^a	0.63	0.69 ^a	0.80	1.80 ^b	1.29	21.12	<0.001
Extremely obese	0.57 ^a	0.77	1.04 ^b	1.17	0.18 ^a	0.60	4.83	0.010
Large	0.49 ^a	0.51	0.76 ^a	0.91	1.88 ^b	1.10	31.55	<0.001
Plus size	0.45	0.55	0.70	0.89	0.57	0.74	1.25	0.290
Curvy	0.46 ^a	0.60	0.72 ^a	0.92	1.74 ^b	1.23	17.22	<0.001
Big	0.55 ^a	0.60	0.72 ^a	0.82	1.70 ^b	1.13	23.19	<0.001
BMI	0.37 ^a	0.54	0.53 ^a	0.86	1.12 ^b	0.96	10.22	<0.001
High BMI	0.64 ^a	0.58	0.67 ^a	0.93	1.77 ^b	1.31	19.00	<0.001
Normal weight	0.20	0.46	0.14	0.35	0.11	0.43	0.47	0.623
Healthy weight	0.43 ^a	0.59	0.38 ^a	0.68	0.13 ^b	0.40	3.60	0.030

The mean number of negative emotional reactions (sad, embarrassed, and ashamed) ranged from 0 to 3, with 0 reflecting no negative emotions, and 3 reflecting all three negative emotions. Superscript letters (a, b, c) indicate significant differences in means between BMI groups within a given row; these reflect least squared difference *post hoc* tests where differences are $p < 0.05$. For example, the word "weight problem" induced a similar number of negative emotions in adolescents with BMI's in overweight (0.74) and obesity (0.82) range, but fewer negative emotions among adolescents with a healthy weight (0.43).

were higher for girls than boys, although "extremely obese" was the least preferred term. Adolescents with obesity preferred parents use language such as "weight problem," "plus size," "unhealthy weight" and "chubby" more than adolescents with a BMI in the healthy weight or overweight range. In addition, adolescents with obesity expressed lower preferences for neutral words ("weight"), BMI-descriptors ("overweight," "obese"), and words such as "large" and "fat" compared with adolescents with a lower body weight.

Discussion

Through an assessment of adolescent perceptions of parental weight talk, our study provides important insights into parent-adolescent communication about weight. For adolescents who are engaged in weight loss efforts, our findings suggest that parents use a diverse range of words when discussing their child's weight and that adolescents have different preferences, and in some cases, negative emotional responses to their parents' use of certain weight-based language.

While parents appear to be less likely to use medicalized words such as "obese" when referring to their child's weight, more colloquial words such as "heavy," "large," and "big" induced embarrassment and shame for some adolescents. In general, adolescents wanted their parents to use more neutral words when talking about their weight, such as "unhealthy weight" or "weight problem," whereas words such as "fat," "obese," and "extremely obese" were viewed as least desirable. These findings are similar to recent evidence of adolescent preferences for weight-neutral terminology,²³ including preferences from health care providers.²⁹ However, our study found that adolescent language preferences varied by BMI, and in some cases, neutral words such as "weight" were not necessarily viewed positively. Body weight may be such an emotionally charged and sensitive issue for youth engaged in weight loss programs that parental discussions about weight may induce negative responses for certain youth, regardless of what language parents use.

Our findings also identified differences in adolescents' emotional responses to parental weight talk according to

Table 5. Regressions Predicting Adolescents' Negative Emotions in Response to Weight-Based Language Used by Parents

Word used to describe weight	B	SE	β	t	p
"Large"					
White	-0.31	0.28	-0.08	-1.12	0.265
Female	1.71	1.04	0.82	1.65	0.102
BMI percentile	0.03	0.01	0.43	2.58	0.011
WBIS mean	0.18	0.12	0.15	1.53	0.129
Weight stigma	0.38	0.17	0.18	2.27	0.025
Mom weight comments	0.38	0.14	0.26	2.71	0.008
Dad weight comments	0.13	0.09	0.12	1.48	0.142
Female \times BMI percentile	-0.02	0.01	-0.86	-1.84	0.069
"Big"					
White	-0.36	0.28	-0.10	-1.32	0.190
Female	2.44	1.04	1.23	2.35	0.020
BMI percentile	0.03	0.01	0.53	3.01	0.003
WBIS mean	0.18	0.12	0.16	1.53	0.128
Weight stigma	0.26	0.16	0.13	1.56	0.122
Mom weight comments	0.33	0.14	0.23	2.29	0.024
Dad weight comments	0.04	0.09	0.03	0.41	0.684
Female \times BMI percentile	-0.03	0.01	-1.19	-2.44	0.016
"High BMI"					
White	-0.11	0.33	-0.03	-0.34	0.734
Female	0.36	1.20	0.16	0.30	0.762
BMI percentile	0.01	0.01	0.10	0.56	0.574
WBIS mean	0.11	0.14	0.09	0.84	0.405
Weight stigma	0.46	0.19	0.20	2.36	0.020
Mom weight comments	0.41	0.18	0.25	2.34	0.021
Dad weight comments	0.06	0.11	0.05	0.54	0.587
Female \times BMI percentile	-0.01	0.01	-0.31	-0.61	0.542
"Fat"					
White	-0.14	0.32	-0.04	-0.44	0.661
Female	3.05	1.15	1.44	2.66	0.009
BMI percentile	0.04	0.01	0.60	3.38	0.001
WBIS mean	-0.06	0.13	-0.05	-0.46	0.649
Weight stigma	0.45	0.19	0.21	2.42	0.017
Mom weight comments	0.49	0.16	0.33	3.09	0.002
Dad weight comments	-0.21	0.10	-0.18	-2.07	0.041
Female \times BMI percentile	-0.04	0.01	-1.42	-2.75	0.007

