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Parent Conversations about Healthful Eating and Weight: Associations with Adolescent Disordered Eating Behaviors

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Abstract

Objective—The prevalence of weight-related problems in adolescents is high. Parents of adolescents may wonder whether talking about eating habits and weight is useful or detrimental. This study aimed to examine the associations between parent conversations about healthful eating and weight and adolescent disordered eating behaviors.

Design—Cross-sectional analysis using data from two linked multi-level population-based studies.

Setting—Anthropometric assessments and surveys completed at school by adolescents and surveys completed at home by parents in 2009–2010.

Participants—Socio-economically and racially/ethnically diverse sample (81% ethnic minority; 60% low income) of adolescents from EAT (Eating and Activity in Teens) 2010 (n = 2,793, mean age=14.4) and parents from F-EAT (Families and Eating and Activity in Teens) (n = 3,709, mean age = 42.3).

Main Exposure—Parent conversations about healthful eating and weight/size.

Outcome Measures—Adolescent dieting, unhealthy weight control behaviors, and binge eating.

Results—Mothers and fathers who engaged in weight-related conversations had adolescents who were more likely to diet, use unhealthy weight control behaviors, and engage in binge eating. Overweight/obese adolescents whose mothers engaged in conversations that were focused only on healthful eating behaviors were less likely to diet and use unhealthy weight control behaviors. Additionally, sub-analyses with adolescents with data from two parents showed that when both parents engaged in healthful eating conversations, their overweight/obese adolescent children were less likely to diet and use unhealthy weight control behaviors.

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Disclosures

None of the authors have conflicts of interest to declare.

Conclusion—Parent conversations focused on weight/size are associated with increased risk for adolescent disordered eating behaviors, whereas conversations focused on healthful eating are protective against disordered eating behaviors.

Keywords

Parent Weight-related Conversations; Adolescents; Disordered Eating Behaviors; Obesity; Overweight

INTRODUCTION

Given the high prevalence of different types of weight-related problems in adolescents, including both obesity and eating disorders,^{1–3} parents may wonder whether talking with their adolescent child about eating habits and weight is useful or detrimental. Previous research has shown a significant association between family and parent weight teasing and more frequent use of disordered eating behaviors (e.g. dieting, laxative use, fasting, binge eating) in adolescents, although not all associations have been consistent across studies.^{4–32} Less is known about the association between parent conversations about eating habits or weight (e.g. conversations about the importance of healthful eating or child’s weight or size) and youth disordered eating behaviors, and whether conversations about eating and weight have the same negative effects on youth weight control behaviors as weight teasing.^{8,33,34} Because adolescence is a time when more youth engage in disordered eating behaviors, it is important for parents to understand what types of conversations may be helpful or harmful in regards to disordered eating behaviors and how to have these conversations with their adolescent.^{5,35} Thus, this study aims to identify whether parents are having conversations about eating habits and weight with their adolescents, if these conversations are associated with adolescent disordered eating behaviors (i.e., dieting, weight control behaviors, extreme weight control behaviors, binge eating) and whether associations differ by the content of the conversation (i.e., focusing on healthful eating as compared to discussing weight).

To date, research on parent weight-related conversations has focused primarily on parental “encouragement” for adolescent dieting. Parental encouragement of their adolescents to diet to control or lose weight has been associated with negative outcomes, including excessive worry about weight, dieting, binge eating, use of unhealthy weight control behaviors, and higher BMI.^{16,23,36–38} Additionally, parental encouragement of their overweight adolescents to diet has been found to be associated with higher risks of depression, lower self-esteem, and being overweight after five years.^{13,39} Given the negative outcomes related to parent encouragement of their adolescents to diet, parents may wonder if and how they should discuss topics related to healthful eating and weight with their adolescents without increasing risk for disordered eating behaviors. Thus, there is a need for research that can examine different types of conversations, such as conversations that focus on healthful eating versus conversations that focus on weight/size or losing weight. This type of exploration will allow for identifying whether certain types of conversations have the potential to be helpful, rather than harmful, with regard to disordered eating behaviors in youth.

