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Weight Status and Psychosocial Factors Predict the Emergence of Dieting in Preadolescent Girls

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Abstract

Objective—The current study tested a longitudinal model predicting the emergence of dieting in girls ($n = 183$) at age 9 years using data from the same girls measured at ages 5 and 7.

Method—Variables related to the girls' weight status, psychological health, body satisfaction, maternal child feeding practices, and family environment are included in a hierarchical regression model predicting the emergence of dieting in girls. Interactions of girls' weight status with other variables in the model are also included in the last step.

Results—Results indicate that the model accounts for 45% of the variance in the outcome scores and that variables across constructs have significant contributions to the model. Results also show that girls' weight status, both independently and as an interaction term, accounts for a large proportion of variance in this model.

Conclusion—Weight status at age 5 years is a critical factor related to the emergence of dieting in young girls.

Keywords

dieting; weight status; psychosocial factors

Introduction

Dieting is a risk factor for disordered eating in adolescence, particularly in female populations, and increases in rates of dieting mirror increases in the growing rates of eating disorders in females (Patton et al., 1997). Dieting also increases the likelihood of overeating and greater weight gain over time, creating a cycle of weight gain and further dieting that may emerge before adolescence (Field et al., 2003). In addition, girls as young as 5 years report an awareness of dieting practices (Abramovitz & Birch, 2000) and girls in middle childhood report engaging in dieting behaviors or wanting to lose weight. Together, these findings suggest that there should be increased concern about the development of unhealthy eating patterns in girls before they enter adolescence. Although the negative effects of early self-initiated dieting have been described (Field et al., 2003), little is documented about the predictors of the early emergence of dieting.

Among adolescents, multiple domains influence the emergence of dieting and other eating pathology: family dynamics, psychological functioning, body satisfaction and weight concerns, maternal eating behaviors and attitudes, and child weight status (Polivy & Herman,

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2002; Stice, 2002). It is likely that these factors also influence the risk for eating pathology during middle childhood. Recently, Kovacs, Obrosky, and Sherrill (2003) reported that depressed girls (ages 8–13 years) were at a higher risk for the onset of eating disorders by young adulthood (up to age 21) and the presence of depression was related to a concurrent risk for an eating disorder. Negative affect before adolescence, then, is related to the risk for disordered eating over time and this finding suggests the need to examine this relationship in middle childhood.

During childhood, the family provides a critical context for the emergence of dieting and disordered eating. Studies from Birch and colleagues highlights the impact that the family environment can have on the development of disordered eating behaviors, and, in particular, focuses on the etiology of childhood overweight (Davison & Birch, 2001), the development of disinhibited, overeating patterns (Fisher & Birch, 1999), and on the awareness of and exposure to dieting practices (Abramovitz & Birch, 2000). To summarize, there are both individual characteristics and family environmental experiences during childhood that are related to child eating behaviors and attitudes.

There is also evidence that weight status may also play a central role in the emergence of dieting during middle childhood. Recent work has shown that overweight girls at ages 5 and 7 years indicate lower self-concept across multiple domains (Davison & Birch, 2002) and report greater body dissatisfaction over time (Davison, Markey, & Birch, 2003). Burrows and Cooper (2002) also report that girls ages 11–12 years who were overweight were more likely to engage in restrained eating and that higher weight status has been linked to the initiation of dieting in adolescence (Field et al., 2003; Stice, Cameron, Killen, Hayward, & Taylor, 1999). In a cross-sectional study of adolescents, Ackard, Neumark-Sztainer, Story, and Perry (2003) found that those who engaged in overeating were more likely to be overweight or obese, to have a history of past and current dieting, and to indicate that feelings related to weight and body shape are important to their self-concept. Elevated weight status elevates the risk for disordered eating and may also moderate the influence of other individual characteristics on eating disorder risk. However, there is limited research on the interaction of weight status with other factors associated with dieting.

The goal of the current study is to examine the contribution of weight status to the early emergence of dieting in preadolescent girls, independently and in combination with psychosocial variables previously identified as predictors of adolescent eating pathology (Polivy & Herman, 2002; Stice, 2002). Specifically, a multivariate approach is used to evaluate a model predicting the emergence of dieting in girls at age 9 years, using girls' previous weight status, psychological functioning, maternal child feeding practices, and family environment variables, measured at ages 5 or 7 years. The model also assesses whether girls' weight status may moderate the influence of other individual and family characteristics on the emergence of dieting during middle childhood.

