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## Associations between hurtful weight-related comments by family and significant other and the development of disordered eating behaviors in young adults

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### Abstract

**Background**—Research has found that weight-teasing is associated with disordered eating in adolescents. This study expands on the existing research by examining associations between hurtful weight comments by family and a significant other and disordered eating in young adults.

**Methods**—Data come from 1,902 young adults (mean age 25) who completed surveys in 1998, 2003 and 2009. Correlations were examined between receiving hurtful comments from family and significant others, and four disordered eating behaviors in young adulthood, adjusting for prior disordered eating and prior teasing.

**Results**—Disordered eating behaviors were common in young adulthood, and were associated with hearing hurtful weight-related comments from family members and a significant other, for both females and males.

**Conclusion**—Disordered eating prevention activities, which include messages about the potential harm associated with hurtful weight-related comments, should be expanded to address young adults, and programs may want to target relationship partners.

### Keywords

young adults; disordered eating; teasing; weight comments

### Introduction

Disordered eating behaviors are common in young adulthood. Recent research has shown that almost half of females in this age group report skipping meals for weight control, and many reported more extreme behaviors such as diet pill use (20%) or self-induced vomiting (7%) (Neumark-Sztainer, Wall, Eisenberg, Story & Hannan, 2006a); and these behaviors were common across all weight categories (Neumark-Sztainer et al, 2006a; Boynton Health Service, 2010). Dieting and unhealthy weight loss strategies predict the onset of more severe eating disorders and weight gain over time (Stice & Agras, 1998; Patton, Selzer Coffey,

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Carlin & Wolfe, 1999; Stice, Cameron, Killen, Hayward & Taylor, 1999; Stice, Presnell, Shaw & Rohde, 2005; Neumark-Sztainer, Wall, Guo, Story, Haines & Eisenberg, 2006B;), as well as depression and other medical and psychosocial morbidity (Stice, Hayward, Cameron, Killen & Taylor, 2000; Katzman, 2005).

Factors contributing to unhealthy weight control behaviors are likely to stem from environmental and social factors, at least in part. During young adulthood, some females and males experience hurtful weight-related comments, and these comments may come both from family members and romantic partners (Sheets & Ajmere, 2005; Taylor, Bryson, Doyle, et al, 2006; Eisenberg, Berge, Fulkerson & Neumark-Sztainer, 2011). Evidence suggests that weight teasing and related comments both from family members and romantic partners may be linked to disordered eating behaviors and psychosocial problems (Sheets & Ajmere, 2005; Taylor et al, 2006). For example, Taylor and colleagues (2006) found that college women who recalled negative comments about weight, shape and eating from their family members also reported lower self-esteem and greater emotional neglect. However, Sheets and Ajmere (2005) found, contrary to their hypothesis, that weight-related comments from a romantic partner were not related to young adults' self-esteem or weight-loss attempts. In addition, our previous work with adolescents showed that weight-based teasing by peers or family members was associated with low self-esteem, high depressive symptoms and thinking about or attempting suicide (Eisenberg, Neumark-Sztainer & Story, 2003) as well as unhealthy weight control practices and binge eating (Neumark-Sztainer, Falkner, Story, Perry, Hannan & Mulert, 2002a); furthermore, many of these associations persisted five years later, into early young adulthood (Haines, Neumark-Sztainer, Eisenberg & Hannan, 2006). Given the high prevalence of disordered eating behaviors in young adults and their physical and psychosocial consequences, it is important to identify factors associated with their occurrence, and target them in interventions aimed at disordered eating prevention.

While the literature on weight-related comments has focused almost exclusively on the experience of "teasing" in younger populations, related research with adults has broadened the scope to address other stigmatizing experiences (Myers & Rosen, 1999; Annis, Cash & Hrabosky, 2004; Puhl & Brownell, 2006), including weight-related comments intended to be helpful or positive (Herbozo & Thompson, 2006; Calogero, Herbozo, & Thompson, 2009) as well as comments addressed to others regarding their weight (Ousley, Cordero & White, 2008; Aubie & Jarry, 2009). Although such interactions may not have the same hurtful intent as more overt teasing, several studies have found these experiences to be associated with eating behavior (Ousley et al, 2008; Aubie & Jarry, 2009) and body dissatisfaction (Ousley et al, 2008; Calogero et al, 2009), and this broader conceptualization of weight-related stigmatization is appropriate to older age groups.