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Table 5. Regressions Predicting Adolescents' Negative Emotions in Response to Weight-Based Language Used by Parents *continued*

Word used to describe weight	B	SE	β	t	p
"Overweight"					
White	-0.50	0.25	-0.14	-2.00	0.048
Female	4.56	1.38	2.16	3.30	0.001
BMI percentile	0.06	0.01	0.97	4.42	<0.001
WBIS mean	0.43	0.11	0.36	4.05	<0.001
Weight stigma	0.38	0.16	0.18	2.47	0.015
Mom weight comments	0.04	0.13	0.03	0.29	0.771
Dad weight comments	-0.01	0.08	-0.01	-0.08	0.937
Female \times BMI percentile	-0.05	0.02	-2.15	-3.56	0.001

WBIS refers to the modified weight bias internalization scale. Mom Weight Comments and Dad Weight Comments reflect the mean frequency of comments about weight made by the adolescents' mother and father.

Table 6. Adolescent Preferences for Weight-Based Language Used by Parents

Word	Full sample (N = 148)		Healthy weight (n = 42)		Overweight (n = 55)		Obesity (n = 51)		F	p
	M	SD	M	SD	M	SD	M	SD		
Weight problem	3.71	1.17	3.22 ^a	0.94	3.40 ^a	1.15	4.43 ^b	1.02	18.91	<0.001
Plus size	3.43	0.91	3.36 ^a	0.82	3.16 ^a	0.98	3.78 ^b	0.81	6.83	0.001
Chubby	3.36	1.02	3.19 ^a	0.92	3.05 ^a	1.04	3.84 ^b	0.92	9.72	<0.001
Unhealthy weight	3.35	0.92	3.29 ^a	1.04	2.98 ^a	0.89	3.82 ^b	0.60	12.81	<0.001
BMI	3.28	0.82	3.33	0.85	3.38	0.85	3.12	0.77	1.51	0.224
Healthy weight	3.28	0.92	3.52	0.83	3.20	0.85	3.16	1.03	2.19	0.116
Weight	3.26	1.15	3.48 ^a	1.21	3.47 ^a	1.05	2.86 ^b	1.10	5.03	0.008
Normal weight	3.22	0.93	3.48	0.77	3.20	0.91	3.02	1.03	2.86	0.060
Overweight	3.13	1.06	3.40 ^a	0.91	3.45 ^a	1.10	2.55 ^b	0.90	13.52	<0.001
Higher body weight	3.09	0.88	3.02	0.64	3.24	1.05	3.00	0.85	1.14	0.323
High BMI	3.09	0.99	3.14	0.84	3.25	0.95	2.86	1.11	2.20	0.114
Big	3.03	0.82	3.24	0.88	2.96	0.79	2.92	0.80	1.98	0.141
Heavy	2.90	0.89	3.38 ^a	0.82	2.95 ^b	0.78	2.45 ^c	0.86	14.97	<0.001
Large	2.80	0.83	3.02 ^a	0.64	3.00 ^a	0.79	2.39 ^b	0.87	10.40	<0.001
Fat	2.76	1.21	2.93 ^a	1.11	3.13 ^a	1.16	2.24 ^b	1.19	8.46	<0.001
Obese	2.70	1.25	3.21 ^a	0.78	3.20 ^a	0.99	1.75 ^b	1.26	32.84	<0.001
Curvy	2.67	1.10	3.26 ^a	0.83	2.81 ^b	0.85	2.04 ^c	1.22	18.56	<0.001
Extremely obese	2.57	1.20	3.40 ^a	0.80	2.91 ^b	0.91	1.53 ^c	1.01	54.25	<0.001

The scale for these items was as follows: 1 = "No, my parent(s) should never use this word," 2 = "This word bothers me," 3 = "Not sure," 4 = "This word is okay, I don't mind it," 5 = "Yes, I prefer them to use this word." Superscript letters (a, b, c) indicate significant differences in means between BMI groups within a given row; these reflect least squared difference *post hoc* tests where differences are $p < 0.05$. For example, the word "weight problem" is equally preferred by adolescents who have BMIs in the normal weight and overweight ranges, but is more strongly preferred by adolescents with obesity.

