HHS Public Access

Author manuscript

Fam Syst Health. Author manuscript; available in PMC 2018 December 01.

Published in final edited form as:

Fam Syst Health. 2017 December ; 35(4): 474–485. doi:10.1037/fsh0000298.

Significant others' weight-related comments and their associations with weight control behavior, muscle enhancing behavior and emotional well-being

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Abstract

Introduction—This large mixed-method study examines the prevalence of reported positive and negative weight-related comments from significant others and ways in which they are associated with weight control and muscle enhancing behaviors and emotional well-being in young adults.

Method—As part of Project EAT-IV, survey data were provided by 1436 young adult men and women with a significant other in 2015–2016 (mean age=31.1; 58.6% women). Independent variables included the reported frequency of receiving positive or negative comments about body shape or size; written examples of positive comments were qualitatively coded for subtypes. Analysis of Covariance, adjusting for BMI, tested associations between comments and weight control behaviors, muscle enhancing behaviors, and various measures of emotional well-being (i.e., body satisfaction, self-esteem, and depressive symptoms).

Results—About twice as many participants received positive comments from their significant others compared to negative comments (75% vs. 36%). Receiving positive and/or negative comments was related to body satisfaction, self-esteem and depressive symptoms in the expected direction, but was largely unrelated to weight control and muscle enhancing behaviors. In almost all cases, receiving no comments was associated with significantly better well-being than receiving

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Disclosure of Conflicts
The authors have no conflicts of interest to disclose.

only negative comments. There were few differences in weight control or muscle enhancing behaviors or emotional well-being across subtypes of positive comments.

Discussion—Reporting the receipt of negative comments from significant others was associated with poorer emotional well-being than receiving positive comments or no weight-related comments at all. Therapists and other health professionals working with couples should consider advising young adults on the apparent advantages of providing positive feedback regarding weight and shape or abstaining from commenting altogether.

Weight control behaviors, muscle enhancing behaviors, and poor emotional well-being (i.e., poor body satisfaction, low self-esteem and depressive symptoms) are widespread among young adults (Fallon, Harris, & Johnson, 2014; Field et al., 2014; Neumark-Sztainer, Wall, Larson, Eisenberg, & Loth, 2011), and can have serious health consequences (Field et al., 2014; Neumark-Sztainer et al., 2006, 2011; Stice, Presnell, Shaw, & Rohde, 2005; Stice, Hayward, Cameron, Killen, & Taylor, 2000). Both women and men report dissatisfaction with their overall appearance and specific characteristics like weight and muscle tone (Fallon et al., 2014), and weight control and muscle enhancing behaviors are common (Field et al., 2014; Neumark-Sztainer et al., 2011). Previous research suggests these behaviors predict the onset of eating disorders and weight gain over time (Neumark-Sztainer et al., 2006, 2011; Stice, Presnell, Shaw, & Rohde, 2005), as well as depression and substance use (Field et al., 2014; Stice et al., 2000).

Comments made by significant others about one's body may be detrimental to young adults' well-being. Previous quantitative research by our team examined the use of weight-related comments from young adults' significant others; findings indicated that approximately one-quarter of young adults received hurtful weight-related comments from their partners (Eisenberg, Berge, Fulkerson, & Neumark-Sztainer, 2011), and receiving hurtful comments was associated with the development of disordered eating behaviors over time (Eisenberg, Berge, Fulkerson, & Neumark-Sztainer, 2012). For example, after adjusting for previous use of weight control behaviors, 33% of young adult women who received hurtful weight-related comments from their significant others used extreme weight control behaviors in the previous year (e.g., self-induced vomiting), compared to 19% of those who did not receive such comments (Eisenberg et al., 2012).

The nature and content of weight-related comments between significant others has received some attention in research (Berge, Pratt, & Miller, 2016; Bove & Sobal, 2011; Eisenberg, Berge, & Neumark-Sztainer, 2013; Stephens, Rook, Franks, Khan, & Iida, 2010), and associations between weight-related comments and weight-related behaviors and attitudes have been mixed (Eisenberg et al., 2013; Mclaren, Kuh, Hardy, & Gauvin, 2004; Sheets & Ajmere, 2005; Stephens et al., 2010). For example, previous research has found that significant others' "encouragement" regarding dieting was associated with positive change in dietary behaviors (Stephens et al., 2010). However, our previous work found that "encouragement" to diet was associated with extreme weight control behaviors and binge eating in young adults (Eisenberg et al., 2013). These findings highlight the need for qualitative research regarding what constitutes positive and negative weight-related

comments, as well as quantitative research examining how different types of comments are associated with weight control and muscle enhancing behaviors and emotional well-being.

In prior qualitative research, one study of newly married individuals detailed several different types of weight talk, such as reassurance and criticism (Bove & Sobal, 2011). More recently, Berge and colleagues (2016) have analyzed weight-related conversations, finding evidence that direct comments focused on physical characteristics were common and contributed to feelings of insecurity. However, neither of these qualitative studies assessed associations between different types of weight talk and participants' own weight-related behaviors or attitudes. Other research found that receiving comments from a romantic partner about the need to gain or lose weight were *not* related to weight loss efforts or self-esteem (Sheets & Ajmere, 2005), and that positive and negative comments *were* associated with women's body image (Mclaren et al., 2004). These studies are limited in that they did not delve into the content of comments, only the participant's general categorization (e.g., regarding weight loss). The present study aims to address limitations of the existing literature by examining both the content of significant others' weight-related comments (qualitative) and the association of different types of comments with behaviors and emotional well-being (quantitative), using a mixed methods approach.