In addition, recent research has identified the importance of father involvement in prevention and treatment of youth disordered eating behaviors.^{40–45} For example, research has suggested that fathers’ weight dissatisfaction and fathers’ perception of daughter’s weight/size were associated with daughters’ dieting and weight dissatisfaction.⁴⁴ Thus, it is important to examine the relationship between comments by mothers and fathers, separately and in combination, in order to gain a clearer picture of the home environment around weight-related conversations and adolescent disordered eating behaviors. Furthermore, it is

important to look at how adolescents' weight status might influence the way they experience conversations with their parents about healthy eating and weight. For example, research has shown significant associations between weight teasing and more disordered eating behaviors in obese adolescents.⁶ Thus, it is important to understand whether parents should approach weight-related conversations differently with adolescents who are normal weight versus overweight/obese, or avoid these conversations altogether.

The research questions in the current study will address the gaps in the literature discussed above. Specific questions include: (1) What types of conversations (i.e., healthful eating conversations, weight conversations) are mothers and fathers having with their children?; (2) How are parent conversations about eating and weight associated with adolescent disordered eating behaviors (i.e., dieting, unhealthy weight control behaviors and binge eating)? (3) Is the association between parent eating and weight conversations and adolescent disordered eating behaviors stronger for adolescents who have two parents engaging in these conversations, versus one parent engaging in these conversations?

Findings from this study will be helpful for health care providers, clinicians who work with parents of adolescents, and parents themselves in understanding how best to talk with adolescents about healthful eating and weight, without inadvertently increasing risk for disordered eating behaviors such as unhealthy weight control behaviors and binge eating.

METHODS

Study Design and Population

Data for this analysis were drawn from two coordinated, population-based studies. EAT 2010 (Eating and Activity in Teens) was designed to examine dietary intake, physical activity, weight control behaviors, weight status and factors associated with these outcomes in adolescents. Project F-EAT (Families and Eating and Activity Among Teens) was designed to examine factors within the family and home environment of potential relevance to these weight-related behaviors. All study procedures were approved by the University of Minnesota's Institutional Review Board Human Subjects Committee.

For EAT 2010, surveys and anthropometric measures were completed by 2,793 adolescents from 20 public middle schools and high schools in the Minneapolis/St. Paul metropolitan area of Minnesota during the 2009–2010 academic year. The mean age of the study population was 14.4 years (SD=2.0) and adolescents were approximately equally divided by gender (46.8% boys, 53.2% girls). The racial/ethnic backgrounds of the participants were as follows: 18.9% white, 29.0% African American or Black, 19.9% Asian American, 16.9% Hispanic, 3.7% Native American, and 11.6% mixed or other. The socioeconomic status (SES) of participants included: 29.4% low SES, 24.3% low-middle SES, 33.3% Middle SES, 6.4% Upper-Middle SES, and 2.8% High SES.

For Project F-EAT, data were collected by surveying up to two parents/caregivers (n=3,709) of the adolescents in EAT 2010; approximately 30% provided contact information for one parent/guardian and 70% provided information for two parents/guardians. Parent participants had a mean age of 42.3 years (SD=8.6). The majority of parent respondents were mothers or other female guardians (62.0%). Participating families of adolescents were ethnically and socioeconomically diverse. Specifically, the parent sample was 29.7% white, 26.1% African American, 21.4% Asian, 17.4% Hispanic, 2.6% Native American, and 2.5% mixed or other race/ethnicity. Parent surveys were collected by mail and by phone interviews. To meet the needs of the diverse sample, both forms of the survey were available in English, Spanish, Hmong, and Somali, and the telephone interview was additionally offered in Oromo, Amharic, and Karen.

The current analytic sample includes EAT 2010 participants who completed the survey and who had at least one parent with whom they lived at least 50% of the time respond to the Project F-EAT questionnaire. Our final sample consisted of 2,348 adolescents and 3,528 parents. Of the 2,348 adolescents, 1180 (50.2%) has two parents in the dataset.

Survey Development

The EAT 2010 student survey⁴⁶ and parent F-EAT survey⁴⁷ are self-report instruments that assess a range of factors of potential relevance to weight-related variables among adolescents and parents. Survey development was initially guided by a review of pre-existing instruments and surveys in the field of adolescent obesity^{48,49} and a theoretical framework, which integrates Family Systems Theory,^{50,51} Social Cognitive Theory⁵² and an ecological perspective.⁵³ Drafts of the surveys were pre-tested by 56 adolescents and 35 parents from diverse backgrounds for clarity, readability and relevance; and reviewed by an interdisciplinary team of experts. After revisions, the survey was additionally pilot tested with a different sample of 129 middle school and high school students and 102 parents to examine the test-retest reliability of measures over a one-two week period. Reliability results were used to make final changes to the survey.

