

Fat Talk Among College Women is Both Contagious and Harmful

Rachel Hannah Salk · Renee Engeln-Maddox

Published online: 9 August 2011
© Springer Science+Business Media, LLC 2011

Abstract Fat talk is a social phenomenon during which women speak negatively with each other about the size/shape of their bodies (Nichter and Vuckovich 1994). In this study, exposure to fat talk from peers was experimentally manipulated to determine the effect of hearing fat talk on a woman's own likelihood of engaging in fat talk and on state body dissatisfaction, guilt, and sadness. Undergraduate women ($n=87$; all of a healthy weight) from a Midwestern university in the United States participated in a study ostensibly about discussing magazine advertisements. Two female confederates were present for the discussion. While discussing an advertisement featuring an attractive and thin female model, participants either heard both confederates engage in fat talk, neither confederate engage in fat talk, or the first engage in fat talk and the second challenge the fat talk. Hearing a confederate fat talk made the participants more likely to fat talk themselves (especially if the fat talk went unchallenged) and increased participants' self-reported state body dissatisfaction and guilt. Participants who engaged in fat talk reported higher levels of self-reported state body dissatisfaction and guilt, compared to participants who did not engage in fat talk (even when controlling for pre-existing trait body dissatisfaction). Participant fat talk mediated the effect of condition on both state body dissatisfaction and guilt.

Additionally, correlational analyses revealed that participants with higher levels of trait body dissatisfaction (assessed at a pre-test) were more likely to engage in fat talk (regardless of condition).

Keywords Fat talk · Body image · Body dissatisfaction

Introduction

Friends don't let friends fat talk.©

– Slogan associated with Fat Talk Free Week©, part of Tri Delta Sorority's program designed to decrease body image disturbance in college women (<https://www.facebook.com/FatTalkFree>)

Women's dissatisfaction with their bodies was first referred to as *normative discontent* over 25 years ago (Rodin et al. 1985), emphasizing the extent to which the struggle for women in Western cultures to feel positively about the size and shape of their bodies had become epidemiologically normal. More recent research supports this assessment (Feingold and Mazzella 1998; Frederick et al. 2006). Body dissatisfaction is worrisome for a number of reasons, but primarily because it is one of the most reliable predictors of eating disordered behavior (Stice 2002). Body dissatisfaction is evident in women's behaviors: daily individual and group weight-loss activities are common among American girls and women (Jeffery et al. 1991; Hope 1980; Liechty 2010). American women's weight and appearance-focused conversations also reflect this normative body discontent (Britton et al. 2006; Tompkins et al. 2009). In a study of middle school and high school girls in the U.S., Nichter and Vuckovich (1994) coined the term *fat talk* to refer to girls speaking with

R. H. Salk · R. Engeln-Maddox
Department of Psychology, Northwestern University,
Evanston, USA

Present Address:
R. H. Salk (✉)
Department of Psychology, University of Wisconsin-Madison,
1202 West Johnson St.,
Madison, WI 53706, USA
e-mail: rsalk@wisc.edu

each other about the size and shape of their bodies in a negative manner.

The majority of fat talk research has been conducted with undergraduate women, but some work demonstrates that fat talk is common throughout early adolescence and into adulthood (e.g., Martz et al. 2009; Smith and Ogle 2006). Unless otherwise indicated, U.S. undergraduate women comprised the samples for all fat talk studies reviewed below. Though fat talk has predominantly been studied in the U.S. (with some more recent work in the U.K.; Payne et al. 2011), it can be conceptualized as one of many manifestations of an intensified focus on physical appearance that women throughout the world face. In other words, though frequency of fat talk may vary throughout different cultures, the underlying body dissatisfaction that it expresses has been identified in women from many different countries (e.g., Davis and Katzman 1997; Jung and Forbes 2006; Mukai et al. 1998; Safir et al. 2005). Additionally, fat talk among women is reflected in U.S. popular media and these media are often exported to other countries. Prior research has documented the effects of U.S. popular media on shaping girls' and women's body ideals and eating-related behaviors (e.g., Becker 2004). Fat talk may be another body-related social norm that becomes an export to non-U.S. cultures.

In the current study of U.S. undergraduate women, healthy weight undergraduate women discussed magazine advertisements with two female confederates. Exposure to fat talk from these confederates was experimentally manipulated to determine the effect of hearing fat talk on a woman's own likelihood of engaging in fat talk and on state body dissatisfaction, guilt, and sadness. This research design allowed us to replicate and extend two key findings: a positive correlation between trait body dissatisfaction and fat talk frequency among college women (Clark et al. 2010; Ousley et al. 2008; Salk and Engeln-Maddox 2011); and experimental evidence that women who overhear fat talk experience increased state body dissatisfaction (Gapinski et al. 2003; Stice et al. 2003). Most importantly, by recording participants' responses to confederates' fat talk, we were able to determine how participants' tendency to reciprocate fat talk influenced the above variables.