Furthermore, the existing literature regarding weight-related comments has focused primarily on weight control and disordered eating as outcomes. Although these behaviors occur in both men and women, they are more prevalent in women, and there is increasing evidence that an interest in muscularity and muscle enhancing behaviors is an equivalent domain of body satisfaction and disordered behaviors, particularly for men (Field et al., 2014; Foster, Shorter, & Griffiths, 2015; Neumark-Sztainer & Eisenberg, 2014). Understanding the ways in which weight-related comments may be associated with muscle enhancing behaviors will contribute to a broader set of intervention messages relevant to both men and women.

The present study therefore addresses the following research questions: 1) How common are weight-related comments between significant others? 2) What positive and negative weight-related comments do significant others make? and 3) How are positive and negative comments associated with weight control behaviors, muscle-enhancing behaviors and emotional well-being among young adults? Specifically, we hypothesize that reporting the receipt of positive comments from significant others will be associated with lower rates of weight control behaviors and muscle enhancing behaviors and better emotional well-being than receiving no weight-related comments at all. We further hypothesize that receiving no weight-related comments will be associated with better outcomes (lower rates of weight control behaviors and muscle enhancing behaviors and better emotional well-being) than receiving negative comments. In addition, we will explore subtypes of positive comments (i.e., generically positive comments vs. comments regarding weight or body changes or an "idealized" body type), their prevalence, and whether weight-related behaviors and emotional well-being differ across these subtypes. Findings are expected to yield concrete recommendations for those in romantic relationships on how to support each other with regard to weight, shape and size.

METHODS

Sample and Study Design

Data were collected in Project EAT (Eating and Activity in Teens and Young Adults)-IV, the fourth wave of a population-based study designed to examine dietary intake, physical activity, weight control behaviors, weight status and factors associated with these outcomes among young adults. Survey data were collected online, by mail or by phone from 1830 young adults who participated in the original Project EAT assessment as middle and high school students in 1998–1999 in the Minneapolis/St. Paul metropolitan area (Neumark-Sztainer, Story, Hannan, & Croll, 2002; Neumark-Sztainer, Croll, et al., 2002). Fifteen years later (2015–2016), original participants who responded to at least one follow-up survey in the intervening years (N=2770) were mailed letters inviting them to participate. All respondents consented to participate, and study protocols were approved by the University of Minnesota's Institutional Review Board Human Subjects Committee.

Participants who indicated on the survey that they had a significant other (defined as boyfriend/girlfriend, spouse, partner) were included in the present analysis (N=1436). Over half of the analytic sample were women (58.6%), and the mean age was 31.1 (SD=1.6, range=25–36). The majority were white (70.7%), 6.5% were African American, 3.2% were Hispanic, 14.7% were Asian American; the remaining 5% identified with another racial group or multiple races. Approximately two-thirds were married or lived with a domestic partner, and most relationships were longstanding (Table 1).

Survey Development

The original Project EAT survey was modified with input from young adults in their twenties and thirties who participated in formative focus groups. The revised EAT-IV survey was pre-tested by 35 young adults, and item test-retest reliability, reported below, was determined in a subgroup of 103 participants who completed the EAT-IV survey twice within a period of one to four weeks.

Measures

Independent variables—Participants were asked two questions "how often does your significant other make comments that make you feel [good/bad] about your body shape or size?" with seven response options ranged from "never" to "multiple times per day" for each (adapted from the McKnight Risk Factor Survey (Shisslak et al., 1999); test-retest r(feel good)=0.72, r(feel bad)=0.74). Frequency of comments that made the participant feel good (i.e., positive comments) was dichotomized at the middle category, as infrequent (a few times/year or less) or regular (a few times/month or more often); for comments that made the participant feel bad (i.e., negative comments), frequency was dichotomized as no comments (never) vs. any. A lower cutpoint was selected for negative comments than positive comments based on previous research showing that people attend more to negative stimuli than positive, including within romantic couples (Gottman, 1994; Kanouses & Hansen, 1971; Skowronski & Carlston, 1989; Smith, Cacioppo, Larsen, & Chartrand, 2003) (Table 1). The two dichotomous comment variables were combined to create a four-category

variable: received only positive comments, both positive and negative comments, neither positive nor negative comments, or only negative comments.

Participants who reported receiving comments about weight or shape were asked to provide a written example. Original text of each positive comment was coded and analyzed as described below. Approximately 15% of examples referred to something other than weight or shape (e.g., new clothes, height) or could not be meaningfully coded (e.g., “in the morning”) and were excluded from further analysis.

Dependent variables—Details of seven dependent variables (less extreme weight control behaviors, more extreme weight control behaviors, less extreme muscle enhancing, more extreme muscle enhancing, body satisfaction, self-esteem and depressive symptoms) are shown in Table 2, along with two relationship variables and body mass index (BMI).

