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Family weight talk and dieting: How much do they matter for body dissatisfaction and disordered eating behaviors in adolescent girls?

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Abstract

Objectives—To learn about parent weight talk, parent dieting, and family weight-teasing in the homes of adolescent girls at risk for obesity and weight-related problems. To examine associations between these family variables and girls' weight status, body satisfaction, and disordered eating behaviors.

Methods—Data were collected at baseline from girls participating in a school-based intervention to prevent weight-related problems. Participants included 365 adolescent girls from 12 high schools. The girls' mean age was 15.8 years; 46% were overweight or obese; and over 75% were racial/ethnic minorities.

Results—A high percentage of girls reported parent weight talk (i.e., comments about one's own weight and encouragement of daughter to diet), parent dieting, and family weight-teasing. For example, 45% of the girls reported that their mothers encouraged them to diet and 58% reported weight-teasing by family members. Weight-teasing was strongly associated with higher BMI, body dissatisfaction, unhealthy and extreme weight control behaviors, and binge eating with loss of control in the girls. Parent weight talk, particularly by mothers, was associated with a number of disordered eating behaviors. Mother dieting was associated with girls' unhealthy and extreme weight control behaviors. In no instances were family weight talk and dieting variables associated with better outcomes in the girls.

Conclusions—Parent weight-related comments and dieting behaviors, and family weight-teasing, may contribute to disordered eating behaviors in adolescent girls. Health care providers can help parents provide a supportive home environment by discouraging weight-based comments, which may be intended to be helpful, but can have unintentional harmful consequences.

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Keywords

Adolescents; eating disorders; obesity; parent-child interaction; dieting; weight-teasing; weight loss

Common weight-related problems among adolescent girls include obesity, body dissatisfaction, and the use of disordered eating behaviors, such as unhealthy weight control behaviors and binge eating [1,2]. These weight-related problems are of concern given their high prevalence and harmful consequences for physical health and emotional well-being. Since weight is a sensitive issue, especially for adolescents, parents concerned about their child's weight may find it difficult to know *if* and *how* to discuss weight-related topics with their child. Many health care providers also have questions on how best to advise parents with regard to different weight-related issues in their children.

The home and family environment has been identified as an important influence on children's weight-related outcomes [3,4]. Studies have generally found that that weight-related comments by family members and parental modeling and encouraging of dieting behaviors may have adverse effects for adolescents, although not all studies have found associations between parental comments and behaviors and adolescent weight-related problems [5–26]. Furthermore, although the picture is not entirely clear, studies suggest that comments directed to a child, such as weight-teasing by family members or parental encouragement to diet, may be more harmful than indirect factors, such as observing a parent dieting [6,7,10,17,19]. Several studies have found that weight-related teasing by family members is associated with both disordered eating behaviors and weight gain among adolescents [11,13,27]. In a study of overweight adolescents, parental encouragement to diet was predictive of adolescent unhealthy weight control behaviors and weight gain over time [28]. It also seems likely that negative comments directed to a child might be more harmful than general weight talk in the home, such as parents talking about their own weight. However, comparisons across studies to determine the relative strength of these associations can be difficult given different study designs, measures, and populations.

The current study examines the familial weight-related environment and associations with adolescent girls' body mass index, body satisfaction, unhealthy and extreme weight control behaviors, and binge eating with loss of control. The study expands on the extant literature by examining several familial variables and both maternal and paternal practices within one study. Specifically, we examine the prevalence of weight-teasing by family members, dieting among mothers and fathers, mothers and fathers talking about their own weight, and encouragement of daughter to diet by mothers and fathers. Thus, the current study allows for comparisons of strengths of associations between various measures of the familial environment and an array of adolescent outcomes, and for additive effects when different familial variables are combined together. Furthermore, the study sample includes adolescent girls from diverse ethnic/racial backgrounds who are often under-represented in studies examining familial correlates of disordered eating behaviors, and girls at high risk for weight-related problems who pose the greatest challenge for intervention by parents and health care providers.