Methods

Participants

Participants were from central Pennsylvania and were part of a longitudinal study of the health and development of young girls. At entry into the study, participants included 197 five-year-old girls (mean age = 5.4 ± 0.4) and their parents, of whom 192 families were reassessed 2 years later when girls were 7 years old (mean age = 7.3 ± 0.3). A third assessment with 183 families was conducted 2 years later when girls were 9 years old (mean age = $9.34, \pm 0.3$). Families with age-eligible female children within a five-county radius received mailings and follow-up phone calls. Eligibility criteria for girls' participation at the time of recruitment included living with both biologic parents, the absence of severe food allergies or chronic

medical problems affecting food intake, and the absence of dietary restrictions involving animal products. Families were recruited for participation in the study using flyers and newspaper advertisements and were not recruited based on weight status or concerns about weight. Table 1 shows the specific background and demographic information of the participants at entry into the study.

Procedure

During each wave of data collection, girls visited the laboratory for two 1-day “camp visits” during the summer, with 6 girls visiting the laboratory on a typical data collection day. Each girl was individually interviewed by a trained interviewer and throughout the day the girls answered a variety of questions related to their eating behaviors and attitudes, weight concerns, perceptions of maternal feeding practices, and body satisfaction, as well as other questions related to their psychological functioning and family environment. During the visit, girls ate breakfast, a morning snack, and lunch. Anthropometric measurements were taken during the second visit.

Mothers also participated at each wave of data collection by completing questionnaires assessing each mother's own weight concerns, body satisfaction, eating behaviors, and child feeding practices, along with questions about the mothers' marital experiences, psychological functioning, and parenting attitudes. A trained staff member also took height and weight measurements for each of the mothers. Similar data were collected from the participants' fathers. However, because of the focus of the current study, these data are not included in the analyses.

Measures

Emergence of Dieting—Several behaviors and attitudes, such as concern about being overweight, a desire to be thinner, feelings of guilt in relation to eating, and the controlled intake of food, indicate the emergence of dieting. To accurately assess the emergence of dieting, it is necessary to measure these related attitudes and behaviors. In the current study, the outcome variable, the emergence of dieting, was assessed by a subscale from the Children's Eating Attitudes Test (chEAT), which measures eating behaviors and attitudes frequently associated with disordered eating (Maloney, McGuire, & Daniels, 1988; Maloney, McGuire, Daniels, & Specker, 1989) and is based on the 26-item Eating Attitudes Test (EAT-26; Garner & Garfinkel, 1979).

The chEAT is a 26-item questionnaire designed to measure dieting, weight concerns, and food preoccupation with a 9-point Likert response scale with response options ranging from *never* to *always* (Maloney et al., 1988, 1989). In this study, two of the original variables (“I vomit after I have eaten” and “I have the urge to vomit after eating”) were removed, as these variables were not considered appropriate for 9-year-olds. Rather than using a total score, confirmatory factor analysis was performed on these data and the emergence of dieting subscale scores was used as the outcome measure. The emergence of the dieting subscale reflects intent to restrict intake (e.g., “I stay away from foods with sugar in them”), concerns about weight (e.g., “I think a lot about having fat on my body”), and the desire to be thin (e.g., “I think a lot about being thinner”). Higher scores on this subscale reflect an increased likelihood of dieting (see Table 2). This subscale had an alpha value of .67 and was significantly correlated ($r = .72, p < .001$) with the total chEAT score.

Weight Status—Girls' height and weight were measured in triplicate at each age by a trained research assistant, and their body mass index (BMI; kg/m^2) was calculated.

Psychological Health—The Children's Depression Inventory (Kovacs & Beck, 1977) was administered to girls when they were 7 years old. The scale contains 27 items and for each item the child is asked to pick the statement that best describes her over the past 2 weeks. Item examples include “I like myself,” “I do not like myself,” and “I hate myself.” Scores range from 0 to 54, with lower scores (<19) indicating a higher severity of depression. Previous research reported test-retest reliabilities of .50–.72 and Cronbach $\alpha > .80$ (Smucker, Craighead, Craighead, & Green, 1984). Cronbach $\alpha = .75$ at age 7 years.