Data analysis

Qualitative coding—Open-ended survey responses regarding comments made by significant others were qualitatively coded in three stages (Braun & Clarke, 2006; Thomas, 2006). First, the second author reviewed all responses and generated several themes by which comments could be categorized (initial coding). Of relevance to the present study are 1) descriptive words (e.g., nice, sexy, fat, jiggly), and 2) highlighted body parts, attributes or changes (e.g., belly, muscularity, losing weight). Second, an additional coder reviewed all comments using the schema developed in the initial coding and assigned each comment to a category (e.g., “When I made a comment about needing to lose weight, he said that he thought I looked really good and fit the way I was, and that I did not need to lose weight” was categorized as 1) a positive description and 2) regarding weight loss.) Third, 100 coding discrepancies (3.6% of total positive comment coding decisions) were identified between the second coder and the initial coder; each of these discrepancies was discussed to resolution with the first author.

Using the categorizations described above, positive comments were grouped as those that were generically positive, e.g., that the participant looked nice, good, beautiful, amazing, gorgeous, sexy, hot, or similar descriptors; positive due to a change in weight status, increase in muscularity or muscle tone, change in diet and exercise habits or similar; or positive due to meeting the cultural “ideal” of being thin, muscular, etc., unrelated to recent diet or exercise. Negative comments were not further classified for this analysis due to their relatively small number and similar content (i.e. relating to fatness and the need to control weight). Examples of each type of comment are shown in Table 3.

Quantitative analysis

The relationships between comments and each dependent variable were tested in two ways, using Analysis of Covariance (ANCOVA) to generate predicted probabilities of dichotomous variables (weight control and muscle enhancing behaviors) and least square means of continuous variables (emotional well-being). First, each dependent variable was modeled on the four-level comment variable (positive comments only, both, neither, negative comments only) for all participants who reported on the frequency of receiving comments (n=589 men,

836 women). Second, each dependent variable was modeled on the type of positive comment (generically positive, positive due to change, positive due to “ideal”). These models were limited to n=175 men and n=329 women who provided comment examples that could be meaningfully coded and who reported receiving no negative comments (in order to focus on the association between the type of positive comment and each dependent variable). For both analyses, post-hoc tests contrasted each category with each other category. ANCOVA models were adjusted for BMI due to substantial evidence of association with the behaviors and well-being variables tested here, and all analyses were stratified by gender a priori, due to differences found in our previous work with this sample (Eisenberg et al., 2013; Eisenberg et al., 2011, 2012).

RESULTS

Positive and negative comments by significant other

The large majority of participants reported receiving comments from their significant others that made them feel good about their weight and shape (positive comments; Table 1). The frequency of these comments was relatively high, with most participants receiving positive comments at least a few times a month (71.9% of men, 79.4% of women). Comments that made participants feel bad (negative comments) were less common. Approximately 36% of participants had received negative comments, and among those that had, 78% reported that they occurred a few times per year or less often. Approximately 1 in 10 received only negative comments, one-quarter received both positive and negative comments, and half received only positive comments. The remainder reported receiving neither negative nor regular positive comments. Average BMI was lower among those who received only positive comments compared to those who received negative comments only or both positive and negative comments (Table 4).

Almost 70% provided an example of a positive comment (n=930 out of 1338 who reported their significant other had made such comments). Over half provided an example of a negative comment (n=284 out of 520). Among participants whose positive comments were coded (and who did not receive negative comments), most significant other comments were generically positive (i.e., using words like nice, sexy, hot) for both men (58.3%) and women (84.2%). Approximately twice as many men (20.0%) as women (9.4%) received comments specifically about changes in their weight, shape, eating or exercise (e.g., increased muscle tone), and 21.7% of men and 6.4% of women received comments reflecting adherence to a cultural ideal (e.g., muscularity). Among men, average BMI was lower among those who received comments regarding a cultural ideal (25.6) than among those who received comments about changes (27.7, $p<.05$; Table 4). No differences in BMI were found across positive comment type among women.

Positive and negative comments, weight control and muscle enhancing behaviors and emotional well-being

The prevalence of weight control and muscle enhancing behaviors and mean levels of each emotional well-being variable (i.e., body satisfaction, self-esteem and depressive symptoms) are shown in Table 5. Table 6 shows the predicted probabilities of each behavior and mean

scores for emotional well-being across four categories reflecting the combination of receiving positive and/or negative comments, adjusted for BMI. Weight control and muscle enhancing behaviors were generally not associated with receiving comments. However, significant differences were noted for less extreme weight control behaviors (e.g. fasting, eating very little food) among women ($F=4.3$, $p<0.005$).

In contrast, all three measures of emotional well-being were related to receiving positive and/or negative comments. For example, the mean body satisfaction score for women who reported receiving only negative comments was 32.1, and this was significantly different from those who received both positive and negative comments (37.0), neither positive nor negative comments (36.1) and only positive comments (40.8; $F=25.8$, $p<0.001$). Of note, post-hoc tests indicate that in almost all cases, it was significantly better to receive no comments than to receive only negative comments.

Type of positive comment, weight control and muscle enhancing behaviors and emotional well-being

There were few differences in behaviors or emotional well-being across different types of positive comments (Table 6), with some exceptions. For example, men who received comments about a change in weight or shape were significantly more likely to report using more extreme muscle enhancing behaviors (29.6%) than men who reported receiving only generically positive comments (10.8%; $F=3.5$, $p<0.04$). Although other associations were not statistically significant, those receiving positive comments about change had a pattern of higher rates of weight control and muscle enhancing behaviors in most other models.