METHODS

Study design and population

Data are from the baseline assessment of adolescent girls who participated in a group-randomized study to evaluate New Moves, a school-based program for girls who are either overweight or at risk for overweight because of sedentary lifestyles. New Moves was

conducted in six intervention and six control high schools in the Minneapolis/St. Paul metropolitan area. New Moves was promoted as an all-girls alternative physical education class with a supportive and non-competitive environment [29]. Recruitment materials (e.g., posters, class descriptions) were designed to attract girls who were inactive, felt uncomfortable in regular physical education classes, and were interested in learning about healthy weight management.

The study population included 356 girls in 9th–12th grade with a mean age of 15.8 years (SD = 1.2). Mean BMI was 25.8 (SD = 6.8); 18.0% were overweight and 28.2% were obese [30,31]. The participants came from diverse ethnic/racial backgrounds: 28.4% black, 24.4% white, 14.3% Hispanic, 23.0% Asian, 2.5% Native American, and 7.3% mixed/other.

Girls completed surveys and had their height and weight assessed by trained research staff. The study was approved by the University of Minnesota's Institutional Review Board and by each school district. Participants provided written assent and parent consent.

Description of measures

Measures of the home/family weight-related environment included parent weight talk, parent dieting, and family weight-teasing. Girls were asked about their parents' weight talk and dieting behavior, separately for mothers and fathers, with the following items: 1) "My mother/father encourages me to diet" [32] "My mother/father talks about her/his weight" [33] and 3) "My mother/father diets to lose weight or keep from gaining weight." [32] Response options were "not at all," "a little bit," "somewhat," and "very much." Family weight-teasing was assessed with the question: "Within the past year, have you been teased or made fun of by family members because of your weight?" [32] Response categories were "never," "rarely," "sometimes," "often," and "very often."

Body dissatisfaction was measured with a modified version of the Body Shape Satisfaction Scale, with ten questions assessing satisfaction with weight, height and different areas of the body (e.g. stomach, thighs) [34,35]. Questions had six response categories from "very dissatisfied" to "very satisfied."

Unhealthy weight control behaviors and extreme weight control behaviors were assessed with a modified version of a question from Project EAT [36]: "Have you done any of the following things in order to lose weight or keep from gaining weight during the past month?" (yes/no for each method). Responses included: 1) fasted, 2) ate very little, 3) used food substitutes, 4) skipped meals, 5) smoked more cigarettes, 6) gone on a diet, 7) made myself vomit, 8) took diet pills, 9) used laxatives, and 10) used diuretics. Girls were categorized as engaging in unhealthy weight control behaviors if they reported using any of these ten unhealthy weight control behaviors. Girls were additionally categorized as engaging in extreme weight control behaviors if they reported any of the last four behaviors (vomiting or use of diet pills, laxatives or diuretics).

Binge eating with loss of control was assessed with two questions: "In the past month, have you ever eaten so much food in a short period of time that you would be embarrassed if others saw you (binge eating)?" and "During the time when you ate this way, did you feel you couldn't stop eating or control what or how much you were eating?" Girls were classified as engaging in binge eating with loss of control if they answered "yes" to both questions [36,37].

Weight Status and BMI were based on height and weight measurements done by trained research staff using standardized procedures [38]. Girls were classified into non-overweight

(BMI < 85th percentile), overweight ($\geq 85^{\text{th}}$ but < 95th percentile) or obese ($\geq 95^{\text{th}}$ percentile) based on their BMI percentile for age and gender using the CDC Growth Charts [30,31].