The Harter Perceived Self-Competence Scale (Harter, 1982; Harter & Pike, 1984) contains 28 items and 4 subscales (cognitive competence, social competence, physical competence, and general self-worth). The Pictorial Scale of Perceived Competence and Social Acceptance for Young Children was developed based on the original version and measures self-competence (Harter & Pike, 1984). The pictorial version for 4–5-year-olds was used when girls were age 5 years. Cronbach $\alpha = .77$ for general competence at age 5 years.

Feeding Practices—The Child Feeding Questionnaire (CFQ; Birch et al., 2001) contains 31 items that assess dimensions of parental control in child feeding and factors that may elicit maternal control. Two factors pertaining to risk factors and concerns that may elicit maternal control in feeding were used in this study: (a) maternal perceived child overweight assessed mothers' perceptions of greater overweight in their daughter and (b) maternal concerns about child overweight assessed parents' concerns about the child's weight and risk of being overweight. Mothers' attitudes and practices about controlling child feeding strategies were also included in analyses by using the restriction subscale, which assesses the extent to which mothers restrict their child's access to and intake of foods. All items were measured using a 5-point Likert-type scale, with each point on the scale being represented by a word anchor. Reliabilities for these subscales were .82 for perceived child overweight, .47 for concerns about child overweight, and .78 for restriction.

Marital Relationship—The love subscale from the Relationships Questionnaire (Braiker & Kelley, 1979) was used for the current study. This subscale contains items that measure marital love, belonging, and interdependence. Scores are calculated by summing respective items, with higher scores indicating a greater degree of love. Possible scores range from 10 to 90 on the Love subscale. For this sample at Wave 1, Cronbach $\alpha = .94$ for the love subscale.

The Children's Perception of Interparental Conflict (CPIC; Grych, Seid, & Fincham, 1992) was adapted for this study and contains 42 of the original items and 6 subscales. The subscales include frequency, intensity, resolution, content, perceived threat, and self-blame. A conflict over food 8 item subscale created in the laboratory was also added. The response set was also changed from true, sort of true, and false to yes, sometimes, and no. A total score was calculated by summing all responses so that higher scores indicate higher perceived parental conflict. Grych et al. (1992) reported Cronbach $\alpha = .78$ –.90 for all subscales. Cronbach α at age 7 years = .71, .71, .77, .78, .53, .65, and .73 for frequency, intensity, resolution, perceived threat, self-blame, child-centered conflict, and weight related conflict. The total scale $\alpha = .90$.

Statistical Analyses

Confirmatory Factor Analysis—To determine whether the three-factor structure previously reported for the chEAT (Kelly, Ricciardelli, & Clarke, 1999; Smolak & Levine, 1994), including dieting, food preoccupation, and social pressure, could be confirmed in our data set, confirmatory factor analysis was performed on data from the ChEAT, obtained when girls were 9 years old. Only items loading above .30 and only those items loading on a single factor were included in the final model.

Correlation Analyses—Based on previous literature, seven sets of variables including weight status, psychological functioning, weight and body concerns, eating in the absence of hunger, child feeding practices, and family environment were hypothesized to predict girls' emergence of dieting. Pearson correlations were calculated to assess relations between the predictor variables and the emergence of dieting. Those variables that correlated with the emergence of dieting at the $p < .10$ level were retained for further analyses. Pearson correlations among the predictor variables themselves were also calculated to assess potential multicollinearity issues.

Hierarchical Regression—Variables measured when girls were ages 5 or 7 were entered into a hierarchical regression model testing the emergence of dieting in girls at age 9. All analyses were conducted using SAS version 8.2. Table 3 contains the order in which the sets of variables were entered into the model.