One shortcoming of the extant literature, however, is that the bulk of research with young adults has included four-year college samples, which may not be representative of the general population of 18–25 year olds in terms of weight, stigmatizing experience, emotional health or related behaviors (Nelson, Larson, Barr-Anderson, Neumark-Sztainer & Story, 2009; Laska, Pasch, Lust, Story & Ehlinger, in press). Likewise, disordered eating research has focused predominantly on young women, even though recent studies indicate that young men also experience hurtful weight-related comments from family and romantic partners (Sheets & Ajmere, 2005; Eisenberg et al, 2011). Finally, young adulthood is a stage of life characterized by greater independence from family, development of lasting romantic relationships and long-term employment and is, as such, distinct from adolescence and older adulthood (Arnett, 2000). This transitional phase, and entry into adult roles such as romantic partnership and parenthood, may provide more sources of personal self-evaluation and satisfaction, resulting in less emphasis on weight concerns. Most research, however, has

either relied on younger adolescent samples or has not differentiated across adult age groups.

The present study, therefore, examines the association between hurtful weight-related comments from family members and significant others and disordered eating behavior in young adulthood, controlling for previous weight-related teasing, previous use of disordered eating behaviors, and other personal characteristics. Understanding weight-related comments and their relationship with disordered eating behaviors will provide valuable insight that can be used to improve prevention efforts for this population.

## Methods

### Study Design and Population

Data come from Project EAT-I, II, and III (Eating and Activity in Teens and Young Adults), a 10-year longitudinal study of dietary intake, physical activity, weight control behaviors, weight status, and factors associated with these outcomes among young people.

The sample was originally drawn from 31 public middle- and high schools in the Minneapolis/St. Paul area of Minnesota in 1998 (Neumark-Sztainer, Croll, Story, Hannan, French & Perry, 2002b; Neumark-Sztainer, Story, Hannan & Croll, 2002c) and included 4,746 participants (mean age=14.9). In EAT-II, participants were mailed follow-up surveys to examine changes in their eating patterns, weight control behaviors, and weight status as they progressed through adolescence (mean age=19.5) (Neumark-Sztainer et al, 2006a; Neumark-Sztainer et al, 2006b). EAT-III was designed to follow up on participants as they progressed from adolescence into young adulthood. The sample for the present study includes participants who completed follow-up surveys in 2003–2004 (EAT-II, Time 2) and in 2008–2009 (EAT-III, Time 3).

Of the original cohort, 1,304 (27.5%) were lost to follow-up for various reasons, primarily missing contact information at Time 1 (n=411) and no address found at Time 2 or Time 3 follow-up (n=712). At Time 3, survey invitation letters, providing the web address and a unique password for completing the online version of the Project EAT-III survey and a food frequency questionnaire were mailed to the remaining 3,442 participants. To enhance participant response, non-responders were sent three reminder letters. The second reminder letter included paper copies of the surveys, and all other mailings included a postage-paid card for requesting paper surveys. Reminder postcards were additionally mailed to participants that did not complete surveys after logging into the online survey or requesting paper forms. Internet tracking services were employed to identify correct addresses when any mailing was returned due to an incorrect address. Data collection ran from November 2008 to October 2009 and was conducted by the Health Survey Research Center (<http://www.sph.umn.edu/about/hsrc/>) in the School of Public Health at the University of Minnesota, Minneapolis. The University of Minnesota's Institutional Review Board Human Subjects Committee approved all protocols used in Project EAT at each of the three time points.

The present sample includes 1,902 participants (1080 females and 822 males), representing 78.7% of those who were contacted at Time 3 (40.4% of those in the original school-based sample). At Time 3, their mean age was 25.3 years (SD=1.6; range=21.2–31.2).

