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Which dieters are at risk for the onset of binge-eating? A prospective study of adolescents and young adults

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Abstract

Purpose—Dieting is a well-established risk factor for binge-eating, yet the majority of dieters do not develop binge-eating problems. The purpose of the current study was to examine psychosocial factors involved in the relation between dieting and binge-eating over a 10-year follow-up period.

Methods—A population-based sample ($n=1,827$) completed surveys assessing eating habits, psychological functioning, and weight status at 5-year intervals spanning early/middle adolescence (Time 1), late adolescence/early young adulthood (Time 2) and early/middle young adulthood (Time 3). Dieting, along with depression symptoms, self-esteem, and teasing experiences at Time 1 and Time 2 were used to predict new onset binge-eating at Time 2 and Time 3, respectively. Interactions between dieting status and varying degrees of these psychosocial factors in relation to binge-eating onset were also tested.

Results—Dieters were 2–3 times more likely than non-dieters to develop binge-eating problems over 5-year follow-ups. At most time-points, depression symptoms and self-esteem predicted binge-eating onset beyond the effects of dieting alone. Detrimental levels of these factors among dieters (relative to non-dieters) increased the likelihood of binge-eating onset only during the latter follow-up period.

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Implications and contribution: Study results suggest that depression symptoms and self-esteem are salient factors involved in the relation between dieting and binge-eating onset among community-based adolescents and young adults. Early identification of these factors among dieters should be a priority in order to inform prevention and early intervention efforts targeting binge-eating.

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Conclusions—Depression and self-esteem appear to be particularly salient factors involved in the relation between dieting and binge-eating onset among adolescents and young adults. Early identification of these factors should be a priority in order to prevent the development of binge-eating problems among already at-risk individuals.

Keywords

Dieting; binge-eating; negative affect; self-esteem; teasing; adolescent

Dieting refers to intentional behavioral efforts at restricting food intake for shape or weight reasons (1). Over 50% of adolescents and young adults report dieting (2,3), which is often unsupervised and may involve unhealthy behaviors such as skipping meals (4). Ironically, such dieting predicts future weight gain and obesity, as well as the onset of sub-threshold binge-eating (the consumption of unambiguously large amounts of food accompanied by loss of control while eating) and full-syndrome eating disorders (4–6), both of which are associated with medical and psychosocial complications (7,8). Yet, since not all self-reported dieters develop binge-eating problems or eating disorders (9,10), it is important to determine which dieters are at highest risk for these problems.

Restraint theories posit that binge-eating develops in response to deprivation resulting from prolonged and rigid dietary restraint (i.e., cognitive and/or behavioral weight reduction efforts; 11). The dual pathway model further specifies that failures in dietary restraint promote negative affect, which in turn fosters binge-eating as a method of alleviating low mood symptoms (12). Adults with bulimia nervosa (BN) and binge-eating disorder (BED), both characterized by recurrent binge-eating, typically report an extensive dieting history (13,14), and by adolescence, dieting behaviors and related cognitions are prevalent among those with binge-eating (7).

Two prospective studies suggest that dieters most at risk for developing clinically significant eating disturbances are those with severe disordered eating symptoms and cognitions (9,10); however, there has been limited exploration of other psychosocial factors that may be involved in the relationship between dieting and binge-eating. Depression symptoms, poor self-esteem, and teasing experiences have been identified as potential moderators in adolescents and young adults based on cross-sectional research (15–19) and prospective studies of up to two years (12,20), with most theoretical models implicating binge-eating as a method of coping with negative affect related to these factors (12). The generalizability of study findings could be enhanced by examining the relation between these psychosocial variables and binge-eating over longer timeframes, and utilizing large, community-based samples including both males and females.