Measures

Exposure variables (i.e., parent healthy eating conversations and weight conversations) and outcome variables (i.e., adolescent dieting, unhealthy weight control behaviors and binge eating) used in the analysis are described in eTable 1.

Statistical Analysis

Differences in the distribution of variables between types of parental weight talk were assessed using chi-square tests. Our main analysis consisted of four separate logistic regression models that specified dieting, unhealthy weight control behavior, extreme weight control behavior and binge eating as dependent variables. Type of parental conversations (i.e., no eating or weight conversations, healthy eating only conversations, weight conversations) was included as the predictor of primary interest using indicator variables. Because of the strong a priori belief that the association of the type of parental weight talk and adolescent behavior would vary by parent and adolescent gender and parent and adolescent weight status, we tested for interactions by adolescent weight status, parent gender and child gender. There was little evidence of interaction by child gender (1 of 16 interaction terms was statistically significant), so adolescents of both genders were included in the same analyses. There were numerous significant interactions by child weight status and parent gender, thus we estimated each of our four logistic models separately by parent gender (male/female) and adolescent weight status (overweight, 85th percentile; non-overweight, < 85th percentile).⁴⁰⁻⁴⁵ Additionally, all models were adjusted for adolescent gender, adolescent race, parental education and parental BMI.

To examine the simultaneous impact of both parents' conversations about healthful eating and weight on child eating behaviors and weight, we estimated a final set of regression models that were limited to only those adolescents who had two parents respond (n=1,157). Types of parent conversations were included in separate logistic regression models, stratified by child overweight status. Following each logistic model, we computed the average predicted probability of the outcome at each level of parental weight talk as well as the difference between those probabilities. Posthoc analyses were used to examine differences of health outcomes between each combination of parental weight talk. All analyses were conducted using Stata (version 12.1, 2012, College Station, TX).

RESULTS

Descriptive Analysis of Eating and Weight Conversations

Approximately 34% of mothers and 38% of fathers of non-overweight adolescents were not engaging in any type of eating or weight conversations with their adolescents, as compared to 20% of mothers and 23% of fathers of overweight adolescents (Table 1). About 28% of mothers and 23% of fathers of non-overweight adolescents were having conversations with their adolescents that focused specifically on healthful eating (without talking about weight), whereas only 15% of mothers and 14% of fathers with overweight adolescents were having conversations that focused specifically on healthful eating. Approximately 33% of mothers and 32% of fathers of non-overweight adolescents were having conversations with their adolescents about weight or the need to lose weight, as compared to 60% of mothers and 59% of fathers with overweight adolescents.

Associations between Healthful Eating and Weight Conversations by Parents and Adolescent Disordered Eating Behaviors

Conversations about healthful eating or weight from one parent—Overall, results indicated that parental conversations about healthful eating were associated with the lowest prevalence of disordered eating behaviors in adolescents, while parental conversations about weight were associated with the highest prevalence of disordered eating behaviors in adolescents.

Non-overweight adolescents: Among non-overweight adolescents whose mothers engaged in healthful eating conversations, there was a significantly lower prevalence of dieting (23% vs. 35%) UWCBs (30% vs. 39%), and extreme UWCBs (2% vs. 6%) as compared to non-overweight adolescents whose mothers engaged in weight conversations. Further, the prevalence of binge eating was significantly lower among adolescents whose mothers engaged in no eating or weight conversations than among adolescents whose mothers engaged in weight conversations (Table 2). In addition, among non-overweight adolescents who fathers engaged in weight conversations, there was a significantly higher prevalence of dieting (33% vs. 22%), UWCBs (39% vs. 30%), and extreme UWCBs (5% vs. 2%) as compared to non-overweight adolescents whose fathers did not engage in eating or weight conversations (Table 3). For all analyses, there were no statistically significant differences in the prevalence of these health behaviors between adolescents whose parents engaged in no conversations and those parents who engaged in healthy eating conversations.