Fat Talk Research

Nichter (2000) argued that women might feel pressure to make negative comments about their bodies due to perceived social norms. Indeed, both male and female undergraduates believe fat talk is a normative phenomenon among college women (e.g., Britton et al. 2006). While some women may find it annoying when other women fat

talk (Salk and Engeln-Maddox 2011), they recognize that women are pressured to engage in the type of body talk (either positive or negative) that is consistent with the style of other women in their social group (Tompkins et al. 2009). The more fat talk a woman hears from her peers, the more fat talk she is likely to engage in herself. The power of social norms in fat talk conversations was highlighted in Tucker et al.'s (2007) confederate study. When announcing ratings of their own bodies, college women mimicked a female confederate's style of body talk (speaking in either a positive, accepting, or negative manner about her body).

Though some women may believe fat talk makes them feel better (because they are expressing their body dissatisfaction and opening the door for empathetic responses from others), the self-reported frequency of fat talk among college women is positively correlated with body dissatisfaction (Clark et al. 2010; Ousley et al. 2008; Salk and Engeln-Maddox 2011). Though correlational links between fat talk and body dissatisfaction could indicate that fat talk is simply a *result* of trait-level body dissatisfaction rather than a factor that creates it, initial experimental evidence indicates that women who overhear confederate fat talk generally experience increased state body dissatisfaction (Gapinski et al. 2003; Stice et al. 2003). However, researchers have not examined how participants' responses to hearing fat talk (i.e., whether they respond to fat talk with their own fat talk) play a role in this association. The manner in which women respond to fat talk initiated by their peers is important to consider when examining how hearing fat talk relates to body image disturbance. When asked to write a script for a typical fat talk conversation with a peer (initiated when the peer complained of being fat), Salk and Engeln-Maddox (2011) found that 39% of college women indicated they would join in the fat talk by complaining about the size of their own body. Women who respond to others' fat talk by generating their own (e.g., when a friend complains about feeling fat, the listener indicates that she feels fat as well) may be especially vulnerable to increased body dissatisfaction. Likewise, although some programs designed to encourage body satisfaction in college women do so (partially) by discouraging fat talk (e.g., Becker and Stice 2008), the effect of a peer directly challenging another woman's self-disparaging fat talk has not been investigated.

The Current Study

In the current study, healthy weight college women commented on a series of advertisements in a "discussion" with two female, undergraduate confederates. In response to an advertisement featuring a highly attractive and thin

female model, the confederates either both engaged in fat talk (fat talk condition), one engaged in fat talk and the other challenged her fat talk (challenge condition), or both engaged in neutral responses (control condition). The participant stated her reaction to the ad after hearing the confederates' reactions (this response was audio recorded). The confederates and participant completed measures of state-level body dissatisfaction, sadness, and guilt after discussing the ads.

We included measures of two types of negative affect (in addition to state-level body dissatisfaction) for two reasons. First, body image disturbance in women has long been linked with guilt/shame (e.g., Burney and Irwin 2000; Sanftner et al. 1995) and depression (Keel et al. 2001). Guilt/shame play a particularly strong role in predicting body dissatisfaction (Burney and Irwin 2000; Silberstein et al. 1987). Additionally, exposure to idealized media images of women (one common method of experimentally increasing women's state body dissatisfaction) has been shown to increase state-level negative affect (Bessenoff 2006; Groesz et al. 2002). Thus, if hearing fat talk is conceptualized as a trigger for increases in state-body dissatisfaction, it makes sense that negative affect may also result from this manipulation. Second, though Stice et al. (2003) did not find effects of hearing fat talk on negative affect (only on body dissatisfaction), the authors suggested the possibility that these null effects were a result of an insufficiently strong manipulation and recommended further research on the topic.

Hypothesis 1: We hypothesized an overall effect of condition on state body dissatisfaction, guilt, and sadness. Furthermore, we predicted a linear trend, such that participants who heard two peers fat talk would report the highest scores on these variables, followed by participants who heard the fat talk of a peer challenged by another, and then participants in the control condition. Consistent with Stice et al. (2003), we predicted that contrasts would reveal significantly higher levels of body dissatisfaction and negative affect for participants who heard two peers fat talk compared to the control condition. We also hypothesized that participants in the challenge condition would show significantly lower levels of body dissatisfaction and both types of negative affect compared to the fat talk condition, but significantly higher levels of these variables compared to the control condition.

Hypothesis 2: We predicted a significant effect of condition on whether the participant would engage in fat talk (coded as a dichotomous

variable: the presence or absence of fat talk in the audio recordings of participants' responses) after hearing the confederates' comments. We predicted that participants would be most likely to generate their own fat talk when they first heard both confederates fat talk, but hearing a second confederate challenge the first confederate's fat talk would reduce the likelihood of participant fat talk. Participants would be least likely to generate their own fat talk in the control condition.