This study aims to expand our understanding of the relation between dieting and binge-eating by examining, within a population-based sample of adolescents and young adults, a range of potential variable risk factors (i.e., modifiable factors preceding the outcome of interest; 21) contributing to binge-eating onset, beyond the effects of dieting. The overarching goal was to facilitate identification of individuals at highest risk for binge-eating onset to assist with prevention and early intervention efforts. Specific research questions were: 1) Is dieting longitudinally related to the onset of binge-eating among adolescents and young adults over 10 years?; 2) Which psychosocial factors add to the prediction of binge-eating onset beyond the effects of dieting alone?; and 3) Are there differential effects in the way psychosocial factors relate to binge-eating onset among dieters versus non-dieters? We chose to examine factors related to the onset of binge-eating, rather than full-syndrome eating disorders, because binge-eating is associated with negative physical and psychosocial sequela even at subclinical levels (7). Based on the previous

literature (12,15–20), we expected dieting to significantly predict binge-eating onset. We further anticipated that depression symptoms, poor self-esteem, and teasing experiences each would be associated with binge-eating onset beyond the effects of dieting alone, as each of these symptoms may lead to momentary distress which binge-eating is utilized to alleviate. Finally, we expected the association between binge-eating onset and depression symptoms, poor self-esteem, and teasing experiences to be stronger among dieters compared to non-dieters.

METHODS

Study Design and Population

Data were drawn from three waves of Project EAT, a 10-year longitudinal study of eating behaviors, weight outcomes, and related psychosocial factors among young people. Project EAT-I included middle and high school students attending 31 public schools in the Minneapolis/St. Paul metropolitan area of Minnesota who completed surveys and anthropometric measures during the 1998–1999 academic year (22). At 5-year (Project EAT-II; 2003–2004) and 10-year follow-up (Project EAT-III; 2008–2009), participants were invited to complete follow-up surveys investigating changes in previously assessed health behaviors. All study protocols were approved by the University of Minnesota's Institutional Review Board.

Of the original 4,746 participants in EAT-I, 1,304 (27.5%) were lost to follow-up. The remaining 3,442 participants were invited to complete EAT-II and EAT-III surveys. Of these, 1,902 (55.3%) individuals completed all three surveys. Seventy-five participants were missing outcome binge-eating data, leaving 1,827 participants for the current analyses (56.9% female; $n=1040$). At both time-points, attrition was primarily due to inability to contact participants. Because respondents were disproportionately female, Caucasian, and of higher SES, statistical adjustments were made to account for differential response rates (see statistical analysis section).

The sample (57% female) consisted of a younger (30.3%; $M_{\text{baseline age}}=12.8\pm0.7y$; $M_{\text{age}}=23.1\pm0.7y$ at 10-year follow-up) and older cohort (69.7%; $M_{\text{baseline age}}=15.9\pm0.8y$; $M_{\text{age}}=26.2\pm0.8y$ at 10-year follow-up), and was diverse in terms of race/ethnicity and socioeconomic status (23).

Measures

The Project EAT survey assesses cognitions, behaviors, and attitudes related to eating and psychological functioning. To allow for longitudinal comparisons, key items used in this paper were consistent across the three study waves. Test-retest data for the EAT-I survey were collected on 161 7th and 10th grade students who completed identical versions of the survey approximately two weeks apart. Further details on survey development are reported elsewhere (22,24,25).

Eating behaviors—Dieting was assessed with the question, “How often have you gone on a diet during the last year? By ‘diet’ we mean changing the way you eat so you can lose weight.” Responses included never; one to four times; five to 10 times; more than 10 times; and I am always dieting. Participants were categorized as nondieters (never) or dieters [all other responses; Spearman's r for test-retest data=.71; percent agreement (never vs. ever dieted) for test-retest data=.76%]. **Binge-eating** was ascertained as follows: “In the past year, have you ever eaten so much food in a short period of time that you would be embarrassed if others saw you?”; “During the times when you ate this way, did you feel you couldn't stop

eating or control what or how much you were eating?” Participants responding affirmatively to both questions were classified as binge eaters ($\kappa=.64$).

Psychosocial factors—Depression symptoms were assessed via Kandel and Davies’ six-item scale for adolescents (26), which inquires about the frequency of the following symptoms during the past year: dysphoric mood, tension/nervousness, fatigue, worry, sleep disturbance, and hopelessness. Scores range from 6–18, with higher scores indicating greater depressive symptoms ($\alpha=.84$). Self-esteem was assessed via six items from the Rosenberg Self-Esteem Scale (27). Scores range from 6 to 24, with lower scores indicating lower self-esteem ($\alpha=.71$). A study examining the validity of this shortened version in adolescents demonstrated that correlations with measures of body image and depression symptoms were nearly identical for the shortened and full versions (differences in correlation coefficients ranged from .006 to .037; 28). Teasing experiences were assessed via two items: “How often did any of the following things happen to you: 1) You were teased about your weight; 2) You were teased about your appearance.” Responses ranged from “never” to “at least once a week” (Spearman’s r for test-retest data=.47). These questions were combined to form a mean teasing index; higher scores indicate more frequent teasing experiences. Teasing questions were based on a previously validated questionnaire (29).