Overweight adolescents: Among overweight adolescents whose mothers engaged in healthful eating conversations, there was a significantly lower prevalence of dieting (40% vs. 53%) and unhealthy weight control behaviors (UWCBs) (41% vs. 53%) as compared to overweight adolescents whose mothers did not engage in healthful eating conversations. Similarly there was a significantly lower prevalence of dieting (40% vs. 64%) and UWCB (41% vs. 64%) among adolescents whose mothers engaged in conversations about healthy eating vs. those whose mothers engaged in weight conversations. or who engaged in weight conversations only (Table 2). There was one significant association between father weight conversations and higher prevalence of dieting among overweight adolescents (64% vs. 48%) (Table 3). For all analyses, there were no significant associations between parent healthful eating or weight conversations and adolescent binge eating behaviors.

Conversations about healthful eating or weight from both parents—Overall, results indicated that having either parent engage in healthful eating conversations was associated with less disordered eating in adolescents, especially for overweight adolescents, and having one parent engage in weight conversations was as problematic as having both

parents engage in weight conversations, for non-overweight adolescents only. For example, among non-overweight adolescents, weight conversations from one parent (35% vs. 16%) or both parents (37% vs. 16%) were associated with a higher prevalence of dieting as compared to non-overweight weight adolescents whose parents did not engage in weight conversations (16%). Similarly, weight conversations from one or from both parents was associated with significantly higher prevalence of dieting relative to parents who only engaged in healthful eating conversations only (Table 4).

Additionally, among overweight adolescents with at least one parent who engaged in healthful eating conversations (but neither in weight conversations), there was a lower prevalence of UWCBs, as compared to overweight adolescents with two parents who did not engage in conversations about healthful eating or weight (35% vs. 61%) or who engaged in weight conversations (35% vs. 67%) (Table 4). For all analyses, there were no significant associations between parental healthful eating or weight conversations and adolescent binge eating behaviors.

DISCUSSION

The main aims of this study were to: (1) identify the types of conversations (i.e., healthful eating conversations, weight conversations) mothers and fathers have with their children, based on their child's weight status; (2) investigate the association between healthful eating or weight conversations from parents and adolescent dieting, unhealthy weight control behaviors, and binge eating; and (3) examine the association between parent eating and weight conversations and adolescent dieting, unhealthy weight control behaviors, and binge eating when two parents engage in weight conversations versus when one parent engages in these conversations.

Results indicated that both mothers and fathers were having frequent conversations about healthy eating and weight with their overweight adolescents. In addition, results suggested that conversations were associated with helpful or harmful behavior, depending on the type of conversation (e.g. healthy eating vs. weight). Conversations about weight (e.g., weight or size, mentioning child weighs too much or should eat differently in order to lose weight or keep from gaining weight) were associated with increased risk for disordered eating behaviors in adolescents. Conversations that were solely about healthful eating were inversely associated with dieting and disordered eating behaviors in adolescents as compared to having no conversations about weight or eating or having weight conversations only. These findings suggest that parents should avoid conversations that focus on weight or losing weight, and instead engage in conversations that focus on healthful eating, without reference to weight issues. This approach may be particularly important for parents of overweight/obese adolescents.

The present study builds on recent research focusing on fathers and their role in adolescent eating disorders treatment,⁴¹⁻⁴⁵ and finds that adolescents whose fathers engaged in weight conversations were significantly more likely to engage in dieting and UWCB than adolescents whose fathers did not. Thus, it may be important to educate fathers to avoid any form of weight-related conversations with their adolescents.

Results from the current study corroborate findings from previous research showing associations between conversations about weight and losing weight (i.e., dieting) by mothers and higher levels of disordered eating behaviors in adolescents,^{11,16,36,37} and extend previous research by identifying that weight conversations by either parent is associated with more disordered eating behaviors. Another new finding in the current study is that certain types of conversations, such as conversations about healthful eating in adolescents,

may be helpful in reducing dieting and unhealthy weight control behaviors in adolescents, particularly for overweight/obese children. These results may be useful in educating parents that talking about healthful eating instead of focusing on shape/size or losing weight is potentially helpful in avoiding disordered eating behaviors in adolescents.