Hypothesis 3: Participants who engaged in fat talk (regardless of condition) would report higher levels of state body dissatisfaction, guilt, and sadness compared to participants who did not engage in fat talk. Importantly, these relationships should hold when controlling for trait body dissatisfaction. Moreover, we predicted that participant fat talk would mediate the effect of condition on state-level body dissatisfaction, guilt, and sadness. In other words, participants who overheard fat talk would be more likely to engage in fat talk, and engaging in fat talk would be associated with higher levels of state body dissatisfaction, guilt, and sadness.

Hypothesis 4: Consistent with the previously reported correlations between self-reported fat talk frequency and trait body-dissatisfaction (Clark et al. 2010; Ousley et al. 2008; Salk and Engeln-Maddox 2011), we hypothesized that participants who scored higher on a pre-test measure of trait body dissatisfaction would be more likely to engage in fat talk (regardless of condition and controlling for BMI).

Method

Participants

Participants were 87 undergraduate women ranging in age from 17 to 22 ($M=18.32$, $SD=0.76$) from the introductory psychology participant pool at a private, mid-sized University in the Midwestern United States. Sixty-three percent identified themselves as Caucasian or White, 18% as Asian, 13% as multi-racial, 3% as African American, 1% as Arab, and 1% as Pacific Islander. Only participants whose height

and weight indicated they fit the criteria for the Centers for Disease Control healthy weight range (http://www.cdc.gov/healthyweight/assessing/bmi/adult_bmi/) were selected to participate (which resulted in rejecting 9% of participants from the pool of potential participants). This choice was made in order to ensure that overweight women who might feel they were being mocked by confederates would not be included. Participants meeting the BMI criterion were then randomly selected from a pool of several hundred female introductory psychology students. Based on self-reported height and weight, participants' body mass indices ranged from 18.72 to 24.69 ($M=21.15$, $SD=1.47$).

Measures

Trait Body Dissatisfaction

The Body Dissatisfaction subscale of the Eating Disorders Inventory-2 (Garner 1991) is a 9-item measure of participants' dissatisfaction with the overall size and shape of specific body regions. On a scale ranging from 1 (*always*) to 6 (*never*), participants indicate how often they feel satisfied/unsatisfied with various body areas (e.g., "I think that my stomach is too big"). After reverse scoring the appropriate items, responses to individual items were summed to create total scores. As this was a non-clinical sample, the measure was scored by treating responses as continuous following the scoring procedures outlined by Garner et al. (1983). Higher scores indicate greater dissatisfaction. Scores on the body dissatisfaction subscale correlate positively with weight and previously established measures of body dissatisfaction (Garner 1991), as well as eating disorder symptoms (Spillane et al. 2004). Reported reliability coefficients for the body dissatisfaction subscale have ranged from .83 to .93 for college women (Garner, et al. 1983). Cronbach's alpha for this sample was .89.

State Body Dissatisfaction

The Body Image States Scale (BISS; Cash et al. 2002) is a 6-item measure of individuals' affect and evaluation with regard to their physical appearance at a particular moment (in response to the prompt "Right now I feel the following about my physical appearance"). Responses are made on a scale ranging from 1—*extremely dissatisfied* to 5—*extremely satisfied*. After reverse scoring the appropriate items, the score is the mean of the items. For this study, scores were reversed so that higher scores indicated greater dissatisfaction. Cash et al. (2002) reported a Cronbach's alpha of .77 with a sample of undergraduate women. Van den berg and Thompson (2007) reported a Cronbach's alpha of .85 with a similar sample. Cronbach's alpha was .86 in this sample.

Guilt and Sadness

The guilt (six items) and sadness (five items) clusters of the 60-item Positive and Negative Affect Schedule (PANAS; Watson, Clark, & Tellegen, 1988) were administered, along with randomly selected positive and negative filler items. The scale was administered with the state-based instructions for this study, i.e., *Indicate to what extent you feel this way right now (that is, at the present moment)*. Response options were on a 5-point Likert type scale (1—*very slightly or not at all* to 5—*extremely*). Subscale items were averaged to provide total subscale scores. To support the cover story, participants completed these affect items after viewing each of the three advertisements; however, we only used scores after viewing the third and final ad (with the thin, attractive model) in the analyses for the current study. The original authors reported Cronbach's alphas for guilt and sadness of .88 and .87, respectively (Watson et al. 1988). Cronbach's alphas in the current sample for guilt and sadness were .91 and .70, respectively.

Hypothesis Guessing

At the end of the study, participants indicated what they thought the purpose/hypothesis of the study was (in order to probe for suspicion/hypothesis guessing).

Procedure

The following procedure was approved by the Institutional Review Board of Northwestern University. Participants completed demographic questions and the trait body dissatisfaction measure in a packet with other surveys on a variety of topics during a session of Introduction to Psychology. Only one healthy-weight participant was recruited for each study session. However, two female confederates posing as additional participants were also present. The confederates were undergraduate women with BMIs in the healthy range.