Anthropometric and demographic factors—Self-reported height and weight were used to determine body mass index (BMI; kg/m^2) percentiles, based on age- and sex-specific CDC normative data (30). Overweight was defined as BMI 85th percentile. Self-report of height and weight was validated in a subsample of 125 Project EAT-III participants for whom height and weight was measured by trained research staff. Results showed very high correlations between self-reported and measured BMI in males ($r=.95$) and females ($r=.98$). Age, sex, and race/ethnicity (31) were based on self-report. Five levels of socioeconomic status (SES) were based on the highest educational attainment by either parent. Where this information was missing, eligibility for public assistance, eligibility for free/reduced cost school meals, and parental employment status were used to infer SES (22).

Statistical Analysis

All analyses were stratified by sex based on evidence that binge-eating and dieting rates differ for boys and girls (32,33). Separate logistic regression models were run using Time 1 (T1) variables to predict new onset binge-eating at Time 2 (T2), and T2 variables to predict new onset binge-eating at Time 3 (T3). At both time-points, four separate logistic models were fit where one included only dieting status at the previous time-point as a predictor of binge-eating, and the other three additionally included depression symptoms, self-esteem, or teasing experiences at the previous time-point as continuously measured predictors. These factors were selected a priori based on evidence that each is involved in the relation between dieting and binge-eating onset (12,15–20). Each model additionally controlled for age cohort, SES, race/ethnicity (categorized as non-Hispanic white versus all others), and either T1 or T2 overweight status (based on evidence that overweight is strongly associated with binge-eating; 7), depending on whether binge-eating was examined at T2 or T3, respectively. Depression symptoms, self-esteem, and teasing experiences were standardized within gender prior to analyses to facilitate interpretation of odds ratios as standardized effects and to allow for comparisons across variables.

For analyses examining interactions between dieting and psychosocial factors with respect to binge-eating onset, the predictor variables of depression symptoms, self-esteem, and teasing experiences were categorized by quartiles with the middle two quartiles collapsed (i.e., <25%, 25–75%, >75%). Categorization of these predictors facilitated examination of possible nonlinear interactive effects between these variables and dieting in predicting

binge-eating onset. This also allowed us to examine “extreme” scorers without compromising sample size. For binge-eating onset at each time-point (i.e., T2 and T3), three separate logistic regressions were used to examine the additive interaction between dieting status and each of the three psychosocial variables at the previous time-point, controlling for demographic and anthropometric variables at the previous time-point. Because psychosocial variables were separated into three categories and dieting status was dichotomous, the interaction term had two degrees of freedom. Based on the fit of the interaction models, predicted proportions of binge-eating for each combination of dieting status and psychosocial category were calculated with control variables fixed at their marginal means. Plots of predicted proportions were used to describe the nature of the significant interactive effects.

Because the focus was on new onset binge-eating, the 3.8% (unweighted $n=19$) of males and 11.9% (unweighted $n=112$) of females who reported binge-eating at T1 were excluded from analyses examining T1 predictors of new incident binge-eating at T2. Likewise, the 5.7% (unweighted $n=34$) of males and 19.7% (unweighted $n=195$) of females reporting binge-eating at T1 and/or T2 were excluded from analyses predicting new onset binge-eating at T3.

Missing data for each predictor variable (dieting status, psychosocial factors, or control variables) was minimal (<5%), but taken together would have led to a deletion of substantial numbers of individuals from analyses using listwise deletion. To maintain the full sample, multiple imputation (34) for missing predictors was implemented using Proc MI in SAS. Fifty datasets were generated with missing data randomly imputed under a multivariate normality and missing at random assumption. All logistic regressions were performed across all imputed datasets and results were combined and summarized using PROC MIANALYZE in SAS which incorporates uncertainty due to the missing values. SAS Version 9.2 was used for all analyses.

Attrition from the T1 sample did not occur at random; thus, in all analyses data were weighted using the response propensity method (35), in which the inverse of the estimated probability that an individual responded at follow-up was used as the weight. The method generates estimates that represent the demographic composition of the original sample. All percents and n s presented are weighted unless otherwise noted.