Statistical analysis

Separate hierarchical multiple regression models were tested to examine the associations between parents' behaviors and girls' weight-related outcomes. Girls' ethnicity/race (six categories) and age were included in the models as covariates to reduce potential confounding. Age-adjusted BMI was also included as a covariate in all models examining the predictors of body satisfaction, unhealthy weight control behaviors, extreme weight control behaviors, and binge eating. In order to account for potential clustering of behaviors among girls who attended school together, a school-level variable was included in the regression models as a random effect. Adjusted means were calculated for each level of the categorical predictors, and a test of the linear trend was performed by a linear contrast using a p-value of 0.05 to determine statistical significance. To examine whether weight talk or dieting by both parents (n=292 pairs) had an enhanced effect on the girl's outcomes, increments in percent of variance explained (R^2) were generated and tested for when father's corresponding behavior was added to the effect of the mother's behavior, and vice versa. Because of multiple testing and the exploratory nature of these analyses examining the impact of having both parents engaging in a similar behavior, a p-value of 0.01 was used for these tests. Finally, for each outcome, the percent of variance explained by a base model of age and race/ethnicity (sociodemographics) and girls' BMI (except for BMI as the outcome) was estimated from the components of variance. Similarly the percent of variance explained was estimated for the full model adding maternal weight-talk and dieting behavior, paternal weight-talk and dieting behavior, and family teasing to the base model. School variation accounted for about 3% of total variation for BMI, body dissatisfaction, and extreme weight control behaviors, but was estimated as zero for unhealthy weight control behavior and for binge eating. SAS 9.1.3 (Cary, NC) was used to conduct all analyses."

RESULTS

Mother dieting and weight talk

Approximately two-thirds of the girls reported that their mother dieted or talked about her own weight and nearly half of the girls reported that their mother encouraged them to diet (Table 1). After adjusting for girls' BMI and sociodemographic characteristics, several maternal variables were associated with girls' disordered eating behaviors. Mother dieting was associated with greater use of unhealthy and extreme weight control behaviors among the girls. Mother talking about her own weight was associated with greater use of unhealthy weight control behaviors, extreme weight control behaviors, and binge eating in the girls. Mother encouraging daughter to diet was strongly associated with girls' unhealthy and extreme weight control behaviors and binge eating. For example, 25.8% (10 out of 39) of the girls whose mothers encouraged them to diet 'very much' used extreme weight control behaviors as compared to only 5.2% (10 out of 190) of the girls whose mothers did not encourage them to diet.

Father dieting and weight talk

Approximately 40% of the girls reported that their father dieted, talked about his weight, or encouraged them to diet (Table 2). Fewer statistically significant associations were found between the paternal variables and adolescents' outcomes as compared to the maternal variables. Father dieting was not associated with any of the girls' outcomes. Father talking about his own weight was significantly associated with girls' use of extreme weight control behaviors and father encouraging daughter to diet was significantly associated with girls' use of unhealthy weight control behaviors. For example, 22.2% (6 out of 25) of the girls

who reported that their father talked about his own weight ‘very much’ used extreme weight control behaviors as compared to 8.7% (15 out of 175) of the girls whose father did not talk about his weight.

Dieting and weight talk by both parents

The additive effect of maternal and paternal behaviors among those girls having data from both parents was also explored (data not shown). We examined increases in the explained variance for each of the girls’ outcomes due to mothers’ behaviors on their own (e.g., mother dieting), fathers’ behaviors on their own (e.g., father dieting), and both parents engaging in a behavior (e.g., both mother and father are dieting). Fathers’ behaviors did not lead to significant increments in the percent variance explained in the girls’ outcomes, above and beyond the percent variance explained using only the mothers’ behaviors. In situations in which the fathers’ behavior by itself had an association with the girls’ outcome, the addition of the mothers’ behavior showed that the fathers’ behavior had no independent contribution to the association. Thus, the findings suggest that having both parents engage in dieting behaviors or engage in weight talk was not significantly “worse” for the girls than having only a mother diet or engage in weight talk.

Family weight-teasing

Nearly 60% (n=205) of the girls reported some level of weight-teasing by family members over the past year (Table 3). Weight-teasing by family members was significantly associated with the girls’ BMI; girls with higher BMIs were teased more often. Weight-teasing was also significantly associated with higher levels of body dissatisfaction, unhealthy and extreme weight control behaviors, and binge eating, in analyses adjusted for girls’ BMI and sociodemographic characteristics. Among girls who reported being teased ‘very often’ by family members, 25.0% (5 out of 20) reported using one or more extreme weight control behaviors, compared to 8.4% (12 out of 148) of the girls who were not teased about their weight. Girls who were teased ‘very often’ about their weight were at much greater risk for binge eating than girls who were not teased by family members: 39.6% (8 out of 20) vs. 2.8% (4 out of 148).