Several strengths and limitations should be taken into account when interpreting the present study's findings. Strengths of this study include: the use of a large, diverse, population-based sample; the high response rate of participating parents; adjustments for possible third-variable confounding of results (age, SES, race/ethnicity); the inclusion of data on fathers, in addition to mothers and adolescents; and the assessments of different types of conversations about healthful eating and weight-related topics. However, the cross-sectional nature of the study limits our ability to determine causality or temporality of associations. For example, it may be the case that adolescents who engage in disordered eating behaviors evoke weight-related conversations from their parents, rather than weight-related conversations driving disordered eating behaviors in adolescents.

CONCLUSIONS AND IMPLICATIONS FOR PROFESSIONALS

Results from this study may be helpful for health care providers who work with parents of adolescents and parents themselves. Health care providers and clinicians should educate parents of adolescents that weight conversations are associated with disordered eating behaviors in adolescents, while conversations about healthful eating may be helpful to their adolescents in regards to dieting and disordered eating behaviors, particularly for overweight/obese children. Similarly, prevention interventions should help parents engage in healthful eating conversations rather than weight conversations with their adolescents. Finally, for parents who may wonder whether talking with their adolescent child about eating habits and weight is useful or detrimental, results from the current study indicate that they may want to focus on discussing and promoting healthful eating behaviors, rather than discussing weight and size regardless of whether their child is non-overweight or overweight.

Supplementary Material

Refer to Web version on PubMed Central for supplementary material.

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Table 1
Proportion of parents engaging in eating or weight conversations by child gender and weight status

| | | Mothers' Conversations | | | | |
|---|------------|---|--|--|--|--|
| No Eating or Weight Conversations ^a %(n) | | Conversations about Healthy Eating Only ^b %(n) | Weight Conversations ^c %(n) | p-value testing difference in conversation type between girls and boys | | |
| Non-Overweight Adolescents | | | | | | |
| | %(n) | %(n) | %(n) | | | |
| Girls | 35.0 (274) | 28.2 (221) | 36.8 (288) | | | |
| Boys | 33.8 (209) | 33.1 (205) | 33.1 (205) | 0.123 | | |
| Overweight Adolescents | | | | | | |
| | %(n) | %(n) | %(n) | | | |
| Girls | 25.6 (108) | 14.5 (61) | 60.0 (253) | | | |
| Boys | 19.5 (75) | 18.5 (71) | 62.0 (238) | 0.068 | | |
| Fathers' Conversations | | | | | | |
| No Eating or Weight Conversations ^a %(n) | | Conversations about Healthy Eating Only ^b %(n) | Weight Conversations ^c %(n) | p-value testing difference in conversation between girls and boys | | |
| Non-Overweight Adolescents | | | | | | |
| | %(n) | %(n) | %(n) | | | |
| Girls | 44.4 (203) | 23.2 (106) | 32.4 (148) | | | |
| Boys | 38.3 (151) | 28.4 (112) | 33.3 (131) | 0.123 | | |
| Overweight Adolescents | | | | | | |
| | %(n) | %(n) | %(n) | | | |
| Girls | 27.0 (55) | 14.2 (29) | 58.8 (120) | | | |
| Boys | 22.9 (50) | 15.1 (33) | 61.9 (135) | 0.633 | | |

Table 2

Adjusted percentage of health behaviors and their association with **mothers'** eating or weight conversations among non-overweight and overweight adolescents*

