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What is This?

## The demographics of fat talk in adult women: Age, body size, and ethnicity

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#### Abstract

*Fat talk*, conversations in which women disparage the size/shape of their bodies, acts as both a reflection of and contributor to body dissatisfaction. We assessed the impact of age, body mass index, and ethnicity on fat talk in two large, online surveys of adult women. Body mass index showed a small, positive correlation with fat talk, but only for women who were not overweight. Fat talking was common across all ages. In contrast to the common belief that fat talk is limited to young, thin women, these studies demonstrate that women of many body sizes and ages engage in fat talk.

#### **Keywords**

adults, age, body image, body size, females, women's health

Sociocultural pressures for women to focus on body size abound (e.g. Fredrickson and Roberts, 1997; Levine and Murnen, 2009). One source of such pressures is fat talk, a conversational style in which women speak negatively about the weight-related size/shape of their bodies (Nichter and Vuckovic, 1994). The frequency with which women engage in fat talk is positively correlated with body dissatisfaction, disordered eating, and depressive symptoms (Arroyo and Harwood, 2012; Clark et al., 2010; Engeln-Maddox et al., 2012; Royal et al., 2013; Rudiger and Winstead, 2013; Salk and Engeln-Maddox, 2011; Sharpe et al., 2013). Women who overhear fat talk experience increased state body dissatisfaction and guilt (Corning et al., 2014; Gapinski et al., 2003; Jones et al., 2014; Salk and Engeln-Maddox, 2012; Stice et al., 2003; Tucker et al., 2007). Fat talk has the potential to be especially deleterious because of its power as a social norm (Nichter, 2000). Women are expected to engage in fat talk when in groups of fat talking peers (Barwick et al., 2012).

Though a substantial body of research on the correlates of fat talk is now available, the majority of this research has been conducted with undergraduate women, limiting an understanding of how the tendency to fat talk varies by age and body size. This article presents findings from two large online surveys of adult women (primarily from the United States) who completed a validated measure of fat talk.

## Fat talk and body mass index

In adult women, body mass index (BMI) is positively correlated with body dissatisfaction (e.g. Frederick et al., 2006), suggesting that fat talk (a reflection of body dissatisfaction) may also

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Renee Engeln, Department of Psychology, Northwestern University, 2029 Sheridan Road, Evanston, IL 60208, USA. Email: rengeln@northwestern.edu increase with BMI. However, Nichter (2000) suggested heavier adolescent girls would be less likely than their underweight and average weight peers to engage in fat talk because they would not want to draw attention to their bodies. Several studies have failed to find correlations between BMI and fat talk (Arroyo and Harwood, 2012; Barwick et al., 2012; Clark et al., 2010; Engeln-Maddox et al., 2012; Royal et al., 2013; Salk and Engeln-Maddox, 2011). However, these samples only comprised college women, which can restrict the BMI range and/or result in unusually low variance in BMI (compared to the general population of US women). The American College Health Association (2014) reports that 32 percent of college students in the United States are overweight or obese (using Centers for Disease Control guidelines). In contrast, 67 percent of adult women in the United States are overweight or obese (Ogden et al., 2014). In all of the studies of college women cited above, mean BMIs were in the healthy weight range (ranging from 21.59 to 24.0). Mean BMIs for US adult women tend to be in the middle of the overweight range (Ng et al., 2014). Low variance and/or restriction of range could mask a curvilinear association (where the extremely thin and extremely overweight engage in the least fat talk) or a linear association (where BMI is associated with increases in fat talk).

Some studies have examined perceptions of fat talk by women of varying sizes. Undergraduate women perceive fat talk to be normative among normal-weight and overweight women (Barwick et al., 2012). Heavier adult women report feeling more pressure than underweight and normal-weight women to engage in fat talk; however, it is not known whether heavier women actually *engage* in more frequent fat talk (Martz et al., 2009).