As shown in Table 3, we began by entering variables measuring girls' individual characteristics, beginning with weight status, and then adding psychosocial variables, and finally variables relevant to the family environment. Girls' BMI was entered in Step 1, depression was added in Step 2, followed by self-competence in Step 3. Child feeding practices reported by mothers when girls were age 5 were then entered in Step 4 and marital relationship variables were included at Step 5 to determine if they significantly added to the variance accounted for in previous steps. Interactions with weight status were then entered into the model in the last steps of this model. Specifically, in Step 6, the interaction between weight status and girls' depression was entered, followed by the interaction of weight status and girls' self-competence in Step 7. Step 8, the last step, contained the interaction of weight status with maternal restriction of child intake. These interactions were included in the model because it has been shown in previous research that weight status, particularly overweight, is related to such constructs as psychological functioning and maternal feeding practices.

This research was reviewed and approved by an institutional review board.

Results

Sample Description

Predictor variables used in the current study were all measured before age 9, when the outcome variable, the emergence of dieting subscale, was measured. These data are presented for the total sample in Table 1. Girls' BMI at study entry reflected national age and sex-specific norms (Rosner, Prineas, Loggie, & Daniels, 1998) (17.3% overweight, 3.6% obese). Girls generally indicated relatively high levels of psychological well-being, as indicated by reports of high levels of self-competence and generally low levels of depression, and relatively high levels of body esteem before age 9. Girls and mothers also reported typical child feeding practices and experiences. Girls' reports of perceptions of parental conflict, as well as maternal reports of marital love, indicated that, on average, the girls' parents had harmonious marriages before age 9.

Confirmatory Factor Analysis

Based on previous research (Kelly et al., 1999; Smolak & Levine, 1994), confirmatory factor analysis of the chEAT, a three-factor solution was confirmed in the data at age 9: emergence of dieting, food preoccupation, and social pressure to eat. Items loaded on only one factor and all loadings were above .3 (Table 2). At age 9, girls' total chEAT scores, on average, reflected that typical scores for girls at this age were generally low, corresponding to other norms reported (Maloney et al., 1988, 1989), although the range of scores on this measure and on the subscales was large.

The emergence of dieting factor was used as the outcome variable in the current study. Items on this factor reflect avoidance of specific foods (i.e., sugars and carbohydrates), feelings of discomfort and guilt after eating, a preoccupation with being thinner and/or not being overweight, and the initiation of dieting. Higher scores on this factor indicate concerns about body weight and body shape, attempts to restrict intake, and feelings of guilt after eating. The emergence of dieting subscale had a Cronbach alpha value of .67, indicating acceptable reliability. This subscale was also correlated with the other two factors and with the total chEAT score, suggesting that this subscale is, in general, related to the risk for disordered eating. Specifically, emergence of dieting and food preoccupation were correlated at .54 ($p < .001$), dieting and social pressure had a correlation of .14, and emergence of dieting and the total chEAT score were correlated at .72 ($p < .001$).

Model for the Emergence of Dieting

As illustrated in Figure 1, the inclusion of girls' weight status (BMI) in Step 1 accounted for 10% of the variance in the emergence of dieting scores. With the inclusion of depression in Step 2, another 5% of the variance in the outcome scores was accounted for, whereas Step 3, self-competence, accounted for a further 6% of the variance in the emergence of dieting outcome scores. Therefore, Steps 1–3 accounted for 21% of the variance in girls' emergence of dieting scores at age 9. Maternal child feeding practices, entered in Step 4, did not account for a significant proportion of the variance in the outcome scores. With the addition of marital relationship variables in Step 5, a further 4% of the variance in the emergence of dieting scores was accounted for, although only maternal reports of marital love, and not girls' perceptions of interparental conflict, had a significant p value at entry. Within the first five steps, 26% of the total variance was accounted for and girls' weight status, girls' depression and self-competence, and marital relationship variables all accounted for a significant portion of the variance in the emergence of dieting scores.

Finally, several interactions with girls' BMI (Steps 6–8) were also significant, with weight status moderating the effects of the psychosocial factors. In general, higher weight status exacerbated the influence of the other variables. For example, girls with high weight status and higher levels of depression were more likely to show evidence for the early emergence of dieting. This interaction of girls' weight status with depression (Step 6) accounted for an additional 4% of the variance. Similarly, higher weight status, in combination with lower self-competence, predicted higher emergence of dieting scores. This interaction, entered in Step 7, accounted for an additional 12% of the variance in the emergence of dieting factor scores so that a total 42% of variance was accounted for. The final step (Step 8), interactions of weight status with maternal feeding practices, accounted for another 3% in the outcome scores, so that girls with higher weight status who received higher restricted access to food and/or girls with higher weight status who had mothers who expressed greater concern about the child's future weight status had higher scores on the outcome measures. In total, these last three steps accounted for 19% of the overall variance in girls' emergence of dieting scores at age 9, and the complete model accounted for a total of 45% of the variance in the emergence of dieting.