### Survey development and measures

The Project EAT survey was developed at Time 1 and revised for use at Time 2 and 3. Development of the original Time 1 survey was guided by a theoretical framework (Bandura, 1986), literature reviews, expert review by professionals from different

disciplines, focus groups with adolescents (Neumark-Sztainer, Story, Perry & Casey, 1999), and pilot testing. Test-retest reliability was assessed in a diverse sample of adolescents (n=161). New items were added at Time 3, including questions about relationship status and interactions with a significant other. The revised survey was pre-tested by a diverse group of young people in focus groups (four groups, n=27), and feedback was used to reword or eliminate problematic survey measures prior to additional testing. A revised follow-up survey was pilot tested with a different sample of 66 young adults to examine two-week test-retest reliability and the internal consistency of scales. The results were used to further refine the wording of measures. Additional details of the survey development process are described elsewhere (Neumark-Sztainer et al, 2002b; Larson, Neumark-Sztainer, Story, van den Berg & Hannan, in press).

Weight-related teasing and comments were assessed at all three time points. At Time 1 and Time 2, participants were asked to indicate “How often do any of the following things happen,” followed by five examples of peer harassment experiences. The item “You are teased about your weight,” was used in the present study, and response options included never, less than once a year, a few times a year, a few times a month, and a few times a week. At Time 3, we sought terminology that would be equivalent to weight-teasing but more age-appropriate; based on feedback from focus group and pilot test participants, the revised measures referred to weight-related “comments,” specifically, “How often do family members make comments to you about your weight or your eating that make you feel bad?” and “How often does your significant other make comments to you about your weight or your eating that make you feel bad?” (among those who indicated they had a significant other (yes/no)). Response options ranged from “never” to “a few times a week” (as above) and were dichotomized to compare those who experienced these comments never or less than once a year vs. a few times per year or more, based on previous analyses in this study population that found that this level of teasing was associated with adverse psychological and behavioral outcomes (Neumark-Sztainer et al, 2002a; Haines et al, 2006; Haines, Neumark-Sztainer, Hannan, van den Berg & Eisenberg, 2008). These items had test-retest correlations of .72 (family) and .61 (significant other).

Dependent variables included four disordered eating behaviors. These were assessed using the same items at all time points, and included a general dieting item (because self-reported dieting, however interpreted by young people, has been found to be predictive of excessive weight gain, obesity and other disordered eating behaviors (Stice et al, 1999; Field, Austin, Taylor et al, 2003; Neumark-Sztainer et al, 2006a)), and three items referring to specific 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... 1) never; 2) 1–4 times; 3) 5–10 times; 4) more than 10 times; or 5) I am always dieting” (test-retest  $r=.76$ ). Respondents reporting that they had gone on a diet 5 or more times in the past year were categorized as chronic dieters. Specific unhealthy weight control behaviors over the past year were assessed with the question: “Have you done any of the following things in order to lose weight or keep from gaining weight during the past year?” (yes/no for each method). Responses classified as unhealthy weight control behaviors included doing one or more of the following: 1) fasted; 2) ate very little food; 3) used food substitute (powder/special drink); 4) skipped meals; and 5) smoked more cigarettes (test-retest kappa values = .44–.68). Responses classified as extreme weight control behaviors included one or more of the following: 1) took diet pills; 2) made myself vomit; 3) used laxatives; and 4) used diuretics (test-retest kappa values = .29–.58). Binge eating was assessed with two questions “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 (binge eating)?” and “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?” (yes/no; test-retest kappa = .64). Those who indicated feeling loss of control were classified

as binge eaters. In addition, we created a combined variable reflecting use of any of these four disordered eating behaviors at either Time 1 or Time 2, which was used as a control variable in analysis.

Gender, age and race/ethnicity were assessed by self-report at Time 1 and were used as control variables in the present study. Race/ethnicity was assessed with one survey item: “Do you think of yourself as 1) white, 2) black or African-American, 3) Hispanic or Latino, 4) Asian-American, 5) Hawaiian or Pacific Islander, or 6) American Indian or Native American” and respondents were asked to check all that apply. This variable was dichotomized into white/non-white for analysis due to small numbers in some categories.