DISCUSSION

This study found that most young adults with significant others reported receiving comments from their partners about their weight and shape, with positive comments being twice as common as negative comments. The type of comments made by significant others was significantly associated with body satisfaction, self-esteem and depressive symptoms, for men and women, with the best emotional health among those receiving only positive comments and the worst among those receiving only negative comments. An important nuance evident in post-hoc test results was that receiving no weight-related comments was significantly better than receiving only negative comments in almost all models of emotional well-being.

Few significant differences were noted between generically positive comments and positive comments that referred to recent body changes (e.g., losing weight) or conformity to a cultural ideal (e.g., “I like your muscles”). Although based on anecdotal reports, we expected that positive comments explicitly referencing weight loss or muscle change (e.g., “you look great, have you lost weight?”) might have a backhanded and hurtful quality suggesting the individual looked worse previously, this was unevenly supported by the present findings. The element of being successful in weight control and muscle enhancing behaviors or simply the positive nature of the feedback might override any negative reaction suggested by this type of comment. It is also important to note that the survey question asked specifically about comments that made the participant feel good, so “backhanded

complements" may not have been included in these examples. Approximately 2% of written comments that participants listed as making them feel bad had this quality.

This study extends previous research regarding weight-related comments (e.g. Eisenberg et al., 2013; Mclaren et al, 2004; Sheets & Ajmere, 2005; Stephens et al., 2010) by qualitatively examining the content of comments provided by study participants, while linking to survey data for a quantitative analysis of associations with behaviors and well-being. Findings are consistent with recent qualitative work by Berge and colleagues (2016) that also demonstrated that comments on partners' physical characteristics were common and often led to feeling insecure. Results are also similar to Bove and Sobal's themes of critical weight talk among newly married couples (2011), and expand on their work by including young adults in different types of romantic relationships.

Future research can build on the present work by including more in-depth collection, coding and analysis of romantic partners' comments (particularly those perceived as negative or mixed), and by probing into the nature of weight-related comments specific to different circumstances (e.g., after pregnancy or during a partner's weight loss attempts). Comments and support from significant others may also have the capacity to buffer negative comments or experiences in other domains, such as through media, health care professionals, or comments from the family of origin. Research into such protective effects may yield even more specific recommendations for supportive communication within couples.

Limitations and Strengths

This study has several methodologic strengths. Both men and women were included, as well as a wide variety of weight control and muscle enhancing behaviors, extending the relevance of findings to two genders and diverse body concerns (Field et al., 2014; Neumark-Sztainer & Eisenberg, 2014). Additionally, a large subset of those who received comments wrote in examples, which permitted qualitative sorting of comments by type and allowed for a mixed-method investigation into the issue of weight comments that has not been available previously.

However, certain features of this study may limit interpretation. First, all data regarding weight-related comments were self-reported by the participant and could not be verified. As such, they are subject to recall bias and best reflect participants' perceptions of significant others' comments. Second, some categories of weight-related comments were relatively small, and when crossed with less common behaviors may have had inadequate power to detect associations. Third, participants provided only a single example of a weight- or shape-related comment, which may or may not be representative of comments they receive from their significant others on these topics. Likewise, participants were not prompted to write any particular details about positive or negative comments and therefore included varying levels of specificity. Some participants may therefore have been misclassified, biasing results towards the null, particularly for the different types of positive comments. Finally, the survey item about diet pill use did not differentiate between use that is prescribed and managed by a health care provider from use of over-the-counter products.

Implications

Understanding the role of significant others during the young adult life stage is critical, as it is a time of transition before long-term relationship habits become entrenched. Significant others are well-positioned to provide ongoing emotional support to their partners, but could also use this influence negatively, contributing to health-jeopardizing behaviors and damaging emotional well-being. Conventional wisdom in the general public might suggest that negative comments could be motivating for people to adopt healthier weight-related behaviors. However, the present findings, combined with a body of evidence about weight-related teasing (Eisenberg et al., 2012; Eisenberg, Neumark-Sztainer, Haines, & Wall, 2006; Menzel et al., 2010) suggest that negative weight-related comments by significant others are associated with poorer emotional health. It appears that for significant others, both positive comments and saying nothing at all about weight are better options than negative comments.

Findings have additional implications for practice, as romantic couples will be well-served by identifying the most effective and least harmful ways to communicate health messages to each other. Therapists and other health professionals working with couples should consider advising young adults on the apparent advantages of providing positive feedback regarding weight and shape and avoiding negative comments on this topic.

Acknowledgments

This study was supported by Grant Number R01HL116892 (PI: Neumark-Sztainer) from the National Heart, Lung, and Blood Institute. The content is solely the responsibility of the authors and does not necessarily represent the official views of the National Heart, Lung, and Blood Institute or the National Institutes of Health.

References

Berge JM, Pratt K, Miller L. Weight conversations in romantic relationships: What do they sound like and how do partners respond? Families, Systems & Health: The Journal of Collaborative Family Healthcare. 2016; 34(3):213–220.

Bove CF, Sobal J. Body weight relationships in early marriage. Weight relevance, weight comparisons, and weight talk. Appetite. 2011; 57(3):729–742. http://doi.org/10.1016/j.appet.2011.08.007. [PubMed: 21864601]

Braun V, Clarke V. Using thematic analysis in psychology. Journal of Chemical Information and Modeling. 2006; 3(2):77–101.