Conclusion

The results of the current study indicate that a combination of individual and family characteristics measured at ages 5 and 7 can predict the emergence of dieting in girls at age 9, providing support for the recent arguments for a multifactorial and multivariate approach within eating disorders research (Pearson, Goldkang, & Striegel-Moore, 2002; Stice, 2002). These findings indicate that in addition to weight status, variables traditionally related to the onset or diagnosis of adolescent eating disorders also impact the emergence of early dieting,

suggesting that such variables related to eating pathology exert an early developmental influence on the risk for later eating problems before the actual onset of eating pathology.

Girls' weight status at 5 years was an important predictor of the emergence of dieting at age 9, and weight status also moderated the influence of psychosocial predictors of the emergence of dieting. The findings revealed that girls who had higher BMIs earlier in childhood are at greater risk for the emergence of dieting later in middle childhood. Other predictors of the early emergence of dieting included higher levels of depression, lower general self-competence, and lower marital love. In addition, weight status moderated these effects, with higher weight status exacerbating the negative effects of depression, self-competence, and maternal restriction of child's intake on the emergence of dieting. This model accounted for nearly 50% of the variance in the emergence of dieting, and more than one half of the total variance was accounted for by girls' previous weight status and interactions involving weight status. Although other recent longitudinal findings have underscored the importance of weight status as a predictor of the emergence of dieting among adolescents (Field et al., 2003; Stice, et al., 1999), the current findings indicate that higher weight status confers an elevated risk for the emergence of dieting even earlier in development, during middle childhood. In the current study, girls' weight status at 5 predicted the emergence of dieting at age 9.

The current findings are also consistent with those of Byely, Archibald, Graber, and Brooks-Gunn (2000), who reported a similar significant and unique contribution of weight status to the prediction of girls' (mean age 12.5) problematic dieting, and with those of Graber, Brooks-Gunn, Paikoff, and Warren (1994) who report the relationship of higher percent body fat in adolescent females with the risk for chronic eating problems. Burrows and Cooper (2002) also reported that overweight preadolescent girls (age 11–12) were more likely to engage in restrained eating. Furthermore, Burrows and Cooper reported that overweight girls in their study reported more weight, eating, and body shape concerns, higher dietary restraint, lower self-esteem, and more depressive symptoms, similar to the interactions of girls' BMI with depression and self-competence in our study. Therefore, higher weight status in both the current study and in the article by Burrows and Cooper interacted with variables associated with the risk for disordered eating, suggesting that the relationships among these predictor variables and the risk for disordered eating are better understood when weight status is also considered. Although it could be argued that overweight children should diet to lose weight, there is growing evidence that dieting attempts in young children and adolescents actually contribute to greater weight gain and overeating over time (Field et al., 2003), indicating that dieting is not an appropriate approach to weight loss or weight management in childhood. Therefore, as dieting is related to an increased risk for both later restrictive eating and overeating problems, as well as bingeing and purging behaviors, the finding that elevated weight status at age 5 predicted higher dieting factor scores at age 9 underscores the critical role that childhood overweight and obesity has in a cascade of behaviors that may result in trajectories that lead to later eating pathology and subsequent overweight.

Depression, Self-Competence, and the Emergence of Dieting

Previous research with adolescents and adults has revealed that depression and self-competence predict dieting and restrictive eating behaviors (Polivy & Herman, 2002; Stice, 2002). The results of the current study show similar patterns for the relationship of depression and self-competence with the emergence of dieting. Negative affect and low self-esteem have long been associated with eating disorders, although the evidence regarding the temporal and causal links has been inconsistent. However, as reviewed by Polivy and Herman (2002), the current view is that negative affect precedes the development of eating pathology, and the findings in this study support this conclusion. In the current research, girls' depression at age 7 and self-competence at age 5 were significant predictors of the emergence of dieting at age 9, providing

evidence that negative affect is implicated in the development of disordered eating but that these variables alone do not fully account for the development of this risk.