Height and weight were assessed by self-report at Time 3, which has been shown to be highly correlated with objectively measured values in adults (Palta, Prineas, Berman & Hannan, 1982; Stewart, 1982; Kuczmarski, Kuczmarski & Najjar, 2001; Tehard, van Liere, Com Nougue & Clavel-Chapelon, 2002). Height and weights were used to calculate body mass index (BMI) using the standard formula. In a validation study among a sub-sample of 127 Project EAT-III participants, the correlation between measured and self-reported BMI values was  $r=0.95$ . Cut-points developed by the Centers for Disease Control and Prevention were used to categorize participants into those who were not overweight ( $BMI < 25$ ), overweight ( $25 \leq BMI < 30$ ) and obese ( $BMI \geq 30$ ) (Centers for Disease Control and Prevention, 2010).

## Data analysis

Spearman rank-ordered correlation coefficients were estimated to examine a) the associations of weight-related teasing and comments across the three study time points, and b) the associations among the four types of disordered eating behavior (at Time 3). Because weight-related teasing experiences in adolescence were significantly correlated with receiving hurtful weight-related comments in young adulthood for both males and females ( $r = .36$ ; Table 1), a new variable was created to reflect any teasing at Time 1 or Time 2 and was used in further analysis, as described below. Similarly, disordered eating behaviors were correlated with one another for both sexes ( $r = .38$ ; Table 2), suggesting that involvement in any prior disordered eating might increase risk of disordered eating at Time 3.

General linear modeling (GLM) was used to generate least square means of disordered eating behaviors at Time 3, based on experiencing hurtful weight-related comments. Two types of models were run. For the full sample, receiving comments from family members was used as the key independent variable. For the subset of participants who reported having a significant other in their lives, additional analyses were run using hurtful comments from the significant other as the key independent variable, controlling for comments from family members. In order to capitalize on the original study’s longitudinal design, previous experience with teasing and previous disordered eating behavior were used as control variables in analytic models. This approach models the development of disordered eating behavior by adjusting for previous experience with the same or closely related behaviors. Further adjustments were made for demographic covariates and weight status. All models were stratified by gender.

Because attrition from the baseline sample did not occur at random, the data were weighted using the response propensity method in all GLMs (Little, 1986). Response propensities (i.e., the probability of responding to the Time 3 survey) were estimated using a logistic regression of response at follow-up on a large number of predictor variables from the Time 1 Project EAT survey. Weights were additionally calibrated so that the weighted total sample sizes used in analyses for each gender cohort accurately reflect the actual observed sample

sizes in those groups. The weighting method resulted in estimates representative of the demographic make-up of the original school-based sample, thereby allowing results to be more fully generalizable to the population of young people in the Minneapolis/St. Paul metropolitan area. Specifically, the weighted sample was 48.4% white, 18.6% African American, 5.9% Hispanic, 19.6% Asian, 3.3% Native American, and 4.2% mixed or other race/ethnicity. The sample was well-distributed across the five categories of socioeconomic status: 18.0% low, 19.0% low-middle, 26.2% middle, 23.3% upper-middle, and 13.5% high.

## Results

### Disordered eating and weight-related comments in young adult sample

Disordered eating behaviors were common in this sample of young adults, as shown in Table 3. For example, 51.7% of young adult females and 30.4% of young adult males reported using unhealthy weight control behaviors at Time 3. A majority of females (58.4%) and over one-third of males (35.6%) reported using at least one of the four disordered behaviors in young adulthood (Table 3). Additionally, a majority of participants (80.4% of females, 50.6% of males) reported use of at least one of the four disordered eating behavior at either Time 1 or Time 2.

At Time 3, over one-third of females (35.8%) and nearly one-fourth of males (22.0%) reported receiving hurtful weight-related comments from family members. Nearly three-fourths of females (72.0%) and 63.7% of males reported having a significant other, and among them, 21.7% of females and 24.1% of males reported hurtful comments from this source. A majority of participants in this sample reported being teased about weight by peers or family members at Time 1 or Time 2 (64.3% of females, 58.3% of males).