RESULTS

There were no significant main effects for age cohort, race/ethnicity, SES, or overweight status in any of the regression models for males or females (all $ps>.05$).

Dieting Predicting Binge-Eating Onset

Among males, 3.3% ($n=6$) of T1 dieters, versus 1.5% ($n=8$) of non-dieters, reported new onset binge-eating at T2, and 11.7% ($n=21$) of T2 dieters, versus 4.3% ($n=24$) of non-dieters, reported new onset binge-eating at T3. T1 dieting was not related to new onset binge-eating at T2 for males, after controlling for T1 demographic/anthropometric variables ($p=.56$); however, T2 dieting significantly predicted binge-eating onset at T3 ($p=.008$) after adjusting for T2 covariates (see Table 1).

Among females, 11.6% ($n=56$) of T1 dieters, versus 5.8% ($n=24$) of non-dieters, reported new onset binge-eating at T2, and 15.3% ($n=64$) of T2 dieters, versus 5.7% ($n=23$) of non-dieters, reported new onset binge-eating at T3. Females' dieting at T1 predicted T2 binge-eating onset ($p=.005$), after controlling for T1 demographic/anthropometric variables (see

Table 2); similarly, T2 dieting significantly predicted binge-eating onset at T3 after controlling for T2 covariates ($p < .001$).

Time 1 Psychosocial Variables Predicting Time 2 Binge-Eating Onset

Males—Males' T1 depression symptoms significantly increased the odds ($p = .001$) of T2 binge-eating onset controlling for T1 demographic/anthropometric variables and dieting (see Table 1). Neither self-esteem nor teasing experiences contributed to the prediction of T2 binge-eating onset beyond the effects of these variables (all $ps \geq .20$).

Interaction analyses revealed no differential associations between any of the T1 psychosocial variables and T2 binge-eating among dieters and non-dieters (all $ps \geq .12$).

Females—Females' T1 depression symptoms significantly increased the odds of T2 binge-eating onset ($p < .001$), controlling for T1 demographic/anthropometric factors and dieting (see Table 2). The main effects for T1 teasing experiences and self-esteem were non-significant in predicting T2 binge-eating onset (all $ps \geq .07$).

T1 psychosocial variables were similarly related to T2 binge-eating onset regardless of dieting status (all $ps \geq .13$).

Time 2 Psychosocial Variables Predicting Time 3 Binge-Eating

Males—Males' T2 depression symptoms ($p = .05$) and self-esteem ($p = .02$) each contributed to the prediction of T3 binge-eating onset beyond the effects of T2 demographic/anthropometric variables and dieting (see Table 1). T2 teasing experiences did not contribute to the prediction of T3 binge-eating onset beyond the effects of these variables ($p = .86$).

There was a significant additive interaction between T2 dieting status and depression symptoms in predicting T3 binge-eating (see Figure 1). T2 dieters with high depressive symptoms were more likely than dieters with low or moderate depressive symptoms to report T3 binge-eating onset, whereas T2 non-dieters were equally unlikely to report T3 binge-eating onset regardless of level of depressive symptoms ($p < .001$). The association of T2 self-esteem and teasing experiences and T3 binge-eating onset was similar in dieters and non-dieters (all $ps \geq .14$).

Females—Females' T2 depression symptoms ($p < .001$), self-esteem ($p < .001$), and teasing experiences ($p = .002$) each contributed to the prediction of T3 binge-eating onset beyond the effects T2 demographic/anthropometric variables and dieting (see Table 2).

There was a significant additive interaction between dieting status and self-esteem ($p = .02$; see Figure 2). T2 dieters with low or moderate self-esteem had a higher risk of T3 binge-eating onset than non-dieters, but the protective effect of high self-esteem was present equally in both dieters and non-dieters. There was also a significant interaction between dieting status and teasing experiences among females ($p = 0.003$; see Figure 3), such that among T2 dieters there was an increased likelihood of reporting of T3 binge-eating as teasing experiences increased while among T2 non-dieters there was no effect of teasing experience on binge-eating onset. The effects of T2 depression symptoms on T3 binge-eating onset were similar regardless of dieting status ($p = .78$).