### Fat talk and age

Although women's bodies move further away from the thin ideal as they age, body dissatisfaction remains relatively stable across the adult life span (Frederick et al., 2006; Tiggemann, 2004), suggesting that fat talk frequency may also remain stable with age. The seminal ethnographic research on fat talk was conducted with middle school girls (Nichter and Vuckovic, 1994), who often mentioned that their mothers engaged in fat talk. Empirical work on fat talk has primarily employed samples of college women. We are aware of only one study to date that examined fat talk among adults beyond traditional college age. In a large sample of adult men and women (mean age=45), there was a small, negative association between age and perceived pressure to fat talk (Martz et al., 2009). However, this survey assessed pressure to fat talk rather than actual engagement in fat talk.

#### Fat talk and ethnicity

The impact of ethnicity on fat talk remains relatively unexamined. Limited qualitative research suggests Black adolescent girls may perceive fat talk as a White women's social norm (Nichter, 2000). In a small qualitative study among college women (Webb et al., 2013), African American women identified fat talk as very common among European American women. European American women perceived African American women to be less open to engaging in fat talk.

In the vast majority of published research on fat talk, samples were predominantly White, with numbers of non-White participants being too small to allow for meaningful comparison. Meta-analytic work (Grabe and Hyde, 2006) has documented small but reliable differences in body satisfaction between White women and Black women in the United States, with White women reporting less satisfaction. Given the link between fat talk and body dissatisfaction, ethnicity-based differences in fat talk seem plausible.

#### The current research

The purpose of the current studies was to broaden the scope of fat talk research to a wider age range of women and to examine the basic demographics that predict the frequency of fat talk. This is the first of such large surveys to use a validated, published measure to assess fat talk. The sample in Study 1 comprised users of an online health and beauty website. The sample from Study 2 comprised users of Amazon's (mturk). Mechanical Turk website The Northwestern University Institutional Review Board approved Study 2. The archival data employed for Study 1 did not constitute human subjects research as defined by US regulations for the protection of human subjects and thus did not require approval.

#### Study I

In Study 1, we analyzed data from women users of a health and beauty website who completed a measure of fat talk frequency, one weight satisfaction item, and provided their age and height/ weight. Because fat talk appears to be a relatively recently developed social norm (and consistent with Martz et al., 2009), we predicted fat talk frequency would decrease with age. We predicted a curvilinear association between fat talk and BMI, such that fat talk would be most common among women in the middle of the weight range, with notably overweight and underweight women being less likely to fat talk. These results would be consistent with findings that underweight women have lower levels of body dissatisfaction (Frederick et al., 2006; Pingitore et al., 1997) and Nichter's (2000) argument that those who are overweight may not want to draw attention to their bodies with fat talk.

#### Method

*Participants and procedure.* YouBeauty.com is a website containing content about beauty and health. This website posts a number of validated self-report psychological measures as quizzes for respondents to take. The site contacted the first author for permission to use the Negative Body Talk Scale (Engeln-Maddox et al., 2012; the scale had been presented at a conference but was not yet published) and agreed to share the data they received from this quiz. In

December 2011, YouBeauty posted the "Fat Talk Quiz," which was completed by women over a period of approximately 5 months.

Data were analyzed for respondents between the ages of 16 and 70 (M=27.89, SD=12.04). In total 19 respondents (0.6% of the sample) with BMIs more than four standard deviations from the sample mean (in this case, BMIs>51.45) were excluded from analyses. BMI was normally distributed in this sample, making these values extraordinarily unlikely (less than 0.00001% of participants would be expected to have BMIs in this range). This conservative decision rule was used to reduce the likelihood of these extreme values affecting the analyses. The same rule was followed for Study 2. After excluding the outliers noted above, 3066 participants' BMIs ranged from 14.14 to 51.04 (M = 26.04, SD = 6.24). Using the Centers for Disease Control (CDC) guidelines (cdc. gov), participants belonged in the following weight categories: 5 percent underweight (<18.49 BMI), 49 percent healthy weight (18.5-24.99), 25 percent overweight (25-29.99), and 21 percent obese (30 and greater). Though demographic data on race/ethnicity were not available, YouBeauty indicates that over 80 percent of its users identify as non-Hispanic White and approximately 70 percent are from North America.