Participants were randomly assigned to condition using range matching based on their trait body dissatisfaction scores from pre-testing ($n=31$ in the fat talk condition, $n=29$ in the challenge condition, and $n=27$ in the control condition). The matching was conducted by ordering trait body dissatisfaction scores, forming groups of three participants with the most similar scores, and then randomly assigning one from each group of three to one of the three conditions. Issues with participant attendance caused the differences in numbers across conditions.

The participant and confederates were introduced to the study by a female experimenter and given an informed consent form (where they were given the choice to refuse audio recording). The study was described as a study of

consumer behavior. Participants were told the researchers were interested in their responses to advertisements when discussing the ads with peers. The participant was seated with the two confederates at a table with a laptop in the center. The confederates were always seated in the same position (the left and middle chair) and were assigned to be participants A and B, while the participant was assigned to be participant C and always sat to the right of the two confederates. Cards with A, B, and C were placed by each seat and confederates and participants were instructed to respond in order (thus assuring that the confederates would speak before the participant). The experimenter explained the advertisement portion of the study, set up a PowerPoint presentation on the laptop, and then left the room. The participant and confederates saw three ads on the PowerPoint Presentation with time in between to discuss the ads. The first two ads were neutral images (i.e., not featuring models and non-appearance relevant), and the third ad featured an image of a highly attractive model in a bikini. The presentation time of the ads (10 s per ad) and time for discussion (25 s per ad) were controlled on the PowerPoint presentation. The confederates responded following a script after each of the ads and were always seated such that confederate A would respond first to the ad, then confederate B, and then the participant. In all conditions, the confederates made non-appearance-related comments in response to the first two ads. Their responses to the last ad (featuring the attractive model) differed by condition. In the fat talk condition, both confederates engaged in fat talk in response to this ad (“Ugh, look at her thighs. Makes me feel so fat,” and “Yeah me too. Makes me wish my stomach was anywhere near flat like that”). In the challenge condition, the first confederate’s response remained the same and the second confederate challenged her fat talk by saying, “Oh come on. You’re definitely not fat. I know we all say things like that but I don’t understand why. I just wish we focused on other things.” In the control condition, both confederates made neutral comments about the ad that were not relevant to physical appearance (either their own or the model’s; “It’s like an optical illusion. I can’t really understand what’s going on there.”).

For each ad, after hearing the confederates’ reactions, the participant stated her reaction. After both confederates and the participant stated their reaction to each ad, they completed the affect assessment individually. After completing the advertisement discussion portion of the study, the participant and confederates were seated at three computer workstations where they completed the post-test measure of state body dissatisfaction and the assessment of hypothesis guessing. The confederates always finished the computer portion early so that the experimenter could debrief the participant individually. The experimenter asked the participants to recall the confederates’ responses to the

last ad as a manipulation check. All participants remembered the confederates’ responses accurately. Data from the question probing for hypothesis guessing indicated that no participants correctly guessed the purpose of the study or suspected the confederates.

The conversations about the ads were audio-recorded for all but four participants who did not consent to recording. Research assistants transcribed the audio-recordings of the participants’ responses to the ad featuring the attractive model. Two female research assistants coded the responses for the presence of *fat talk* (i.e., the participant made a negative comment about the size/shape of her own body, directly expressed insecurity about her body, or expressed the need to change her body through diet or exercise). Inter-rater reliability (assessed by kappa) was .85, and coders achieved 78% agreement (discrepancies between coders were resolved by a third female research assistant after discussion).

Results

ANOVAs revealed no differences among conditions for participants’ BMIs, $F(2, 84)=1.18$, $p=.31$, $\eta_p^2=.03$ or trait-level body dissatisfaction, $F(2, 84)=.75$, $p=.48$, $\eta_p^2=.02$, suggesting that the random assignment using matching was successful. See Table 1 for descriptive statistics. Although this was a relatively diverse sample in terms of ethnicity, there were not sufficient numbers of participants in each of the different ethnicity categories to fully examine the association between condition and ethnicity. As a compromise, the sample was divided into White/non-

Table 1 Means and standard deviations for pre-test (BMI and trait body dissatisfaction) and post-test measures (state body dissatisfaction, guilt, and sadness) in each condition

	Condition		
	Fat Talk ($n=31$)	Challenge ($n=29$)	Control ($n=27$)
BMI ^a	21.39 (1.57)	21.2 (1.60)	20.80 (1.16)
Trait Body Dissatisfaction ^b	31.29 (9.35)	29.55 (10.44)	28.26 (8.56)
State Body Dissatisfaction ^c	4.45 (.84) _f	4.06 (.77) _g	3.95 (.65) _g
Guilt ^d	1.51 (.76) _f	1.20 (.30) _g	1.12 (.30) _g
Sadness ^e	1.20 (.22)	1.19 (.26)	1.20 (.40)

a: BMI scores in this sample ranged from 18.72 to 24.69; b: possible scores range from 9 (high satisfaction) to 54 (high dissatisfaction); c: possible scores range from 1 (extremely satisfied) to 5 (extremely dissatisfied); d: possible scores range from 1 (very slightly or not at all guilty) to 5 (extremely guilty); e: possible scores range from 1 (very slightly or not at all sad) to 5 (extremely sad). Differing subscripts indicate significant differences between means

White groupings. There was no association between White/non-White ethnicity and condition, $\chi^2(2)=1.20$, $p=.55$.