DISCUSSION

This study sought to enhance our understanding of the longitudinal relation between dieting and binge-eating in adolescents and young adults by identifying psychosocial factors adding

to the prediction of binge-eating onset beyond the effects of dieting, and exploring how different levels of these factors relate to binge-eating onset among dieters and non-dieters. The importance of depression symptoms, self-esteem, and teasing experiences in predicting binge-eating onset beyond the effects of dieting varied by gender and time-point. In general, dieting significantly predicted binge-eating onset among males and females, and depression symptoms and poor self-esteem were particularly salient predictors of binge-eating onset beyond the effects of dieting alone. Moreover, the presence of these psychosocial factors among dieters (relative to non-dieters) seemed to increase the likelihood of binge-eating onset only over later follow-up periods (i.e., from late adolescence/early adulthood to early/middle adulthood). Thus, dieters are at higher risk for binge-eating onset than non-dieters, and this risk appears to be compounded in those endorsing depression symptoms or low self-esteem. We hypothesize that these symptoms contribute to momentary low mood, with binge-eating serving as a method of alleviating distress. Clinicians should be vigilant in monitoring adolescent and young adult dieters for binge-eating onset, particularly those presenting concomitantly with these symptoms, in order to facilitate early intervention.

Our findings are consistent with established longitudinal associations between dieting and binge-eating in adolescents (5,6): dieters were 2–3 times more likely to develop binge-eating over the 5-year follow-ups. The lack of significant associations among males from T1 to T2 may reflect that dieting tends to become more common and pathological in males as they progress through adolescence and early adulthood (36). More generally, male/female differences in our pattern of findings may indicate a gender-specific developmental pathway to binge-eating onset. Nevertheless, for both males and females, dieting may not be the only factor promoting the initiation of binge-eating, as the prediction of binge-eating onset was improved by considering not only dieting, but also depression symptoms and, separately, self-esteem. Consideration of dieting in conjunction with these factors can improve detection of later binge-eating onset. Dieting, depression symptoms, and self-esteem are relatively overt and may be recognized by individuals in close proximity to adolescents and young adults (e.g., parents, teachers), highlighting them as viable markers for binge-eating onset as well as possible treatment targets.

Although previous research suggests that adults who report binge-eating prior to dieting onset display greater psychopathology than those exhibiting the opposite pattern (37), our results indicate that dieting prior to binge-eating onset is also associated with considerable psychological distress. Future research should seek to disentangle the timing of symptom onset with respect to dieting, depression, and self-esteem in order to inform preventive interventions.

Somewhat contrary to our hypotheses, teasing experiences were a salient factor in the relation between dieting and binge-eating only among females, and only from T2 to T3. It is possible that, due to an increased emphasis on the importance of women's appearance in Western societies, females are more likely than males to internalize negative weight- and shape-related comments (38). In terms of the age-specific effects, while teasing is relatively common among adolescents (especially overweight youth), the persistence of teasing or emergence of new teasing experiences in young adulthood may have a more profound impact on eating behavior (39). Alternatively, the types of appearance-related comments young adults receive may be more hurtful relative to teasing experienced earlier in adolescence, which could explain our findings (40).

Our study was marked by several strengths, including the large and diverse sample. The use of population-based data enhances the generalizability of our findings, and adds to the existing literature regarding dieting and binge-eating, which is largely based on clinical samples. Further, the 10-year follow-up period is longer than that included in other

longitudinal studies, and allowed for ample time to detect new onset binge-eating. Limitations include the use of brief, self-report measures to assess height and weight, and behavioral and psychosocial variables. In particular, self-report of binge-eating and dieting may reflect different experiences for different participants. Attrition represents another potential limitation. However, the sample was weighted to maintain consistency with the original EAT sample and no differences were found between the original sample and the final weighted sample of responders in terms of baseline binge-eating, dieting, or psychosocial variables (all $p>.20$). Thus, weighting procedures were successful, minimizing concerns about the impact of attrition on study results. Because our analyses were stratified by gender, power was somewhat limited, particularly for males and for detecting interactions. Thus, null findings for many of the interactions may be due to minimal power and not to true absence of interaction effects. Finally, as binge-eating status prior to T1 is unknown, it is possible that we misclassified some new onset cases of binge-eating.