Eisenberg M, Berge J, Neumark-Sztainer D. Dieting and encouragement to diet by significant others: associations with disordered eating in young adults. American Journal of Health Promotion. 2013; 27(6):370–377. [PubMed: 23398133]

Eisenberg ME, Berge JM, Fulkerson JA, Neumark-Sztainer D. Weight comments by family and significant others in young adulthood. Body Image. 2011; 8(1):12–9. http://doi.org/10.1016/j.bodyim.2010.11.002. [PubMed: 21163716]

Eisenberg ME, Berge JM, Fulkerson JA, Neumark-Sztainer D. Associations between hurtful weight-related comments by family and significant other and the development of disordered eating behaviors in young adults. Journal of Behavioral Medicine. 2012; 35(5):500–8. http://doi.org/10.1007/s10865-011-9378-9. [PubMed: 21898148]

Eisenberg ME, Neumark-Sztainer D, Haines J, Wall M. Weight-teasing and emotional well-being in adolescents: longitudinal findings from Project EAT. The Journal of Adolescent Health: Official Publication of the Society for Adolescent Medicine. 2006; 38(6):675–83. http://doi.org/10.1016/j.jadohealth.2005.07.002. [PubMed: 16730595]

Fallon EA, Harris BS, Johnson P. Prevalence of body dissatisfaction among a United States adult sample. Eating Behaviors. 2014; 15(1):151–158. http://doi.org/10.1016/j.eatbeh.2013.11.007. [PubMed: 24411768]

Field AE, Sonneville KR, Crosby RD, Swanson Sa, Eddy KT, Camargo Ca, … Micali N. Prospective associations of concerns about physique and the development of obesity, binge drinking, and drug use among adolescent boys and young adult men. JAMA Pediatrics. 2014; 168(1):34–9. http://doi.org/10.1001/jamapediatrics.2013.2915. [PubMed: 24190655]

Foster AC, Shorter GW, Griffiths MD. Muscle dysmorphia: could it be classified as an addiction to body image? Journal of Behavioral Addictions. 2015; 4(1):1–5. http://doi.org/10.1556/JBA.3.2014.001.

Gottman, J. Why marriages succeed or fail: And how you can make yours last. New York, NY: Simon & Schuster; 1994.

Kandel DB, Davies M. Epidemiology of depressive mood in adolescents: an empirical study. Archives of General Psychiatry. 1982; 39(10):1205–12. Retrieved from http://www.ncbi.nlm.nih.gov/pubmed/7125850. [PubMed: 7125850]

Kanouses, D., Hansen, LJ. Negativity in evaluations. In: Jones, EE.Kanouse, DE.Kelley, HH.Nisbett, RE.Valin, S., Wiener, B., editors. Attribution: Perceiving the causes of behavior. Morristown, NJ: General Learning Press; 1971. p. 47-62.

Mclaren L, Kuh D, Hardy R, Gauvin L. Positive and negative body-related comments and their relationship with body dissatisfaction in middle-aged women. Psychology & Health. 2004; 19(2): 261–272. http://doi.org/10.1080/0887044031000148246.

Menzel JE, Schaefer LM, Burke NL, Mayhew LL, Brannick MT, Thompson JK. Appearance-related teasing, body dissatisfaction, and disordered eating: A meta-analysis. Body Image. 2010; 7(4): 261–270. http://doi.org/10.1016/j.bodyim.2010.05.004. [PubMed: 20655287]

Neumark-Sztainer D, Croll J, Story M, Hannan PJ, French Sa, Perry C. Ethnic/racial differences in weight-related concerns and behaviors among adolescent girls and boys: findings from Project EAT. Journal of Psychosomatic Research. 2002; 53(5):963–74. Retrieved from http://www.ncbi.nlm.nih.gov/pubmed/12445586. [PubMed: 12445586]

Neumark-Sztainer D, Eisenberg ME. Body Image Concerns, Muscle-Enhancing Behaviors, and Eating Disorders in Males. JAMA: The Journal of the American Medical Association. 2014; 312(20): 2156–2157. [PubMed: 25423220]

Neumark-Sztainer D, Story M, Hannan PJ, Croll J. Overweight status and eating patterns among adolescents: where do youths stand in comparison with the healthy people 2010 objectives? American Journal of Public Health. 2002; 92(5):844–51. Retrieved from http://www.pubmedcentral.nih.gov/articlerender.fcgi?artid=1447172&tool=pmcentrez&rendertype=abstract. [PubMed: 11988458]

Neumark-Sztainer D, Wall M, Larson NI, Eisenberg ME, Loth K. Dieting and disordered eating behaviors from adolescence to young adulthood: findings from a 10-year longitudinal study. Journal of the American Dietetic Association. 2011; 111(7):1004–11. http://doi.org/10.1016/j.jada.2011.04.012. [PubMed: 21703378]

Neumark-Sztainer D, Wall MM, Guo J, Story M, Haines J, Eisenberg ME. Obesity, disordered eating, and eating disorders in a longitudinal study of adolescents: How do dieters fare five years later? Journal of the American Dietetic Association. 2006; 106:559–68. [PubMed: 16567152]

Pingitore R, Spring B, Garfield D. Gender differences in body satisfaction. Obesity Research. 1997; 5(5):402–9. Retrieved from http://www.ncbi.nlm.nih.gov/pubmed/9385613. [PubMed: 9385613]

Quick V, Wall MM, Larson N, Haines J, Neumark-Sztainer D. Personal, behavioral and socio-environmental predictors of overweight incidence in young adults: 10-yr longitudinal findings. International Journal of Behavioral Nutrition and Physical Activity. 2013; 10(37) http://doi.org/10.1186/1479-5868-10-37.