#### Measures

Fat talk. The Negative Body Talk scale (Engeln-Maddox et al., 2012) is a 13-item measure of the frequency with which women engage in fat talk conversations with peers. The response scale ranges from 1-never to 7—*always*. A total score is created by taking the mean of all items. Scores correlate with body shame, body surveillance, physical appearance comparison, and thin ideal internalization. Scores also predict additional variance in eating disordered attitudes/behaviors beyond that predicted by a combination of BMI and body dissatisfaction (Engeln-Maddox et al., 2012). The original authors reported alphas ranging from .93 to .94 in samples of college women. Alpha was .94 in the current sample.

Weight satisfaction and demographics. Participants indicated how satisfied they were with their current weight. Response options were not at all satisfied, somewhat satisfied, and very satisfied. Scoring was reversed so that higher scores indicated greater weight dissatisfaction. Participants also provided their age, height, and weight (used to calculate BMI).

#### Results

Weight dissatisfaction was positively correlated with fat talk, r(3064)=.44, p<.001, and BMI, r(3064)=.50, p<.001. Fat talk showed a small, positive correlation with BMI, r(3064)=.16, p<.001, and a small, negative correlation with age, r(3064)=-.08, p<.001. Age and BMI were correlated, r(3064)=.26, p<.001. When both variables were entered into a regression predicting fat talk, they continued to be significantly associated with fat talk (for age,  $\beta=-.13$ , p<.001; for BMI,  $\beta=.20$ , p<.001). The interaction between age and BMI predicting fat talk was not significant, t(3062)=-1.42, p=.16.

Locally weighted regression (LOWESS; Cleveland, 1981) using R (R Core Team, 2013) was employed to further examine the association between fat talk and BMI. Results indicated a positive linear association between fat talk and BMI, but only for those with BMIs of approximately 25 or less (i.e. those who were not overweight based on CDC criteria; see Figure 1 in supplementary materials). In other words, for those who were healthy weight or underweight, increasing body size predicted increasing fat talk, r(1633)=.17, p<.001. However, for those with BMIs over 25, there was no association between BMI and fat talk, r(1429) = .02, p = .41. A Fisher's r to z test confirmed these two correlations differed significantly (z=4.18, p<.001).

In addition to examining BMI as a continuous predictor of fat talk, we also examined BMI as a categorical variable. This approach is consistent with medical research on health outcomes associated with BMI groupings (e.g. Flegal et al., 2013). A univariate analysis of variance with BMI group (underweight, healthy weight, overweight, and obese) as the IV and fat talk as the DV revealed a significant impact of BMI group on fat talk, F(3, 3062)=40.19, p<.001,  $\eta_p^2 = .04$ . Post-hoc analyses showed that the underweight group reported significantly less fat talk than any other group. The healthy weight group reported more fat talk than the underweight group but less fat talk than the overweight or obese groups (all ps < .001 with Sheffe correction). The overweight and obese groups did not differ from each other. Table 1 (in supplementary materials) shows fat talk means for each age group and BMI category.

#### Discussion

Because the majority of previous fat talk research has focused on undergraduate women, it has been difficult to ascertain whether fat talk is a phenomenon unique to certain generations of women (i.e. entering common discourse relatively recently) or simply age-linked (i.e. limited to young women). Available data also made it difficult to determine the extent to which fat talk is driven by actual body size.

The results of Study 1 suggest a somewhat complex set of associations between fat talk, age, and BMI. The prediction that very heavy women would avoid engaging in fat talk (to avoid drawing attention to their weight) was not supported. Fat talk frequency peaked around a BMI of 25, but did not decrease at higher BMIs. Underweight women reported the lowest levels of fat talk. With increasing age, women also reported less fat talk.

The large sample size in this study came with several trade-offs. A validated assessment of body dissatisfaction and detailed demographics (including ethnicity) were not available. Additionally, YouBeauty.com users may differ from a more general population of women because of their interest in beautyrelated topics. For example, the women in this sample were thinner (21% obese) than the general US population of women (36% obese; cdc.gov). Study 2 addressed these limitations and attempted a replication of the Study 1 findings.

#### Study 2

In Study 2, 1008 users of Amazon's Mechanical Turk website (see Buhrmester et al., 2011, for an overview of this participant recruitment method) completed the previously described measure of fat talk frequency along with a validated measure of body dissatisfaction and demographic variables. We predicted results similar to those in Study 1: a small, positive correlation between fat talk and BMI only for those with BMIs below 25; a moderate, positive correlation between fat talk and body dissatisfaction; and a small, negative correlation between fat talk and age. Analyses conducted with regard to ethnicity and fat talk were exploratory.