Overall, results suggest that depression symptoms and low self-esteem are salient factors involved in the relation between dieting and binge-eating onset. Because dieters endorsing these symptoms were more likely to develop binge-eating over time, early identification of these high-risk individuals should be a priority. Furthermore, although dieting should be discouraged for all young people given its ineffectiveness for long-term weight management (4,6), it may be warranted to discourage this behavior particularly in youth displaying depression symptoms and low self-esteem. Prevention and early intervention efforts may benefit from a focus on these psychosocial factors during adolescence and early adulthood. Future research should clarify the nature of the relation among dieting, depression symptoms, and self-esteem with respect to the order and timing of symptom onset, as well as examine predictors of different patterns of binge-eating (e.g., persistent or fluctuating course).

Abbreviations

BN	bulimia nervosa
BED	binge-eating disorder
BMI	body mass index
SES	socioeconomic status

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Figure 1. Males' likelihood of reporting Time 3 binge-eating onset given Time 2 depression symptoms and dieting status

Figure 2. Females' likelihood of reporting Time 3 binge-eating onset given Time 2 self-esteem and dieting status

Figure 3. Females' likelihood of reporting Time 3 binge-eating onset given Time 2 teasing experiences and dieting status

Table 1

Adjusted odds ratios for new onset binge-eating among males based upon levels of psychosocial factors measured at the previous time-point

	% endorsing or <i>M</i> (<i>S.D.</i>)	Odds ratio (confidence interval) for new onset binge eating at Time 2	<i>p</i> -value	Odds ratio (confidence interval) for new onset binge eating at Time 3	<i>p</i> -value
<i>Time 1 factors (n=768)</i>					
Dieting status	23.9%	1.43 (0.44–4.67)	<i>p</i> =.56	---	---
Depression symptoms	9.6 (2.6)	2.20 (1.36–3.54)	<i>p</i> =.001	---	---
Self-esteem	18.9 (3.4)	0.86 (0.50–1.48)	<i>p</i> =.58	---	---
Teasing experiences	1.9 (1.0)	1.34 (0.86–2.11)	<i>p</i> =.20	---	---
<i>Time 2 factors (n=753)</i>					
Dieting status	24.3%	---	---	2.50 (1.26–4.93)	<i>p</i> =.008
Depression symptoms	10.3 (2.9)	---	---	1.35 (1.00–1.84)	<i>p</i> =.05
Self-esteem	19.0 (3.4)	---	---	0.68 (.050–0.93)	<i>p</i> =.02
Teasing experiences	1.9 (1.0)	---	---	0.97 (0.72–1.32)	<i>p</i> =.86

Note: All analyses controlled for age cohort, race/ethnicity (non-Hispanic white versus all others), overweight status, and socioeconomic status. Analyses involving depression symptoms, self-esteem, and teasing experiences controlled for dieting status as well.

Table 2

Adjusted odds ratios for new onset binge-eating among females based upon levels of psychosocial factors measured at the previous time-point

	% endorsing or <i>M</i> (<i>S.D.</i>)	Odds ratio (confidence interval) for new onset binge eating at Time 2	<i>p</i> -value	Odds ratio (confidence interval) for new onset binge eating at Time 3	<i>p</i> -value
<i>Time 1 factors (n=928)</i>					
Dieting status	54.1%	2.06 (1.24–3.43)	<i>p</i> =.005	---	---
Depression symptoms	10.8 (2.6)	1.63 (1.27–2.09)	<i>p</i> <.001	---	---
Self-esteem	17.5 (3.4)	0.79 (0.61–1.02)	<i>p</i> =.07	---	---
Teasing experiences	2.0 (1.1)	1.12 (0.90–1.39)	<i>p</i> =.33	---	---
<i>Time 2 factors (n=845)</i>					
Dieting status	51.0%	---	---	2.96 (1.78–4.92)	<i>p</i> <.001
Depression symptoms	11.4 (2.8)	---	---	1.55 (1.23–1.96)	<i>p</i> <.001
Self-esteem	18.1 (3.4)	---	---	0.55 (0.43–0.71)	<i>p</i> <.001
Teasing experiences	1.8 (1.0)	---	---	1.40 (1.13–1.73)	<i>p</i> =.002

Note: All analyses controlled for age cohort, race/ethnicity (non-Hispanic white versus all others), overweight status, and socioeconomic status. Analyses involving depression symptoms, self-esteem, and teasing experiences controlled for dieting status as well.