Explained variance in adolescent weight-related outcomes

Sociodemographic characteristics (girls’ ethnicity/race and age) explained 4% of the variance in girls’ BMI; the explained variance in the girls’ BMI rose to 26% with the addition of family weight-teasing, parental weight talk and parental dieting behaviors. Sociodemographic characteristics and BMI explained 22% of the variance in body satisfaction, 12% of the variance in unhealthy weight control behaviors, 6% of the variance in extreme weight control behaviors, and 5% of the variance in binge eating. When family weight-teasing, parental weight talk, and parental dieting behaviors were added to models with girls’ sociodemographic characteristics and BMI, the percentages of explained variance increased to 24% for body satisfaction, 19% for unhealthy weight control behaviors, 16% for extreme weight control behaviors, and 20% for binge eating.

DISCUSSION

This study explored parent weight talk, parent dieting, and family weight-teasing, and associations with weight status, body dissatisfaction, and disordered eating behaviors in a group of adolescent girls at risk for weight-related problems. Findings indicated that weight-related talk and behaviors were prevalent in the families of these girls. Weight-teasing by family members was the strongest and most consistent correlate of problematic weight-related outcomes. Girls who reported being teased or made fun of by family members because of their weight had higher BMI values, greater body dissatisfaction, and were more

likely to engage in unhealthy and extreme weight control behaviors and binge eating compared to girls who were not teased. Parent weight talk (i.e., comments about one's own weight and encouragement of daughter to diet), particularly by mothers, and maternal dieting were also associated with a number of problematic weight-related outcomes in the girls. In no instances were parent weight talk, parent dieting, and family weight-teasing associated with better outcomes in the girls.

More than half of the girls in the current study indicated that they had been teased or made fun of because of their weight by family members in the past year. The strong associations found between family weight-teasing and girls' body dissatisfaction and disordered eating behaviors are consistent with previous studies [9–11,13]. Although adolescents may appear unaffected when teased about their weight, these comments are often hurtful [39], and may precipitate use of disordered eating behaviors. In the current study, girls who were teased frequently about their weight were about ten times more likely to binge eat as compared to girls whose family members did not tease them.

Although the girls' weight-related problems tended to be most strongly and consistently associated with family weight-teasing, associations were also found with other weight-related comments. Girls who reported that their mother or father talked about their weight 'very much' were nearly three times more likely to engage in extreme weight control behaviors than girls whose parents did not talk about their weight. Girls whose mothers encouraged them to diet were five times more likely to engage in extreme weight control behaviors than girls whose mothers did not encourage them to diet. These findings are consistent with previous findings suggesting the importance of avoiding weight-related comments in front of one's children [11,13].

Maternal weight talk and dieting were more consistently associated with girls' disordered eating than paternal variables in the current study. For example, mother dieting was associated with greater use of unhealthy and extreme weight control behaviors in the girls, whereas associations with father dieting were not statistically significant. Furthermore, although in a few instances, fathers' weight-related comments were associated with daughters' weight-related outcomes, fathers' comments did not independently contribute to these associations beyond mother's comments. Much of the research exploring children and parent's weight-related attitudes and behaviors has focused on girls and their mothers [6,15,16,18,22,25]. Findings examining paternal influences on daughters have not revealed clear patterns as to how fathers influence their daughters [8,10,17,21,23–25]. Of concern, Dixon and colleagues found that girls were at increased risk for self-induced vomiting if their fathers believed strongly in the importance of a positive physical appearance for females [21]. However, they did not examine maternal variables or adjust for girls BMI, as in the current study. Clearly more work is needed to elucidate the role that fathers play in influencing their daughters' weight-related outcomes.