Weight status moderated the effects of depression. Girls with higher BMIs at age 5 who also had higher depression scores at age 7 were more likely to report higher scores on the emergence of dieting factor at age 9. Although links between depression and dieting have been established in previous research, the current findings indicate that both weight status and depression in previous models limit the ability to understand the independent effects of weight status and depression and how their interaction predicts the onset of dieting. Similarly, girls with lower self-concept and higher weight status were at elevated risk for the emergence of dieting at age 9. Negative affect in childhood is related to eating disorders, in females, during adolescence and young adulthood (Kovacs et al., 2003) and this study suggests that similar relationships emerge during middle childhood.

Family Environment and the Emergence of Dieting

During childhood, the family provides a critical context for the emergence of dieting and disordered eating. Work from Birch and colleagues highlights the impact that the family environment can have on the development of disordered eating behaviors and overweight in childhood (Davison & Birch, 2001), the development of disinhibited, overeating patterns (Birch, Davison, & Fisher, 2003), and on the awareness of and exposure to dieting practices (Abramovitz & Birch, 2000). The current findings extend these findings to reveal that the family environment also has an impact on the emergence of dieting.

In the current study, maternal reports of marital love predicted the emergence of dieting scores so that lower levels of marital love (i.e., low marital warmth and low sense of belonging or intimacy) when girls were age 5 indicated higher emergence of dieting scores at age 9. These findings support the contention that family environments displaying fewer positive emotions, less affection, or higher levels of parental conflict may promote disordered eating in girls, as initially described by Bruch (1973) and Minuchin and Baker (1990). More recently, Wade and colleagues have reported that parental conflict was related to the development of bulimia nervosa (Wade, Bulik, & Kendler, 2001) and of over-valued ideas about weight and body shape (Wade & Lowes, 2002), although in those studies, parental conflict alone was not a specific risk factor for eating pathology alone (Wade et al., 2001) and effects of parental conflict were mediated by self-esteem (Wade & Lowes, 2002). Byely et al. (2000) also reported that girls' perceptions of negative family relations were linked to girls' problematic dieting over time. However, the processes linking dysfunctional family environments to the development of eating pathology are not understood.

In regards to maternal feeding practices and the family eating environment, although the main effects of child feeding practices on the prediction of the emergence of dieting were minimal, maternal restriction of girls' intake interacted with girls' weight status such that mothers of girls with higher BMIs reported greater restriction of their daughters' eating. Birch and colleagues have shown that maternal restriction of intake is linked to girls' eating in the absence of hunger (Birch et al., 2003; Fisher & Birch, 1999) and specifically that overweight girls at age 5 who received greater maternal restriction, in comparison to normal weight girls who receive high or low maternal restriction and overweight girls who receive low maternal restriction, have higher intake in the absence of hunger at age 9 (Birch et al., 2003). Overweight girls who have restricted access to food, then, are learning not to respond to their own hunger and satiety cues, leading to overeating in response to social or emotional cues.

Limitations

The ability to generalize our findings is limited because the sample in this study comprised exclusively non-Hispanic White girls and their families from the Central Pennsylvania region. Therefore, these findings cannot be generalized to boys or to other racial or ethnic groups or to low-income populations.

Implications for Intervention Programs

Recent reviews highlight the need for improved eating disorder prevention programs (Pearson et al., 2002) and the current findings suggest that girls with elevated weight status during middle childhood should be targeted for such prevention efforts. A recent American Academy of Pediatrics (AAP) policy statement (Krebs et al., 2003) addresses the importance of monitoring children's BMI and for early identification of children who are overweight or at risk for overweight. This statement also provides initial guidelines for identification, prevention, and treatment of childhood overweight, to reduce the risk for later chronic diseases and the psychosocial problems experienced by overweight children. The current findings, revealing that elevated weight status also increases the risk for early dieting, provide additional support for early intervention and prevention programs to reduce and prevent childhood overweight. Although it could be argued that overweight children should be taught to lose weight, there is evidence that weight control attempts in children are unsuccessful and may introduce further weight again (Field et al., 2003) along with disordered eating, such as disinhibited or overeating (Stice 2002; Stice, Presnell, & Spangler, 2002). Therefore, interventions that provide positive alternatives to self-initiated dieting attempts are needed. Such interventions should promote physical activity, the consumption of appropriate portion sizes, and the selection of diets that are higher in fruits, vegetables, and fiber, and lower in fat and energy density.