#### Method

Female mturk users (N=1008) over the age of 18 were invited to complete an anonymous survey about body image. Participants were paid US\$0.20.

Validity checks. Two items designed to resemble body image questions were embedded in the surveys but concluded with directions to "choose sometimes if you are reading this question." Additionally, the survey concluded with an open-ended question asking participants to describe what they did in the study. Two coders examined responses to this item, coding each response as either a pass or a fail. Disagreements between coders were resolved via a third coder. Those who failed this check left the guestion blank, provided an insufficiently detailed response (e.g. I answered questions), or provided a clearly inaccurate response. We required participants to pass all three validity checks. This resulted in the removal of 121 participants (12% of the original sample). The final sample consisted of 885 women (two additional participants were excluded for not reporting height/ weight).

*Participants.* Participants with BMIs greater than four standard deviations from the sample mean (n=3; 0.3%) were removed from the dataset.

BMIs for the remaining participants ranged from 13.72 to 54.81 (M=26.20, SD=7.28). Participants were in the following CDC-defined weight categories: 8 percent underweight, 48 percent healthy weight, 20 percent overweight, and 24 percent obese. Participants' ages ranged from 18 to 73 (M=30.78, SD=12.12; 2 participants did not report age). The majority (75%) of participants described their ethnicity as White, 11 percent as Black/African American, 5 percent as Latina, 5 percent as East Asian, and 3 percent as multi-racial. Two percent did not report their ethnicity. Of respondents, 11 percent reported a high school education or less; 46 percent reported some college or a 2-year degree; 33 percent reported a 4-year degree; 10 percent reported a graduate degree. In all, 87 percent described their sexual orientation as exclusively

or predominantly heterosexual, 9 percent as bisexual, 3 percent as exclusively or predominantly homosexual, and 1 percent as "other." All 50 states and the District of Columbia were represented in the sample.

Measures. Participants completed the previously described measure of fat talk frequency along with the nine-item Body Dissatisfaction subscale from the Eating Disorders Inventory-2 (Garner, 1991). Order of these two measures was counterbalanced. The Body Dissatisfaction subscale assesses participants' dissatisfaction with the overall size and shape of different body regions. Participants indicate how often they feel satisfied/unsatisfied with various body areas (e.g. "I think my hips are too big") using a scale ranging from 1 (always) to 6 (never). After reverse scoring the appropriate items, we assigned participants zero points for each item to which they responded *sometimes*, rarely, or never; one point for often, two points for usually, and three points for always (following the scoring recommended by Garner et al., 1983). Higher scores indicate greater dissatisfaction. Reported internal consistency coefficients for the body dissatisfaction subscale in samples of women range from .83 to .93 (Garner et al., 1983). Alpha was .89 in the current sample.

#### Results

Similar to Study 1 results, body dissatisfaction was positively correlated with fat talk, r(865)=.45, p<.001, and BMI, r(864)=.52, p<.001. Again, as in Study 1, fat talk showed a small, positive correlation with BMI, r(880)=.21, p<.001. Fat talk and age were not correlated, r(880)=-.03, p=.44. Fisher's *r* to *z* transformations revealed that none of these correlation coefficients differed significantly from those reported in Study 1.

BMI and age again showed a small, positive correlation, r(880)=.08, p=.02; however, this effect was weaker than the effect size found for Study 1 (z=2.12, p=.03). When both age and BMI were entered into a regression analysis predicting fat talk, BMI remained a significant predictor ( $\beta=.22$ , p<.001) and age was a marginally significant predictor ( $\beta=-.06$ , p=.053). The interaction between age and BMI predicting fat talk was not significant, t(876)=-.13, p=.90.

Consistent with the possibility that the YouBeauty sample from Study 1 may have been more tuned in to body concerns than a more general population of women, the fat talk mean for the YouBeauty sample was significantly higher than the mean for the mturk sample, t(3948)=12.10, p<.001, d=.39. The YouBeauty sample was also slightly younger, t(3949)=6.28, p<.001, d=.20, than the mturk sample. However, the two samples did not differ in BMI, t(3949)=0.63, p=.53.