### Associations between hurtful weight-related comments and disordered eating

Analyses indicate that hurtful weight-related comments by family members as reported at Time 3 were associated with higher predicted probabilities of using unhealthy weight control behaviors (Time 3), extreme weight control behaviors (females only, Time3) and binge eating (Time 3), even after adjusting for use of disordered eating at Time 1 or 2, teasing experience at Time 1 or 2, race, age and BMI category (Table 4). For example, the predicted probability of reporting binge eating was 12.2% for young adult males who received hurtful weight-related comments from family members, compared to only 4.9% of those who did not receive such comments at Time 3 ( $F=9.94, p<.01$ ).

Hurtful weight-related comments by a significant other (Time 3) were also associated with higher predicted probabilities of using unhealthy weight control behaviors, adjusting for concurrent comments from family members, teasing at Time 1 or Time 2, use of disordered eating at Time 1 or Time 2, and other covariates (Table 4). For example, the probability of reporting chronic dieting was more than twice as high for females who received hurtful weight-related comments from their significant other at Time 3 compared to those who did not (12.8 vs. 6.0,  $F=6.14, p<.05$ ). Furthermore, in these models of young adults with a significant other, hurtful weight related comments from family members at Time 3 remained significantly associated with all four disordered eating behaviors for females, and with unhealthy weight control for males (Table 4).

In these same models, the covariate of prior disordered eating behavior(at Time 1 or Time 2)was significantly associated with Time 3 disordered eating behaviors among females in all but one model, and with Time 3 disordered eating in half the models for males (data not shown). This finding indicates substantial tracking of disordered eating behaviors over time. The covariate of prior teasing experience(at Time 1 or Time 2), however, was not consistently associated with Time 3 disordered eating behaviors for either males or females

(after accounting for Time 3 hurtful weight comments; data not shown). This finding suggests that the influence of early teasing on subsequent behaviors is fully mediated by Time 3 weight-related comments.

## Discussion

Findings from this study indicate that both weight-based commentary and disordered eating are prevalent among young adults, and the experience of receiving weight-based comments from family and significant others is significantly associated with disordered eating behaviors at this stage of life. These associations remained significant after accounting for previous use of disordered eating behaviors – a key predictor of subsequent use – as well as previous teasing experience. It is important to note that in models including comments from family and from significant others, each source was significantly associated with disordered eating, especially for young adult females. Although peers increase in importance throughout adolescence and romantic partners typically become primary sources of personal feedback and satisfaction during young adulthood (Tantleff-Dunn & Gokee, 2002), family continues to play an important role in young adults' self-image and related behaviors.

Our previous research with this sample has shown that, in general, the prevalence of disordered eating remains constant or increases from adolescence to young adulthood (Neumark-Sztainer et al, in press). The present study was able to control for prior use of disordered eating behaviors in analyses. Therefore, results suggest that hearing hurtful weight related comments in young adulthood may differentiate between those who continue or initiate disordered eating behaviors and those who cease or never initiate these behaviors. Although early weight-related teasing may have long-lasting effects on well-being (Haines et al, 2006), the association between early teasing experience and subsequent well-being was fully mediated by later teasing which occurred concurrently with the dependent variables in our previous work (Eisenberg et al, 2006) and in the present study. As expected, this finding suggests that weight-based comments are most potently linked to disordered eating behaviors in a relatively short time span and may not have “lasting effects” over the five-year period examined here. The significant associations between hurtful weight-related comments and disordered eating in young adulthood, adjusting for previous weight-related teasing, indicate that these experiences in young adulthood contribute uniquely to understanding disordered eating at this stage of life. These findings are consistent with literature demonstrating this association during adolescence, and extend this body of work into an understudied age group.

This study's use of a self-report measure of receiving hurtful weight-related comments raises the question of the objectivity of the measure, and specifically, whether weight-teasing and comments lead to increased use of disordered eating behaviors, or the reverse – that pre-existing weight concerns or other emotional vulnerabilities contribute to a perception of comments as hurtful, and therefore greater recall or reporting of such incidents. Research on multiple informants of bullying and victimization may inform our interpretation. Several previous studies have found low-to-middle correlations among self-, peer-and teacher-reports of bullying among youth, and these are even lower for reports of victimization, which includes an internal, psychological component and is thus less observable to an outsider (Ladd and Kochenderfer-Ladd, 2002; Tortura et al, 2009). These studies have concluded that no “gold standard” exists for measurement of bullying or other forms of peer harassment, and we might extrapolate these findings to consider that the experience of receiving weight-teasing or hurtful comments can be even more subtle and prone to subjectivity. In addition, Ladd and Kochenderfer-Ladd (2002) have found that concordance between self-and peer-reported victimization increases with age in school children, which speaks to the external validity of the self-report measures used here. Finally,