In the past, some investigators have voiced concerns that a focus on childhood overweight and the identification of children as overweight may promote disordered eating among children. However, the current findings reveal that overweight children are at elevated risk for disordered eating and chronic problems of energy balance by virtue of early self initiated dieting attempts, a pattern associated with excessive weight gain and binge eating symptoms (Field et al., 2003; Stice, 2002; Stice et al., 1999). Furthermore, as the rates of childhood and adolescent overweight continue to increase, it is likely that rates of dieting and, therefore, disordered eating, will also increase, indicating that prevention of overweight is imperative. In our view, these findings suggest that the implementation of the AAP guideline (Krebs et al., 2003) for the early monitoring, identification, prevention, and treatment of childhood overweight also has potential as an effective first step in the early prevention of early dieting, and in reducing the risk for disordered eating among children and adolescents.

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FIGURE 1.

Predictors of the emergence of dieting. Step 1 = body mass index (BMI), $R^2 = .10$; Step 2 = Depression, $\Delta R^2 = .05$; Step 3 = self-competence, $\Delta R^2 = .06$; Step 4 = maternal feeding practices, $\Delta R^2 = .01$; Step 5 = marital relationship, $\Delta R^2 = .04$; Step 6 = BMI $\times$ Depression, $\Delta R^2 = .04$; Step 7 = BMI $\times$ Self-Competence, $\Delta R^2 = .12$; Step 8 = BMI $\times$ Child Feeding Practices, $\Delta R^2 = .03$.

TABLE 1

Background and predictor variables

Variables	Range	<i>M (SD)</i>
Background variables ^a		
Mom's age	24.10–46.95	35.36 (4.77)
Family income	<20,000–50,000+	\$35,000–\$50,000
Mom's education	12–20 ^b	14.53 (2.28)
Mom's BMI	17.69–56.18	26.39 (6.05)
Dependent variables ^c		
Emergence of dieting	0–18	.84 (2.37)
Predictor variables ^d		
Girl BMI	13.06–25.31	15.92 (1.64)
Depression	0–24	5.84 (4.80)
Self-competence	2.5–8	6.97 (.87)
CFQ restriction	1–3	2.93 (.85)
CFQ perceived child overweight	1–3	3.15 (.60)
CFQ girl weight concerns	1–5	2.62 (1.16)
Marital love	1–9	7.54 (1.44)
Girls' perception of conflict	1–3	1.53 (.31)

Note: BMI = body mass index; CFQ = Child Feeding Questionnaire.

^a Measured at entry into the study.

^b 12 = high school; 13–16 = college; 16+ = graduate/law/medical school.

^c Measured at age 9.

^d Measured before to age 9.

TABLE 2

Emergence of dieting subscale items and loadings

Items on Each Factor	Factor 1
Emergence of dieting	
Scared about being overweight	.63
Feel guilty after eating	.61
Think a lot about wanting to be thinner	.77
Think a lot about having fat on my body	.80
Stay away from foods with sugar	.45
Feel uncomfortable after eating sweets	.50
I have begun dieting	.60

TABLE 3
Hierarchical regression model: order of variable entry

Step 1: weight status
 Girls' BMI (age 5)
 Step 2: depression
 Depression (age 7)
 Step 3: self-competence
 Self-competence (age 5)
 Step 4: child feeding practices
 CFQ restriction (age 5)
 CFQ maternal perceived child overweight (age 5)
 CFQ child weight concerns (age 5)
 Step 5: marital relationship
 Maternal report of marital love (age 5)
 Girls' perception of parental conflict (age 7)
 Step 6: BMI $\times$ depression
 BMI $\times$ depression
 Step 7: BMI $\times$ self-competence
 BMI $\times$ self-competence
 Step 8: BMI $\times$ child feeding Practices
 BMI $\times$ maternal child weight concerns
 BMI $\times$ maternal restrictions of child's intake
 BMI $\times$ maternal perceived child overweight

Note: BMI = body mass index; CFQ = Child Feeding Questionnaire.