| | Non-Overweight Adolescents (N=1421) | | | | Overweight Adolescents (N=821) | | | |
|--|--|--|---|--|--|---|-------------------|--|
| | Conversation Type | | Conversation Type | | Conversation Type | | Conversation Type | |
| | No Eating or Weight Conversations ¹ (N=483) | Conversations about Healthy Eating Only ² (N=426) | Weight Conversations ³ (N=493) | No Eating or Weight Conversations ¹ (N=183) | Conversations about Healthy Eating Only ² (N=132) | Weight Conversations ³ (N=491) | | |
| Diet | | | | | | | | |
| Percent | 21.3 ^a | 22.6 ^a | 35.3 ^b | 53.4 ^a | 40.1 ^b | 64.1 ^c | | |
| Difference (95% CI) | Ref | 1.3 (-4.3, 6.8) | 14.0 (8.2, 19.9) | Ref | -13.3 (-24.7, -1.9) | 10.6 (2.1, 19.2) | | |
| Unhealthy Weight Control Behaviors (UWCBs) | | | | | | | | |
| Percent | 30.7 ^a | 29.8 ^a | 38.9 ^b | 53.2 ^a | 40.6 ^b | 64.2 ^c | | |
| Difference (95% CI) | Ref | -0.8 (-7.0, 5.3) | 8.2 (1.9, 14.5) | Ref | -12.7 (-24.1, -1.2) | 10.9 (2.5, 19.4) | | |
| Extreme UWCBs | | | | | | | | |
| Percent | 2.5 ^a | 1.6 ^a | 5.9 ^b | 6.3 ^a | 8.5 ^a | 9.5 ^a | | |
| Difference (95% CI) | Ref | -0.8 (-2.7, 1.0) | 3.5 (0.7, 6.2) | Ref | 2.2 (-4.1, 8.4) | 3.2 (-1.3, 7.6) | | |
| Binge Eating | | | | | | | | |
| Percent | 4.3 ^a | 6.2 ^{a,b} | 7.6 ^b | 9.2 ^a | 10.2 ^a | 13.3 ^a | | |
| Difference (95% CI) | Ref | 0.2 (-1.1, 5.0) | 3.4 (0.2, 6.5) | Ref | 1.0 (-6.0, 8.0) | 4.1 (-1.2, 9.5) | | |

* All models adjusted for adolescent gender and race, parental education, and mother BMI. Sample is limited to adolescents with parent who lives with the adolescent >=50% of the time.

¹ These conversations included no conversations about healthy weight behaviors or unhealthy weight behaviors.

² These conversations included only conversations about healthy eating behaviors.

³ These conversations included comments about adolescent weight/size, mentioning that the adolescent weighed too much or that they should eat differently to lose weight or keep from gaining weight, but no conversations about eating healthy.

Percentages with **different** letter superscripts^{a,b,c} are statistically significantly different.

Table 3

Adjusted percentage of health behaviors and their association with **fathers'** eating or weight conversations among non-overweight and overweight adolescents*

| | Non-Overweight (N=859) | | | Overweight (N=427) | | |
|--|--|--|---|--|---|---|
| | Conversation Type | | | Conversation Type | | |
| | No Eating or Weight Conversations ^f (N=354) | Conversations about Healthy Eating Only ² (N=218) | Weight Conversations ³ (N=279) | No Eating or Weight Conversations ^f (N=105) | Conversations about Healthy Eating Only ² (N=62) | Weight Conversations ³ (N=255) |
| Diet | | | | | | |
| Percent | 21.8 ^a | 25.3 ^{a,b} | 33.3 ^b | 57.4 ^{a,b} | 48.3 ^d | 63.7 ^b |
| Difference (95% CI) | ref | 3.4 (-3.9, 10.8) | 11.5 (4.1, 18.8) | Ref | -9.1 (-24.5, 6.3) | 6.3 (-4.9, 17.6) |
| Unhealthy Weight Control Behaviors (UWCBs) | | | | | | |
| Percent | 30.1 ^a | 26.8 ^a | 39.1 ^b | 53.4 ^a | 49.5 ^a | 62.8 ^a |
| Difference (95% CI) | Ref | -3.3 (-11.1, 4.5) | 9.0 (1.1, 16.9) | Ref | -3.8 (-19.1, 11.4) | 9.4 (-1.8, 20.6) |
| Extreme UWCBs | | | | | | |
| Percent | 1.7 ^a | 2.0 ^{a,b} | 4.9 ^b | 4.1 ^a | 2.1 ^a | 5.9 ^a |
| Difference (95% CI) | Ref | 0.3 (-2.0, 2.7) | 3.2 (0.0, 6.3) | Ref | -2.1 (-7.6, 3.5) | 1.7 (-3.1, 6.6) |
| Binge Eating | | | | | | |
| Percent | 4.7 ^a | 4.2 ^a | 8.5 ^a | 12.8 ^a | 7.4 ^a | 10.8 ^a |
| Difference (95% CI) | Ref | -0.5 (-4.1, 3.1) | 3.8 (-0.4, 8.0) | Ref | -5.3 (-15.0, 4.4) | -2.0 (-9.8, 5.9) |

* All models adjusted for adolescent gender and race, parental education, and father BMI. Sample is limited to adolescents with parent who lives with the adolescent >=50% of the time.