existing research suggests that self-reports of harassment – that is, perceived experiences – are more closely associated with intrapersonal difficulties such as depression (which might also be expected to extend to other internal factors such as the body dissatisfaction which underlies disordered eating behaviors); by contrast, peer-or teacher reports of victimization were more closely associated with interpersonal, social issues (Ladd and Kochenderfer-Ladd, 2002; Graham and Juvonen, 1998). Thus we would argue that self-reports of weight-teasing and comments are appropriate when limited to a single informant, and even if this measure is colored by the individual's emotional characteristics, it provides the most meaningful and salient assessment.

### Strengths and Limitations

This study has numerous strengths that enhance its contribution to the existing literature. First, the diverse sample included males and females, a large minority representation, and both college students and those not attending college, which is unusual in extant research on this topic. Similarly, the sample was large enough to conduct statistically valid analysis on less common behaviors, such as extreme weight control in males. Measures were subject to an extensive development process to assure age-appropriateness (Larson et al, in press), and those used in the present study included two different sources of hurtful weight-related comments and four different types of disordered eating behaviors; the consistency of findings across behaviors suggests the association between hurtful weight-related comments and eating behaviors is fairly robust, particularly for females. Finally, the longitudinal design of the study allowed us to adjust for previous disordered eating behavior and previous teasing experiences, which contributes to our understanding of the development of disordered eating in young adulthood.

However, findings from this study are also subject to certain limitations. Though the survey included a variety of measures of weight comments and weight control behaviors, it did not assess other information that may be relevant, such as the gender or weight status of the commenter, or the type, longevity or strength/satisfaction of the romantic relationship. Future research on this topic should employ a more comprehensive set of measures to gain a more nuanced understanding of the relationships found here. Second, Project EAT assessed disordered eating behaviors in the year preceding the survey, but surveys were conducted every five years. It is therefore possible that participants did engage in disordered eating behaviors that were not recorded in this study, and would have been misclassified with regards to their use. Third, there was attrition from the original sample, in spite of multiple attempts to contact participants. Compared to the original sample, those who participated in the follow-up waves were more likely to be white and in the upper SES categories. Sampling weights were used in all analyses to correct for non-response bias and address this limitation. Finally, this study relies on self-reported measures of both weight related teasing and comments and disordered eating behavior. Though the respondent may be the most appropriate single source for this information, future research might benefit from including additional objective assessments of teasing experience, in order to more clearly understand the role of the individual's perception in the relationships found here. Similarly, the use of disordered eating behaviors in young adulthood may be attributable to another influence that concurrently heightens awareness of or sensitivity to hurtful weight-related comments, and a causal relationship between exposure to weight comments and disordered eating cannot be inferred. Future work in this area should include a more comprehensive assessment of relevant psychological variables to determine the extent to which general emotional well-being contributes to the perception of weight-related incidents.



## Conclusions

Findings have implications for future prevention efforts as well as continued research. Prevention activities aimed at reducing weight-related teasing should be broadened to address more general weight-related comments, which can be hurtful. Furthermore, these efforts should be extended into young adulthood, as the associations with health behaviors are found in this age group as well; college health services and counseling centers may be an appropriate venue for the segment of this population attending college. Prevention programs may also want to target relationship partners specifically, as comments from this source are common. These could include premarital or couples' counseling, health care settings or via electronic channels (e.g. relationship advice websites).

Future research should delve more deeply into the experience of receiving hurtful weight-related comments, and the characteristics of the speaker, the occurrence and the relationship with the significant other. Does the association found here occur only where comments are directed at the individual, or are "overheard" comments equally hurtful? Are comments that are intended to be positive (e.g. "you look great, have you lost weight?") also associated with disordered eating behaviors? To what extent do individuals initiate conversations and commentary related to their own weight, and how might this modify the relationships found here? Addressing these and related questions with more detailed measures would greatly enhance this body of research and help refine recommendations for further prevention efforts.