In the current study, after adjusting for girls' sociodemographic characteristics and BMI, family weight-teasing and parent weight talk and dieting explained about 10% of the variance in extreme weight control behaviors and about 15% of the variance in binge eating. This finding supports previous research indicating the importance of familial factors in explaining disordered eating behaviors in adolescent girls [2,9–11]. However, given that familial variables included in this study leave 85% to 90% of the variance in girls' weight-related behaviors unexplained, factors outside of the family, such as media influences [26,40], are also likely contributors to the onset of these behaviors. Thus, a worthwhile message to give parents is that families have an important role to play in preventing body dissatisfaction and disordered eating behaviors in their children, but factors beyond the family likely also contribute. While parents of adolescents often feel helpless in the wake of

harmful social norms, they may be able to help their children if they avoid reinforcing media messages about quick weight loss schemes and the importance of having a particular body shape.

Study strengths include the assessment of different aspects of the family weight-related environment and the diversity of the study population. The use of a population of high school girls who self-selected to participate in New Moves, an alternative physical education class for sedentary girls at risk for obesity, is also a study strength, in that it is crucial to learn more about how best to help this high-risk population. However, the use of this study population also has limitations in that the findings cannot be extrapolated to other populations of adolescent girls. Furthermore, although different aspects of the family weight-related environment were assessed, questions on weight-teasing were general and did not allow for a determination of who was doing the teasing. Additionally, we left the term “diet” open to the girls’ interpretation; it is possible that this term was understood to mean different things by different girls. The use of adolescent report of parenting behaviors may also be viewed as a study limitation, although adolescent perceptions of parent weight-related behaviors have been described as salient above and beyond parental reports of their own behaviors and have been found to be stronger predictors of adolescent weight-related outcomes than parent reports of their own behaviors [6]. Finally, the cross-sectional nature of the study does not allow for the determination of directionality of relationships.

Further research is needed to inform our understanding of the familial role with regard to weight-related problems in children and adolescents and to better help parents seeking help in preventing or reducing these problems. It is important to gather input from mothers and fathers and to examine differences across ethnicity/race in larger population-based samples. There is also a need to take a more in-depth exploration of the types of comments that parents make to their children about eating, exercise, and weight. Qualitative research can further inform our understanding about family dynamics around weight and help us learn more about what exactly is being said, the context in which comments are made, and if there are situations in which comments appear to be helpful rather than harmful. Longitudinal and intervention studies are needed to learn more about directionality of relationships and causality. It is crucial to determine if we can influence the family environment and, in turn, have a positive impact on children’s weight-related outcomes.

Findings from the current study suggest the importance of working with parents to help them provide a home environment that nurtures adolescent girls’ feelings about their bodies and prevents girls from engaging in disordered eating behaviors. Health care providers can ask about weight-teasing at home and inform parents that although teasing may be perceived as a harmless practice, it can have harmful consequences, and should be avoided. Health care providers can play an important role by advising parents to avoid weight-related comments, such as encouraging their children to diet or commenting on their own weight. While parents may make these comments with the best of intentions, parents need to know that this type of weight talk may have unintended harmful consequences for their children’s health, particularly given the broader social environment that places so much pressure on young people to have a certain body shape and size.

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Abbreviations

BMI Body Mass Index

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Table 1

Weight status, body satisfaction, and disordered eating in adolescent girls by level of mother dieting, talking about her weight, and encouraging daughter to diet*

	Total N	Total %	BMI Mean (SE)	Body dissatisfaction Mean (SE)	Unhealthy WCB %	Extreme WCB %	Binge eating %
Mother dieting							
Not at all	123	35.7	25.2 (.71)	33.5 (1.1)	58.9	5.3	11.6
A little	89	25.8	26.3 (.80)	34.5 (1.3)	73.7	11.7	19.5
Somewhat	94	27.3	25.0 (.78)	34.2 (1.3)	74.0	13.3	10.7
Very much	39	11.3	28.2 (1.1)	34.3 (2.0)	76.1	23.1	11.4
p-value (trend)			p=.042	p=.786	p=.041	p=.002	p=.627
Mother talks about her weight							
Not at all	116	33.7	25.2 (.74)	33.9 (1.2)	65.1	6.4	8.9
A little	85	24.7	25.7 (.83)	34.0 (1.3)	63.3	9.5	9.0
Somewhat	73	21.2	25.4 (.88)	33.9 (1.4)	66.8	10.2	15.4
Very much	70	20.4	27.2 (.90)	35.1 (1.5)	83.0	17.9	19.9
p-value (trend)			p=.078	p=.524	p=.008	p=.014	p=.014
Mother encourages dieting							
Not at all	190	54.8	23.5 (.61)	33.8 (1.0)	62.0	5.2	11.1
A little	66	19.0	26.9 (.86)	33.6 (1.5)	78.7	16.8	11.2
Somewhat	52	15.0	28.8 (.95)	34.2 (1.7)	75.3	14.2	14.3
Very much	39	11.2	30.9 (1.1)	36.2 (2.0)	80.3	25.8	26.2
p-value (trend)			p<.0001	p=.250	p=.048	p=.001	p=.016