Hypothesis 1: Effect of Condition on State Body Dissatisfaction, Guilt, and Sadness

Hypothesis 1 specified three findings. First, we hypothesized that condition would have an overall effect on state body dissatisfaction, guilt, and sadness. Second, a linear trend was hypothesized such that participants in the fat talk condition would show the highest levels of state body dissatisfaction, guilt, and sadness, followed by participants in the challenge condition and then the control condition. Third, specific contrasts were hypothesized, such that all three conditions would be significantly different from each other on dependent variables in the predicted linear direction.

First, a MANOVA with condition as the IV and state body dissatisfaction, guilt, and sadness as the DVs was conducted. Using Wilk's criterion, results indicated a significant overall multivariate effect, $F(6, 160)=2.34$, $p=.03$, $\eta_p^2=.08$. Next, univariate analyses were conducted for each DV. See Table 1 for descriptive statistics for each condition. Results indicated a significant main effect of condition on state body dissatisfaction, $F(2, 84)=3.46$, $p=.04$, $\eta_p^2=.08$. Tests of polynomial contrasts indicated the predicted linear trend ($p=.04$) with those in the fat talk condition scoring highest on state body dissatisfaction, followed by those in the challenge condition, and then those in the control condition. Additional planned contrasts (a set of three, separately comparing each condition to each other condition) indicated that participants in the fat talk condition (i.e., both confederates fat talked) had significantly higher levels of state body dissatisfaction compared to participants in the control condition ($p=.02$) and marginally higher levels than participants in the challenge condition ($p=.05$). However, there was not a significant difference in state body dissatisfaction between participants in the challenge and control condition ($p=.60$).

Results also indicated a significant main effect of condition on guilt ($F(2, 82)=4.59$, $p=.01$, $\eta_p^2=.10$). Tests of polynomial contrasts again indicated the hypothesized linear trend specified above ($p=.006$). The same set of contrasts described above indicated that participants in the fat talk condition had significantly higher levels of guilt compared to participants in the control condition ($p=.006$) and participants in the challenge condition ($p=.02$). However, there was not a significant difference in guilt between participants in the challenge and control condition ($p=.66$). There was no overall main effect of condition on sadness ($F(2, 82)=.02$, $p=.98$, $\eta_p^2=.00$). This null finding was likely not due to low statistical power, but rather appeared to be a true null effect given the F value near zero.

Hypothesis 2: Participant Responses to the Ad Featuring the Attractive Model

For our second hypothesis we predicted that condition would have a significant effect on whether the participant would engage in fat talk (coded as a dichotomous variable: the presence or absence of fat talk) in response to the confederates' comments. Fat talk was evident in 19% of total responses. (See Table 2 for sample responses and the percent of participants making fat talk comments in each condition.) As predicted, participant fat talk was most common in the fat talk condition (35%). Seventeen percent of participants in the challenge condition responded with fat talk, while none of the participants in the control condition engaged in fat talk. A chi-square test revealed a significant association between participant fat talk (coded as yes or no) and condition, $\chi^2(2)=12.53$, $p=.0002$, Cramer's $V=.39$. Because this test violated traditional assumptions regarding cell sizes, a Fisher's exact test was conducted as well and revealed similar results ($p<.001$ with 2,000 replications).

Hypothesis 3: Effect of Participant Fat Talk on State Body Dissatisfaction, Guilt, and Sadness

Hypothesis 3 predicted that participants who fat talked would show higher levels of state body dissatisfaction, guilt, and sadness (compared to participants who did not fat talk). First, a MANOVA was conducted with state body dissatisfaction, guilt, and sadness as the DVs and participant fat talk (yes or no) as the IV. Using Wilk's criterion, results indicated a significant multivariate effect, $F(3, 78)=6.07$, $p=.001$, $\eta_p^2=.19$. See Table 3 for descriptive statistics. Univariate tests indicated that, collapsing across condition, women who fat talked reported significantly more state body dissatisfaction than women who did not fat talk, $F(1, 81)=14.54$, $p<.001$, $\eta_p^2=.15$. Additionally, women who fat talked had significantly higher levels of guilt than women who did not fat talk, $F(1, 80)=11.64$, $p=.001$, $\eta_p^2=.13$. There was no main effect of participant fat talk on sadness, $F(1, 80)=2.17$, $p=.16$, $\eta_p^2=.03$. Although statistical power was lower when sadness was the dependent variable (.31, compared to power above .90 for guilt and state body dissatisfaction), a power analysis indicated that given the obtained effect size, over 4,000 additional participants would have been needed to obtain statistical significance. To check for possible confounds, the above analyses were re-run with BMI and trait body dissatisfaction entered as covariates. All of the above reported findings held.