gender and BMI. For weight-based language that induced negative emotions (e.g., “fat,” “overweight”), girls reported negative emotions in response to parental use of these words regardless of their BMI category. In contrast, boys with a normal or overweight BMI did not report as many negative emotions in response to these words, but those with obesity reported negative emotions. While we did not assess reasons for these gender differences, these findings could, in part, reflect girls’ awareness of broader societal values of thinness and resulting pressures placed on females to conform to thin body types, which could increase their negative emotional responses to weight-based language regardless of their body weight. Future work should examine whether these differences are present in larger samples of girls and boys, including those who are not actively engaging in weight loss efforts.

Taken together, our findings underscore the importance of careful consideration by parents before engaging in weight-related conversations. Rather than making assumptions about what language to use when talking about their child’s weight, it may be more effective for parents to ask their adolescent what words he/she feels most comfortable using in these discussions, so that parents can engage in supportive discussions with adolescents without inducing emotional distress. This suggestion echoes a recent policy statement from the American Academy of Pediatrics recommending that pediatric health providers carefully consider language and word choice, and use sensitive language in communication about weight with youth.³⁰

In general, frequency of mothers’ or fathers’ comments about weight was consistently related to adolescents’ negative emotional reactions in response to parental weight language. It will be informative to further examine how the frequency or nature of parental comments about weight affects youth reactions to parental weight talk; it may be that even infrequent parental comments about weight can induce sadness, embarrassment, and shame in adolescents. At the same time, it is important to note that less than half of adolescents in our sample reported strong negative emotional reactions to words about weight. Thus, more work is needed to better understand potential reasons for why some adolescents respond negatively and some do not. The variability in emotional reactions observed in our sample further underscores the importance of avoiding assumptions about appropriate weight-based language and instead asking adolescents what words they feel most comfortable with.

Our study further highlights that weight stigma may play a role in parent–adolescent communication about weight. Experiencing weight-based teasing from family members was significantly positively associated with adolescents’ negative emotions in response to parents using the word “large,” “fat,” “high BMI,” and “overweight” to refer to their weight. Thus, it may be important to educate parents about the harmful impact of weight-based teasing and that these experiences could impair parent–adolescent communication about weight. However, internalized weight stigma was not consistently related to negative emotions in response to parental weight language. Given high levels of weight bias

internalization in this sample, examining more diverse samples of youth with both low and high levels of internalized stigma could help clarify whether internalization has implications for parent–child communication about weight.

This study has several limitations. The sample composition of primarily white, treatment-seeking adolescents limits the generalizability of our findings, and future research should examine these issues in more racially and economically diverse samples of youth, especially in light of recent evidence suggesting that parent–adolescent conversations about weight may be particularly common in ethnic minority families.^{2,31} Given financial costs of attending a weight loss camp, adolescents in this sample may have higher socioeconomic markers than other adolescent treatment-seeking populations (although parent education/income was not assessed). Future samples should examine word preferences in economically diverse populations, and additionally include youth who are not engaging in weight loss efforts and those participating in other kinds of weight loss programs. This study relied on adolescents’ self-reported height and body weight and views of parental weight talk; future work should include objective measures of body weight and assess parental reports of their use of weight-based language to compare to their adolescents’ perceptions of this communication and identify areas where parents’ and adolescents’ perceptions may differ. There may be several parent-level factors that could affect adolescent responses to weight-based language, such as parental BMI, family structure, or family stressors. Furthermore, it will be important for future research to distinguish words about weight used by mothers vs. fathers, and how potential differences affect their adolescent girls and boys. While our study assessed negative emotional reactions to weight language, it may be useful for future work to assess both positive and negative emotional reactions that adolescents have in response to words about their weight. Nevertheless, this study provides novel insights about the understudied topic of parent–adolescent communication about body weight with tangible implications for improving the ways that parents and adolescents communicate about weight-related health.

Conclusion

While some parents may believe that talking about their child’s body weight may instill motivation for healthy behaviors, existing evidence instead suggests that parental weight talk is related to adverse health behaviors. Our findings indicate that the words parents use to describe weight in these conversations may themselves have implications for adolescents’ emotional responses. Rather than making assumptions about appropriate language in these interactions, our findings highlight diverse adolescent perspectives when it comes to word choice, which may be further nuanced by their gender and BMI. Even seemingly neutral words to describe body weight may induce emotional distress in some adolescents. Thus, our findings suggest the importance of recognizing individual differences, asking adolescents what language would make them feel most comfortable in these

conversations, and more broadly educating parents how to identify negative weight talk and become better informed to communicate with youth about weight-related health.

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