Rosenberg, M. Society and the adolescent self image. Princeton, NJ: Princeton University Press; 1965.

Sheets V, Ajmere K. Are romantic partners a source of college students' weight concern? Eating Behaviors. 2005; 6(1):1–9. http://doi.org/10.1016/j.eatbeh.2004.08.008. [PubMed: 15567106]

Shisslak CM, Renger R, Sharpe T, Crago M, McKnight KM, … Gray N, et al. Development and Evaluation of the McKnight Risk Factor Survey for Assessing Potential Risk and Protective

Factors for Disordered Eating in Preadolescent Girls. International Journal of Eating Disorders. 1999; 25(2):195–214. Retrieved from http://www3.interscience.wiley.com/journal/40004281/abstract. [PubMed: 10065397]

Skowronski JJ, Carlston DE. Negativity and extremity biases in impression formation: A review of explanations. Psychological Bulletin. 1989; 105:131–142.

Smith K, Cacioppo JT, Larsen JT, Chartrand TL. May I have your attention, please: Electrocortical responses to positive and negative stimuli. Neuropsychologia. 2003; 41(2)

Stephens MAP, Rook KS, Franks MM, Khan C, Iida M. Spouses use of social control to improve diabetic patients' dietary adherence. Families, Systems, & Health. 2010; 28(3):199–208. http://doi.org/10.1037/a0020513.

Stice E, Hayward C, Cameron RP, Killen JD, Taylor CB. Body-image and eating disturbances predict onset of depression among female adolescents: a longitudinal study. Journal of Abnormal Psychology. 2000; 109(3):438–44. Retrieved from http://www.ncbi.nlm.nih.gov/pubmed/11016113. [PubMed: 11016113]

Stice E, Presnell K, Shaw H, Rohde P. Psychological and behavioral risk factors for obesity onset in adolescent girls: A prospective study. Journal of Consulting and Clinical Psychology. 2005; 73(2): 195–202. [PubMed: 15796626]

Thomas DR. A General Inductive Approach for Analyzing Qualitative Evaluation Data. American Journal of Evaluation. 2006; 27(2):237–246. http://doi.org/10.1177/1098214005283748.

Table 1

Personal, relationship and weight comment characteristics among EAT-IV participants with a significant other (N=1436)

Variable	Men		Women	
	N	%	N	%
	594	**41.4**	**842**	**58.6**
Relationship status				
Casually dating	18	3.0	27	3.2
Committed/engaged	1880	30.3	260	31.0
Married/domestic partner	396	66.7	552	65.8
Relationship length				
<1 year	37	6.2	65	7.7
1–5 years	186	31.4	208	24.8
5+ years	370	62.4	567	67.5
Comments that made participant feel good				
Frequency				
Never	57	9.7	41	4.9
<1/yr	24	4.1	23	2.7
Few times/yr	85	14.4	109	13.0
Few times/mo	160	27.1	191	22.8
Few times/week	133	22.5	166	19.8
Most days/week	96	16.3	218	26.0
Multiple times/day	35	5.9	90	10.7
Frequency (dichotomized)				
Infrequent (few times/yr or less)	166	28.1	173	20.6
Regular (few times/mo or more)	424	71.9	665	79.4
Type *				
Generic	102	58.3	277	84.2
Due to weight/shape change	35	20.0	31	9.4
Due to “ideal” weight/shape	38	21.7	21	6.4
Comments that made participant feel bad				
Frequency				
Never	378	64.1	534	63.7
<1/yr	89	15.1	151	18.0
Few times/yr	74	12.5	89	10.6
Few times/mo	35	5.9	47	5.6
Few times/week	9	1.5	12	1.4
Most days/week	3	0.5	4	.5
Multiple/day	2	0.3	1	.1
Frequency (dichotomized)				

Variable	Men		Women	
	N	%	N	%
	594	**41.4**	**842**	**58.6**
Never	378	64.1	534	63.7
Ever (<1/year or more)	212	35.9	304	36.3
Combined positive and negative comments				
Negative comments only	65	11.0	78	9.3
Both	147	25.0	226	27.0
Neither	100	17.0	95	11.4
Positive comments only	277	47.0	437	52.3

*Among n=504 who wrote in positive comments and received no negative comments

Generic = look nice, good, beautiful, amazing, gorgeous, sexy, hot, etc.

Due to weight/shape change = lost weight, increased muscle/tone, change in diet/exercise, etc.