We also predicted that participants' fat talk would mediate the impact of condition on dependent variables. As condition did not have a significant effect on sadness, this hypothesis was only tested for state body dissatisfaction and guilt. We used Mplus (Muthén and Muthén 1988–2009) to test for

Table 2 Sample fat-talk and non-fat talk responses to the ad featuring an attractive model

Code	Sample responses	% of Responses in Fat Talk Condition (n=31)	% of Responses in Challenge Condition (n=29)	% of Responses in Control Condition (n=27)
Fat Talk	“Yeah, I agree.” (responding to confederate saying her body was too fat) “It definitely makes me wanna hit the gym.”	35% n=11	17%, n=5	0% n=0
No Fat Talk	“Yeah, she's really pretty.” “I think it's a cool picture. Her pose is like kinda weird so you can't even really see the bathing suit, but it's, like, a cool picture. And it makes me want to go on vacation.” “Um, I don't know. It was- like, the- color contrast was obviously striking, but...”	65% n=20	83% n=24	100% n=27

mediation with condition as a categorical IV and participant fat talk as a categorical mediator. We first tested whether the effect of condition on state body dissatisfaction was mediated by the participants' fat talk. Regressing participant fat talk on condition resulted in a significant effect ($\beta=-0.91$, $p=.009$), as did regressing state body dissatisfaction on participant fat talk ($\beta=-0.33$, $p=.004$). The effect of condition on state body dissatisfaction became nonsignificant after accounting for participant fat talk ($\beta=.06$, $p=.71$). A Sobel's test confirmed a reliable reduction ($z=-2.00$, $p=.046$). This procedure was repeated using guilt in place of state body dissatisfaction and the same pattern emerged. Regressing participant fat talk on condition resulted in a significant effect ($\beta=-0.90$, $p=.01$), as did regressing guilt on participant fat talk ($\beta=0.14$, $p=.001$). The effect of regressing guilt on condition became nonsignificant after accounting for

participant fat talk ($\beta=-.08$, $p=.46$), with a Sobel's test confirming a reliable reduction ($z=-2.37$, $p=.02$).

Hypothesis 4: Participant Fat Talk and Trait-Level Body Image Variables

We predicted that participants who scored higher on trait body dissatisfaction would be more likely to engage in fat talk (regardless of condition). Controlling for BMI, women who fat talked reported significantly more trait body dissatisfaction ($M=33.86$, $SE=1.06$) than women who did not fat talk, $M=28.45$, $SE=2.18$, $F(1, 80)=4.96$, $p=.03$, $\eta_p^2 = .06$.

Discussion

Consistent with extant research (Gapinski et al. 2003; Stice et al. 2003), hearing fat talk was associated with higher levels of state body dissatisfaction among healthy weight undergraduate women. Although Stice et al. (2003) found no effect of fat talk on general negative affect, when using guilt as a more specific type of negative affect, the manipulation used in the current study also resulted in significant effects for guilt. Although a linear trend suggested that the effect of hearing fat talk on both state body dissatisfaction and guilt was attenuated when a second confederate challenged the first confederate's fat talk, contrasts indicated that scores for those who heard a second confederate challenge the first confederate's fat talk did not significantly differ from those in the control condition. Importantly, in this context, *challenging* the fat talk did not mean simply denying that the fat-talker was fat, but also explicitly criticizing women's general tendency to fat talk in lieu of talking about non-appearance-related topics. This

Table 3 Descriptive statistics for DVs based on whether the participant fat talked

	Participant engaged in fat talk. (n=16)	Participant did not engage in fat talk. (n=71)
Dependent Variables	<i>M</i> (<i>SD</i>)	<i>M</i> (<i>SD</i>)
State Body Dissatisfaction	4.77 (.77) _d	4.02 (.69) _e
Guilt ^b	1.69 (.65) _d	1.20 (.47) _e
Sadness ^c	1.30 (.23)	1.18 (.31)

a: possible scores range from 1 (extremely satisfied) to 5 (extremely dissatisfied); b: possible scores range from 1 (very slightly or not at all guilty) to 5 (extremely guilty); c: possible scores range from 1 (very slightly or not at all sad) to 5 (extremely sad). Above results collapse across condition. Differing subscripts indicate significant differences between group means

finding suggests that challenging another woman's self-deprecating fat talk in this manner may actually protect women from the negative consequences of hearing a healthy-weight woman fat talk.

The effects of fat talk described above were not replicated when sadness was examined as an outcome instead of guilt. Fat talk's impact on guilt rather than a more general form of negative affect like sadness may reflect the well-established relationship between body image disturbance and shame (Burney and Irwin 2000; Silberstein et al. 1987) and suggests that in future research on this topic, the type of negative affect chosen as a dependent variable should be carefully considered. Effects may emerge for guilt but not sadness or more general measures of negative affect.