¹ These conversations included no conversations about healthy weight behaviors or unhealthy weight behaviors.

² These conversations included only conversations about healthy eating behaviors.

³ These conversations included comments about adolescent weight/size, mentioning that the adolescent weighed too much or that they should eat differently to lose weight or keep from gaining weight, but no conversations about eating healthy.

Percentages with **different** letter superscripts^{a,b,c} are statistically significantly different.

Table 4

Parents (both parents combined): Relationship between parents' eating or weight conversations with their adolescents and dieting, unhealthy weight control behaviors, and binge eating behaviors among non-overweight and overweight adolescents*

| | Non-Overweight (N=770) | | | | Overweight (N=387) | | | |
|--|--|--|---|---|---|---|--|---|
| | Conversation Type | | | | Conversation type | | | |
| | No Eating or Weight Conversations ¹ (N=171) | Conversations about Healthy Eating Only ² (N=240) | Weight Conversations from One Parent ³ (N=184) | Weight Conversations from Both Parents ⁴ (N=175) | No Eating or Weight Conversations ¹ (N=44) | Conversations about Healthy Eating Only ² (N=68) | Weight Conversations from One Parent ³ (N=79) | Weight Conversations from Both Parents ⁴ (N=196) |
| Diet | | | | | | | | |
| Percent | 15.6 ^a | 21.2 ^a | 35.2 ^b | 37.1 ^b | 60.0 ^a | 37.5 ^b | 61.3 ^a | 65.4 ^a |
| Difference (95% CI) | Ref | 5.6 (-2.3, 13.6) | 19.6 (10.6, 28.7) | 21.6 (11.8, 31.3) | Ref | -22.6 (-41.4, -3.9) | 1.2 (-16.5, 19.0) | 5.3 (-10.8, 21.4) |
| Unhealthy Weight Control Behaviors (UWCBS) | | | | | | | | |
| Percent | 26.5 ^a | 27.1 ^a | 35.8 ^{ab} | 41.6 ^b | 60.5 ^{b,c} | 34.9 ^a | 51.0 ^{ab} | 67.0 ^c |
| Difference (95% CI) | Ref | 0.6 (-8.5, 9.7) | 9.3 (-0.7, 19.3) | 15.1 (4.2, 25.9) | Ref | -25.6 (-44.1, -7.1) | -9.5 (-27.1, 8.1) | 6.4 (-9.3, 22.2) |
| Extreme UWCBS | | | | | | | | |
| Percent | 1.9 ^{a,b} | 1.3 ^a | 5.0 ^b | 5.5 ^{ab} | 2.2 ^a | 3.7 ^a | 5.1 ^a | 7.6 ^a |
| Difference (95% CI) | Ref | -0.6 (-3.1, 2.0) | 3.2 (-0.6, 7.0) | 3.7 (-1.1, 8.4) | Ref | 1.5 (-5.1, 8.1) | 2.8 (-3.6, 9.3) | 5.4 (-0.5, 11.2) |
| Binge Eating | | | | | | | | |
| Percent | 4.0 ^a | 5.0 ^a | 6.4 ^a | 7.4 ^a | 6.4 ^a | 8.2 ^a | 14.8 ^a | 10.0 ^b |
| Difference (95% CI) | Ref | 1.0 (-3.2, 5.2) | 2.4 (-2.5, 7.2) | 3.4 (-2.3, 9.0) | Ref | 1.8 (-8.5, 12.1) | 8.4 (-2.4, 19.3) | 3.6 (-4.8, 11.9) |

* All models are adjusted for adolescent gender and race, parental education, and both parents' BMI. Sample is limited to kids with 2 parents in the sample who live with the kid >=50% time.

¹These conversations included no conversations about healthy weight behaviors or unhealthy weight behaviors by **both parents**.

²These conversations included only conversations about healthy behaviors including eating healthy by **at least one parent**.

³These conversations included comments about adolescent weight/size, mentioning that the adolescent weighted too much or that they should eat differently to lose weight or keep from gaining weight by **either parent**, but no conversations about eating healthy.

⁴These conversations included comments about adolescent weight/size, mentioning that the adolescent weighted too much or that they should eat differently to lose weight or keep from gaining weight by **both parents**, but no conversations about eating healthy.

Percentages with **different** letter superscripts^{a,b,c} are statistically significantly different.