Due to “ideal” weight/shape = not fat, muscular/toned/strong (but not direct result of diet/exercise)

Table 2

Dependent variables and additional used in analysis

Dependent variables	Item	Categorization/scoring	Psychometric properties
Less extreme weight control behaviors	Have you done any of the following things in order to lose weight or keep from gaining weight during the past year?	Yes on one or more of: 1) fasted; 2) ate very little food; 3) used food substitute (powder/special drink); 4) skipped meals; and 5) smoked more cigarettes	test-retest agreement=85%
More extreme weight control behaviors	Have you done any of the following things in order to lose weight or keep from gaining weight during the past year?	Yes on one or more of: 1) took diet pills; 2) made myself vomit; 3) used laxatives; and 4) used diuretics	test-retest agreement=96%
Less extreme muscle enhancing	How often have you done each of the following things in order to increase your muscle size or tone during the past year?	Rarely, sometimes or often for either: 1) using protein powders or shakes; 2) using a pre-workout drink (e.g., Jack3D, OxyElite Pro)	test-retest r=0.79 (protein) test-retest r=0.63 (drink)
More extreme muscle enhancing	How often have you done each of the following things in order to increase your muscle size or tone during the past year?	Rarely, sometimes or often for either: 1) using steroids; 2) using another muscle building substance (e.g., creatine, amino acids, DHEA)	test-retest r=0.59 (steroids) test-retest r=0.74 (other substance)
Body satisfaction (Pingitore, Spring, & Garfield, 1997)	How satisfied are you with your: height, weight, body shape, waist, hips, thighs, stomach, face, body build, shoulders, muscles, chest, overall body fat	5 responses ranging from 1 (“very dissatisfied”) to 5 (“very satisfied”). Summary scores ranged from 13 to 65.	alpha=0.93 test-retest r=0.82
Self-esteem (Rosenberg, 1965)	Six items, e.g., “I feel that I have a number of good qualities.”	4 responses ranging from 1 (strongly disagree) to 4 (strongly agree). Summary scores ranged from 6–24.	alpha=0.85 test-retest r = 0.81
Depressive symptoms (Kandel & Davies, 1982)	Six items, e.g. “During the past 12 months, how often have you been bothered or troubled by feeling unhappy, sad, or depressed?”	3 responses ranging from 1 (not at all) to 3 (very much). Summary scores ranged from 6–18.	alpha=0.84 test-retest r=0.77
Additional variables			
Nature of the relationship	What is your relationship status?	Casually dating, in a committed relationship or engaged, married, domestic partnership	test-retest agreement=97%
Length of the relationship	How long have you and your significant other been together as a couple?	5 categories ranging from less than 3 months to more than 5 years were reduced to three categories: less than 1 year, 1–5 years or greater than 5 years	test-retest r=0.94
Body mass index	Self-report of height and weight *	Weight in Kilograms/(Height in Meters)^2	test-retest r=0.98 (height) test-retest r=0.97 (weight)

* Self-report of height and weight were previously validated in EAT-III in a subsample of 63 male and 62 female participants for whom height and weight measurements were completed by trained research staff. Results showed very high correlations between self-reported BMI and measured BMI in men (r=0.95) and women (r=0.98) (Quick, Wall, Larson, Haines, & Neumark-Sztainer, 2013)

Table 3

Sample positive and negative weight-related comments

Negative	Positive – generic	Positive – change	Positive – ideal
• Called me fat • Might be a good idea to lose a few pounds • Watch the sweets!	• I don't care what you think, I think you're beautiful • She calls me sexy almost every day • That I have amazing legs	• You've been working out again haven't you? • Telling me that I've lost weight and it is showing • She has definitely realized and seen the changes in my physical abilities and my body shape!	• He complimented my body type by comparing me to a movie actress • They said I was very strong • He tells me every day I'm looking skinny

Note: Negative comments were provided by participants as examples of "comments that make you feel bad about your body shape or size;" all types of positive comments were provided as examples of "comments about your body shape or size that made you feel good."

Table 4

Mean BMI in different comment-type groups

	Men	Women
Combined positive and negative comments	F=3.16, df=3, p<0.03	F=8.10, df=3, p<0.001
Negative comments only	28.6[a]	30.2[a]
Both	27.9[a]	27.5[b]
Neither	27.4[ab]	27.5[bc]
Positive comments only	26.8[b]	26.3[c]
Positive comment type	F=2.06, df=2, p<0.13	F=0.24, df=2, p<0.79
Generic	26.9[ab]	26.3
Due to weight/shape change	27.7[a]	26.0
Due to “ideal” weight/shape	25.6[b]	25.3

abc: within sections, estimates that share a superscript do not differ at p<05.

Table 5

Weight control and muscle enhancing behaviors and emotional well-being among EAT-IV participants with significant other (N=1436)

	Men		Women	
	N	**%**	**N**	**%**
Less extreme weight control behaviors	194	32.8	402	47.9
More extreme weight control behaviors	40	6.8	130	15.5
Less extreme muscle enhancing behaviors	255	43.1	285	34.1
More extreme muscle enhancing behaviors	78	13.2	21	2.5
	M	SD	M	SD
Body satisfaction (range: 13–65)	44.7	10.3	38.4	11.1
Self-esteem (range: 7–24)	20.0	3.2	18.8	3.3
Depressive symptoms (range: 6–18)	9.6	2.7	10.8	2.9

Table 6

Predicted probabilities and least square means (95% CI) across comment groups[^]