Notably, no fat talk occurred in the condition in which the confederates did not initiate fat talk. However, it is important to interpret these results knowing that though participants were interacting with peers, the confederates were still strangers. Among groups of female friends, unprompted fat talk is likely more common than it was in this study (after all, someone has to initiate it). Previous ethnographic research (Nichter and Vuckovic 1994; Nichter 2000) found that fat talk commonly occurs among pairs or groups of female friends. The current results suggest that fat talk may occur among strangers as well—at least when those strangers set a norm that endorses fat talk. Nonetheless, because the confederates and participants in this study were peers (all college women), the fact that participants who did *not* overhear fat talk from the confederates did not initiate any fat talk is promising. This finding suggests that spending time with non-fat-talking peers could reduce the frequency of fat talk among women and potentially reduce the concomitant increases in body dissatisfaction. This finding also suggests that *Fat Talk Free Week*® (<http://www.reflectionsprogram.org/action>), a new college sorority-based program that advocates for fat talk free conversations, may be an effective intervention for reducing body image disturbance in college women.

Participant fat talk mediated the effect of hearing fat talk on state-level body dissatisfaction and guilt. In other words, if participants overheard fat talk, they were more likely to engage in fat talk themselves, which led to increased levels of state body dissatisfaction and guilt. Analyses in the current study also suggested that these effects were not simply due to the association between pre-existing trait-level body dissatisfaction and the tendency to engage in fat talk. Though previous research (Gapinski et al. 2003; Stice et al. 2003) has demonstrated similar effects of hearing confederate fat talk on body dissatisfaction, no previous research has examined the impact of how participants respond to the fat talk they hear. These data suggest that generating their own fat talk after hearing another's fat talk led to participants' increased state body dissatisfaction and guilt. Women who avoid joining in with their own self-

disparaging comments when hearing fat talk may be less vulnerable to its effects on body image and affect.

Participants who engaged in fat talk (regardless of the condition) also scored higher on trait level body dissatisfaction (consistent with correlational findings of Clark et al. 2010; Ousley et al. 2008; Salk and Engeln-Maddox 2011). When a social norm that endorses fat talk is present, women with pre-existing body image disturbance may be especially likely to behave in accordance with this norm. When these women fat talk, they exacerbate their own body dissatisfaction and potentially play a role in increasing the body dissatisfaction of other women who hear the fat talk. In this way, women who are most vulnerable to the effects of fat talk are the same women who are most likely to engage in it and encourage the same behavior among other women. Nonetheless, these results showed an impact of engaging in fat talk that went beyond the results of trait level body dissatisfaction. While women high in trait body dissatisfaction were more likely to fat talk, pre-existing levels of trait body dissatisfaction did not account for the increases in state body dissatisfaction associated with hearing and engaging in fat talk.

Women who engage in fat talk typically report that they are expressing real concerns about their own body image, even if, on some level, they know they are not really fat (Salk and Engeln-Maddox 2011; Smith et al., 2006). Though suggesting women avoid fat talk may seem like a troublesome way of minimizing their real concerns about body image (Bosson et al. 2008), it is important to acknowledge that fat talk might be contagious in a manner that expressing other types of negative affect is not. When one healthy weight woman complains to a similarly sized woman about feeling fat, the result is a commentary on *both* women's weight and an implicit message that the second woman should also feel dissatisfied with her body. On the other hand, when a woman speaks to another woman about being generally anxious or sad, the listener might be less likely to hear this as either direct or indirect commentary on her own mood. We encourage future work that directly manipulates negatively-valenced conversations to distinguish the effects of fat talk from other forms of negative self-talk that are not focused on appearance.

Qualitative findings from Salk and Engeln-Maddox (2011) suggested that the most typical response to hearing a friend fat talk would be denying that the friend was fat or being empathetic (i.e., noting that you or other women have similar feelings about being fat). Results from the current study suggest that fat talk with strangers is qualitatively different from fat talk with friends. When interacting with confederates who fat talked, participants did not directly deny the confederate's contention that she was fat. However, perhaps engaging in their own fat talk was participants' way of expressing empathy with the fat-talking confederate and implicitly validating her concerns.

If one healthy weight woman complains of being fat and another responds, “I feel the same way,” the message is that it is normal for women who are not actually overweight both to feel fat and to talk about feeling fat with others.

For ethical reasons all participants in this study were in the healthy BMI range, making it impossible to assess the effects of overhearing and participating in fat talk among overweight or underweight college women. Additionally, the sample was somewhat homogenous in terms of ethnicity, although non-parametric tests indicated no differences in fat talk frequency between white and non-white participants. A recent survey of adults in the U.S. suggested that fat talk frequency decreases with age (Martz et al. 2009); however, fat talk literature lacks data exploring how other demographic variables (e.g., ethnicity, SES, etc.) may interact with fat talk. Additionally, little work has been done on fat talk outside of the U.S., suggesting an area ripe for future investigations.