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**Table 1**

Spearman correlations for weight-related teasing at three time points. Males are shown above (shaded) and females are shown below the diagonal.

	Time 1 teasing	Time 2 teasing	Time 3 teasing by family	Time 3 teasing by significant other
Time 1 teasing	1.00	0.27***	0.08*	0.10*
Time 2 teasing	0.30***	1.00	0.17***	0.13**
Time 3 comments by family	0.18***	0.22***	1.00	0.36***
Time 3 comments by significant other	0.13***	0.16***	0.33***	1.00

\*  
p<.05;

\*\*  
p<.01;

\*\*\*  
p<.001

**Table 2**

Spearman correlations for four types of disordered eating behaviors at Time 3. Males are shown above(shaded)and females are shown below the diagonal.

	Chronic dieting	Unhealthy WCB	Extreme WCB	Binge eating
Chronic dieting	1.00	0.17 <sup>***</sup>	0.28 <sup>***</sup>	0.06
Unhealthy WCB	0.25 <sup>***</sup>	1.00	0.30 <sup>***</sup>	0.18 <sup>***</sup>
Extreme WCB	0.32 <sup>***</sup>	0.38 <sup>***</sup>	1.00	0.11 <sup>**</sup>
Binge eating	0.21 <sup>***</sup>	0.21 <sup>***</sup>	0.25 <sup>***</sup>	1.00

\*\*  
p<.01;

\*\*\*  
p<.001

WCB=weight control behaviors

**Table 3**

Disordered eating among young adults (n=1,902)

	<b>Females N=1080</b>	<b>Males N=822</b>
	<b>% (n)</b>	<b>% (n)</b>
Disordered eating behaviors, Time 3:		
Chronic dieting	11.2 (121)	4.0 (33)
Unhealthy WCB	51.7 (559)	30.4 (249)
Extreme WCB	20.3 (220)	5.7 (46)
Binge eating	15.2 (164)	7.0 (57)
Any disordered eating behavior, Time 3	58.4 (630)	35.6 (291)

WCB=weight control behaviors

**Table 4**

Predicted probability (%) of engaging in disordered eating behaviors in young adulthood (Time 3), by weight-related comments by family member or significant other

	Chronic dieting	Unhealthy WCB	Extreme WCB	Binge eating
<b>Females</b>				
<i>Family only (n=1080)</i>				
Comments by family <sup>o</sup>	F=1.32	F=27.4 ***	F=13.2 ***	F=15.4 ***
Yes	11.9	63.5	28.9	23.2
No	9.3	46.1	18.7	13.4
<i>Family and significant other (n=775)</i>				
Comments by family <sup>^</sup>	F=6.43 *	F=25.1 ***	F=5.78 *	F=7.08 **
Comments by significant other <sup>^</sup>	F=6.14 *	F=8.81 **	F=15.0 ***	F=2.64
Yes	12.8	62.3	33.2	19.6
No	6.0	49.1	18.7	14.2
<b>Males</b>				
<i>Family only (n=822)</i>				
Comments by family <sup>o</sup>	F=0.13	F=29.5 ***	F=2.26	F=9.94 **
Yes	5.1	49.0	9.5	12.2
No	4.5	28.0	6.1	4.9
<i>Family and significant other (n=519)</i>				
Comments by family <sup>^</sup>	F=0.09	F=12.6 ***	F=2.70	F=2.06
Comments by significant other <sup>^</sup>	F=5.58 *	F=5.16 *	F=1.66	F=1.18
Yes	10.7	41.0	11.4	9.8
No	4.9	30.4	7.6	6.6

<sup>o</sup> Analyses adjusted for any disordered eating behavior at Time 1 or Time 2, teasing experience at Time 1 or Time 2, race (white), age group and weight category.

<sup>^</sup> Analyses adjusted for weight-related comments by other source, any disordered eating behavior at Time 1 or Time 2, teasing experience at Time 1 or Time 2, race (white), age group and weight category

\* p<.05,

\*\* p<.01,

\*\*\* p<.001

WCB=weight control behaviors