* All analyses are adjusted for age and race/ethnicity and associations with body satisfaction and disordered eating behaviors additionally adjusted for BMI.

Weight status, body satisfaction, and disordered eating in adolescent girls by level of father dieting, talking about his weight, and encouraging daughter to diet^{*}

Table 2

	Total N	Total %	BMI Mean (SE)	Body dissatisfaction Mean (SE)	Unhealthy WCB %	Extreme WCB %	Binge eating %
Father dieting							
Not at all	170	57.2	25.4 (.59)	34.4 (1.1)	66.0	9.7	9.6
A little	53	17.9	25.2 (.95)	35.0 (1.7)	70.7	14.4	19.8
Somewhat	48	16.2	26.2 (1.0)	34.3 (1.8)	87.2	10.5	13.6
Very much	26	8.8	25.2 (1.3)	33.3 (2.4)	68.7	20.5	22.0
p-value (trend)			p=.979	p=.615	p=.391	p=.168	p=.167
Father talks about his weight							
Not at all	175	59.5	25.3 (.58)	34.2 (1.0)	65.5	8.7	10.2
A little	53	18.0	26.1 (.95)	36.4 (1.7)	77.4	10.8	17.4
Somewhat	41	14.0	26.5 (1.1)	32.9 (1.9)	79.1	19.4	15.1
Very much	25	8.5	24.8 (1.4)	34.1 (2.4)	74.5	22.2	23.3
p-value (trend)			p=.834	p=.631	p=.334	p=.020	p=.110
Father encourages dieting							
Not at all	187	63.6	24.2 (.54)	34.7 (1.1)	63.2	10.0	9.4
A little	38	12.9	26.1 (1.1)	32.8 (2.0)	74.3	16.3	19.8
Somewhat	38	12.9	27.6 (1.1)	34.8 (2.0)	90.0	12.2	19.8
Very much	31	10.5	30.3 (1.2)	33.5 (2.3)	83.2	15.5	21.0
p-value (trend)			p<.0001	p=.829	p=.007	p=.552	p=.113

* All analyses are adjusted for age and race/ethnicity and associations with body satisfaction and disordered eating behaviors additionally adjusted for BMI.

Table 3
Weight status, body satisfaction, and disordered eating in adolescent girls by level of weight-teasing by family members*

	Total N	Total%	BMI Mean (SE)	Body dissatisfaction Mean (SE)	Unhealthy WCB %	Extreme WCB %	Binge eating %
Weight-teasing							
Never	148	41.9	24.7 (.64)	31.4 (1.1)	57.6	8.4	2.8
Rarely	92	26.1	25.5 (.76)	35.0 (1.3)	73.8	11.2	10.1
Sometimes	71	20.1	26.5 (.85)	35.1 (1.4)	78.2	10.5	30.8
Often	22	6.2	29.1 (1.5)	38.7 (2.5)	80.5	12.6	17.1
Very often	20	5.7	28.2 (1.5)	37.0 (2.6)	81.2	25.0	39.6
p-value (trend)			p=.003	p=.007	p=.024	p=.037	p<.001

* All analyses are adjusted for age and race/ethnicity and associations with body satisfaction and disordered eating behaviors additionally adjusted for BMI.