Locally weighted regression was again employed. Results indicated a highly similar pattern to Study 1. Fat talk and BMI showed a positive linear association, but only for those with BMIs of approximately 25 or less (see Figure 2 in supplementary materials). Just as in Study 1, for healthy weight or underweight women, increasing body size predicted increasing fat talk, r(490)=.26, p<.001. However, for those with BMIs over 25, there was no association between BMI and fat talk, r(388)=.03, p=.57. A Fisher's r to z test confirmed these two correlations differed significantly from each other (z=3.47, p<.001). However, these correlations did not differ significantly from the identical tests in Study 1 (the association between BMI and fat talk in the healthy/underweight sample was marginally smaller in Study 2; p=.07).

Similar to the results for Study 1, an analysis of variance (ANOVA) with BMI group as the IV and fat talk as the DV revealed a significant impact of BMI group on fat talk, F(3, 878)=19.42, p<.001,  $\eta_p^2=.07$ . In an identical pattern to that identified in Study 1, post-hoc analyses showed that the underweight group reported significantly less fat talk than any other group. The healthy weight group reported more fat talk than the underweight group but less fat talk than the overweight or obese group (all ps<.01). The overweight and obese groups did not differ from each other.

We also tested the relationship between ethnicity and fat talk. First, the four ethnic groups with the largest number of respondents (Black, White, Latina, and East Asian) were examined for differences in BMI or age. The ages of these four groups were significantly different, F(3, 837)=3.79, p=.01;  $\eta_p^2 = .01$ . Post-hoc tests revealed that White participants were slightly older, on average, than Black or Latina participants (see Table 2 in supplementary materials).

The BMIs of these four groups also differed, F(3, 837)=10.93, p<.001;  $\eta_p^2 = .04$ . Black participants were heavier than White or East Asian participants. East Asian participants weighed significantly less than all three other groups (all ps<.012). Thus, age and BMI were entered as covariates in an analysis of covariance (ANCOVA) with ethnicity as the IV and fat talk as the DV. Results showed no main effect of ethnicity on fat talk frequency when controlling for age and BMI, F(3, 834)=1.46, p=.22;  $\eta_p^2 = .005$ .

#### Discussion

Overall, results of Study 2 replicated the primary findings of Study 1. Study 2 revealed a moderate, positive correlation between fat talk and body dissatisfaction. This finding is consistent with previous correlational studies with college women (e.g. Engeln-Maddox et al., 2012; Sharpe et al., 2013). The association between BMI and fat talk in the two samples was strikingly similar: a small, positive correlation for women with BMIs below 25 but no association among those with BMIs above 25. In other words, increasing BMI was only associated with increasing fat talk for women who were *not* in the overweight or obese BMI categories. Underweight women were the least likely to engage in fat talk, while overweight and obese women were the most likely to report fat talk. These associations between BMI and fat talk were not driven by age.

The association between fat talk and age was slightly different in the two samples. There was a small, negative correlation between fat talk and age in the YouBeauty sample, and there was no relationship in the mturk sample. However, these correlation coefficients did not differ significantly, suggesting that the linear relationship between fat talk and age is likely very small. Nonetheless, these data suggest the frequency of fat talk decreases somewhat with age, consistent with Martz et al.'s (2009) findings that older women feel less pressure to engage in fat talk. Future research is needed to better understand patterns of fat talk frequency across different age groups. Though the use of validated selfreport measures of body dissatisfaction and fat talk in Study 2 was a strength of this research, qualitative research could better assess how the specific content and meaning of fat talk may vary by age (Jankowski et al., 2014).

The finding that fat talk frequency did not differ among Black, White, Latina, and East Asian women is consistent with a meta-analytic finding of small ethnicity-based differences in body dissatisfaction (Grabe and Hyde, 2006). However, this finding is inconsistent with some recent qualitative work suggesting more acceptance of heavier figures among Black and Latina young women (Barroso et al., 2010).

Study 2 was able to correct several of the serious limitations of Study 1 (by obtaining more demographic information, recruiting participants from a more representative pool, and including a validated measure of body dissatisfaction and validity checks). However, the two samples did not differ in BMI, indicating both samples were still thinner than the general US population of women. Nonetheless, both samples were substantially more reflective of the age and body size of US women than the typical studies on fat talk employing only college women.