	Less extreme UWCBs (%)	More extreme UWCBs (%)	Less extreme muscle enhancing (%)	More extreme muscle enhancing (%)	Body satisfaction (mean)	Self-esteem (mean)	Depressive symptoms (mean)
Positive and/or negative comments							
Men							
Negative only	34.6 (23.5, 45.8)	3.0 (−2.9, 9.0)	34.5 (22.3, 46.7)	20.8 (12.6, 29.0)	40.4 (38.2, 42.5) [a]	18.8 (18.0, 19.5) [a]	10.4 (9.7, 11.0) [a]
Both	38.0 (30.7, 45.4)	9.0 (5.0, 12.9)	49.0 (40.9, 57.1)	11.9 (6.5, 17.4)	43.1 (41.7, 44.5) [b]	19.6 (19.1, 20.1) [a]	10.0 (9.5, 10.4) [ab]
Neither	30.0 (21.2, 38.9)	7.0 (2.3, 11.7)	43.4 (33.7, 53.2)	14.1 (7.6, 20.7)	44.0 (42.3, 45.8) [b]	19.5 (18.9, 20.1) [a]	9.4 (8.8, 9.9) [bc]
Positive only	30.8 (25.5, 36.1)	6.2 (3.4, 9.1)	41.2 (35.4, 47.1)	11.0 (7.0, 15.0)	46.8 (45.7, 47.8) [c]	20.6 (20.2, 21.0) [b]	9.4 (9.1, 9.7) [c]
	F=1.0, df=3, p<0.41	F=1.0, df=3, p<0.42	F=1.5, df=3, p<0.23	F=1.6, df=3, p<0.20	**F=11.9, df=3, p<0.001**	**F=8.5, df=3, p<0.001**	**F=3.6, df=3, p<0.02**
Women							
Negative only	62.0 (51.2, 72.9) [a]	22.2 (14.2, 30.1)	31.8 (21.1, 42.5)	4.9 (1.3, 8.4)	32.1 (30.1, 34.1) [a]	17.1 (16.4, 17.8)[a]	11.7 (11.1, 12.3) [a]
Both	52.7 (46.3, 59.1) [ab]	16.2 (11.6, 20.9)	32.8 (26.6, 39.1)	2.7 (0.6, 4.7)	37.0 (35.8, 38.2) [b]	18.3 (17.9, 18.7)[b]	11.5 (11.1, 11.9) [a]
Neither	47.3 (37.5, 57.1) [bc]	16.7 (9.5, 23.9)	33.3 (23.6, 43.0)	1.1 (−2.2, 4.3)	36.1 (34.3, 37.9) [b]	18.9 (18.2, 19.5)[bc]	10.4 (9.9, 11.0) [b]
Positive only	43.0 (38.4, 47.6) [c]	13.8 (10.4, 17.1)	36.3 (31.8, 40.8)	2.4 (0.9, 3.9)	40.8 (39.9, 41.6) [c]	19.3 (19.0, 19.6) [c]	10.4 (10.1, 10.6) [b]
	F=4.3, df=3, p<0.005	F=1.3, df=3, p<0.28	F=0.4, df=3, p<0.77	F=0.8, df=3, p<0.30	**F=25.8, df=3, p<0.001**	**F=13.4, df=3, p<0.001**	**F=10.8, df=3, p<0.001**
Types of positive comments							
Men							
Positive – generic	30.9 (22.2, 39.7)	4.6 (0.3, 9.0)	47.1 (37.3, 56.9)	10.8 (3.8, 17.8) [a]	46.7 (44.9, 48.6) [a]	20.6 (20.2, 22.2)	9.2 (8.7, 9.8)
Positive – change	40.0 (25.0, 55.0)	12.4 (5.0, 19.9)	59.0 (42.0, 76.1)	29.6 (17.4, 41.8) [b]	42.8 (39.7, 45.9) [b]	20.3 (19.3, 21.3)	9.6 (8.7, 10.5)
Positive – ideal	30.2 (15.7, 44.6)	5.1 (−2.1, 12.3)	39.2 (23.0, 55.4)	15.5 (4.0, 27.1) [ab]	48.5 (45.5, 51.5) [a]	21.2 (20.2, 22.2)	9.0 (8.1, 9.8)
	F=0.6, df=2, p<0.56	F=1.7, df=2, p<0.20	F=1.4, df=2, p<0.26	**F=3.5, df=2, p<0.04**	**F=3.7, df=2, p<0.03**	F=0.8, df=2, p<0.47	F=0.5, df=2, p<0.63
Women							
Positive – generic	41.6 (35.8, 47.4)	14.2 (10.1, 18.2)	34.8 (29.0, 40.6)[a]	1.5 (−0.1, 3.1)	41.2 (40.1, 42.3)	19.5 (19.2, 19.9)	10.1 (9.7, 10.4)
Positive – change	45.5 (28.3, 62.7)	23.0 (11.1, 34.9)	54.9 (37.9, 37.9)[b]	6.5 (1.7, 11.2)	40.2 (36.9, 43.5)	19.7 (18.7, 20.8)	10.1 (9.1, 11.1)

	Less extreme UWCBs (%)	More extreme UWCBs (%)	Less extreme muscle enhancing (%)	More extreme muscle enhancing (%)	Body satisfaction (mean)	Self-esteem (mean)	Depressive symptoms (mean)
Positive – ideal	53.7 (32.7, 74.6)	11.1 (−3.3, 25.6)	47.9 (27.1, 68.6)[ab]	0.0 (−5.8, 5.8)	41.1 (37.1, 45.2)	19.9 (18.6, 21.2)	10.5 (9.4, 11.7)
	F=0.7, df=2, p<0.53	F=1.1, df=2, p<0.34	F=2.92, df=2, p<0.06	F=2.1, df=2, p<0.13	F=0.2, df=2, p<0.86	F=0.2, df=2, p<0.82	F=0.3, df=2, p<0.76

[^]Models adjusted for BMI

abc: within sections, estimates that share a superscript do not differ at p<05.

Boldface type indicates statistical significance, p<.05.