#### General discussion

In two large online surveys of adult US women, we examined how the tendency to engage in fat talk varies by age, body size, and ethnicity. The findings stand in contrast to the common belief suggesting that fat talk is a thin women's game-a way for women who are not actually overweight to obtain reassurance from their friends about their body size. These two studies show that although women of many different body sizes engage in fat talk, this tendency is not completely independent of body size. Overweight and obese women were most likely to engage in fat talk. With increasing size, women were more likely to engage in fat talk; however, this association was only found among women who were underweight and of a healthy weight.

Previous researchers (Nichter, 2000; Salk and Engeln-Maddox, 2011) have argued that fat talk is not just about being fat. If that were the case, we would not hear so many underweight and healthy weight women engaging in fat talk. The current results suggest an explanation (beyond simple range restriction) for the failure of previous studies to find a linear association between fat talk and BMI. This association is quite small and likely to be missed without a large sample size.

Just as these results demonstrate that fat talk is not limited to thin women, they also make it clear that fat talk is not simply a young woman's phenomenon—despite the fact that the majority of fat talk research has been conducted with undergraduate women. Fat talk can be heard across a wide age range of women. Though fat talk has entered the broader cultural discourse only recently, young women are not driving this practice by themselves. Daughters, mothers, and grandmothers are engaging in fat talk talk, perhaps even with each other. Consistent healthy with the research that body dissatisfaction However

remains relatively stable across the adult life span, women engaged in fat talk throughout adulthood. The more difficult question to answer is what this fat talk means to different age groups. We know that some thin undergraduate women engage in fat talk while knowing they are not actually fat (Salk and Engeln-Maddox, 2011). In these cases, the fat talk seems to express the *feeling* of being fat. Perhaps older women are communicating something different when they fat talk. These women are likely more familiar with

municating something different when they fat talk. These women are likely more familiar with the struggle to maintain a healthy weight (a struggle which tends to increase with age, as demonstrated by the positive correlations between age and BMI) and with the knowledge that increasing age moves most women away from female body ideals in general. Just as fat talk may mean different things at different ages, fat talk may mean different things at different body sizes. Perhaps healthy weight women use fat talk as a means of expressing fear of weight gain or even as a means of warding off weight gain. Future qualitative work could explore this issue more fully. Likewise, the null findings regarding ethnicity and fat talk in Study 2 could be more fully explored in future research, especially since the measure of fat talk employed in Study 2 has not been validated for different ethnicities.

Given open questions about who is most likely to fat talk and the extent to which fat talk is a culture-bound behavior (perhaps limited to the United States and other highly Westernized cultures), there is much room for future research. It will be important to continue exploring how fat talk among friends influences mental health (e.g. Tan and Chow, 2014). Additionally, the wide age range in this sample allowed for crosssectional analyses, but not the type of longitudinal analyses that could answer questions about the developmental trajectory of fat talk.

In cultures where obesity is now viewed as an epidemic, one might ask whether fat talk is a reasonable mechanism for reaching weight goals. Perhaps some women successfully use

fat talk to motivate themselves to maintain a healthy weight or to lose unwanted weight. However, this seems unlikely. Fat talk is associated with body-related distress in both experimental and correlational studies. Though the literature on weight loss is complex, it seems clear that body dysphoria is neither necessary nor sufficient to motivate weight loss. Instead, body dissatisfaction is associated with binge eating and other unhealthy weight loss techniques (e.g. Neumark-Sztainer et al., 2006). If women's concerns over deviation from the ideal female body shape were an effective weight loss tool, one could argue that there would not be an obesity epidemic among women. Instead, fat talk appears to be something less useful and more pernicious. It is primarily a reminder to women that they should be chronically focused on the appearance of their bodies and any deviation from an extremely rigid body ideal, a focus that comes with a host of negative psychological consequences for women of all ages and body sizes.

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#### **Declaration of conflicting interests**

Any opinions, findings, and conclusions or recommendations expressed in this material are those of the authors and do not necessarily reflect the views of the National Science Foundation.

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