Overall, results from the current study demonstrate that hearing fat talk was causally related to increases in state body dissatisfaction and guilt, and that this effect was mediated by participants engaging in their own fat talk in response to hearing others do so. Hearing a healthy-weight peer complain that she is fat may be problematic. Responding with one’s own fat talk is likely to be especially problematic. Findings also suggest that challenging fat talk might be an effective strategy to reduce the negative impact of hearing fat talk because it makes women less likely to reciprocate such behavior. Silencing fat talk may open the door for groups of female peers to spend more time discussing aspects of themselves that are not strictly appearance-relevant, potentially leading to less objectified views of themselves (Fredrickson and Roberts 1997). Understanding the negative effects of fat talk is key to avoiding a cycle in which women who think they are using fat talk as a helpful coping mechanism may be reinforcing body dissatisfaction in themselves and others.

Acknowledgment This paper is based on the first author’s senior honors thesis completed at Northwestern University. Thanks to Megan Calhoun and Heather Waldron for their assistance and to Steven A. Miller for his assistance with mediation analyses.

References

- Becker, A. E. (2004). Television, disordered eating, and young women in Fiji: Negotiating body image and identity during rapid social change. *Culture, Medicine and Psychiatry*, 28, 533–559. doi:10.1007/s11013-004-1067-5.
- Becker, C. B., & Stice, E. (2008). *Sorority body image program: Workbook*. New York: Oxford University Press.
- Bessenoff, G. R. (2006). Can the media affect us? Social comparison, self-discrepancy and the thin ideal. *Psychology of Women Quarterly*, 30, 239–251. doi:10.1111/j.1471-6402.2006.00292.x.
- Bosson, J. K., Pintel, E. C., & Thompson, J. K. (2008). The affective consequences of minimizing women’s body image concerns. *Psychology of Women Quarterly*, 32, 257–266. doi:10.1111/j.1471-6402.2008.00434.x.
- Britton, L., Martz, D., Bazzini, D., Curtin, L., & LeaShomb, A. (2006). Fat talk and self presentation of body image: Is there a social norm for women to self-degrade? *Body Image*, 3, 247–254. doi:10.1016/j.bodyim.2006.05.006.
- Burney, J., & Irwin, H. (2000). Shame and guilt in women with eating disorder symptomatology. *Journal of Clinical Psychology*, 56, 51–61. doi:10.1002/(SICI)1097-4679(200001)56:1<51::AID-JCLP5>3.0.CO;2-W.
- Cash, T. F., Fleming, E. C., Alindogan, J., Steadman, L., & Whitehead, A. (2002). Beyond body image as a trait: The development and validation of the Body Image States Scale. *Eating Disorders: The Journal of Treatment & Prevention*, 10, 103–113. doi:10.1080/10640260290081678.
- Clark, P. M., Murnen, S. K., & Smolak, L. (2010). Development and psychometric evaluation of a quantitative measure of “fat talk”. *Body Image*, 7, 1–7. doi:10.1016/j.bodyim.2009.09.006.
- Davis, C., & Katzman, M. A. (1997). Charting new territory: Body esteem, weight satisfaction, depression and self-esteem among Chinese males and females in Hong Kong. *Sex Roles*, 36, 447–457. doi:10.1007/BF02766683.
- Feingold, A., & Mazzella, R. (1998). Gender differences in body image are increasing. *Psychological Science*, 9, 190–195. doi:10.1111/1467-9280.00036.
- Frederick, D. A., Peplau, L. A., & Lever, J. (2006). The swimsuit issue: Correlates of body image in a sample of 52,677 heterosexual adults. *Body Image*, 4, 413–419. doi:10.1016/j.bodyim.2006.08.002.
- Fredrickson, B. L., & Roberts, T. (1997). Objectification theory: Toward understanding women’s lived experiences and mental health risks. *Psychology of Women Quarterly*, 21, 173–206. doi:10.1111/j.1471-6402.1997.tb00108.x.
- Gapinski, K. D., Brownell, K. D., & LaFrance, M. (2003). Body objectification and “fat talk”: Effects on emotion, motivation, and cognitive performance. *Sex Roles: A Journal of Research*, 48, 377–388. doi:10.1023/A:1023516209973.
- Garner, D. M. (1991). *Eating disorder inventory-2 professional manual*. Odessa: Psychological Assessment Resources.
- Garner, D. M., Olmstead, M. P., & Polivy, J. (1983). Development and validation of a multidimensional eating disorder inventory for anorexia nervosa and bulimia. *International Journal of Eating Disorders*, 2, 15–34. doi:10.1002/1098-108X(198321)2:2<15::AID-EAT2260020203>3.0.CO;2-6.
- Groesz, L. M., Levine, M. P., & Murnen, S. K. (2002). The effect of experimental presentation of thin media images on body satisfaction: A meta-analytic review. *International Journal of Eating Disorders*, 31, 1–16. doi:10.1002/eat.10005.
- Hope, C. (1980). American beauty rituals. In R. B. Browne (Ed.), *Rituals and ceremonies in popular culture* (pp. 226–237). Bowling Green: Bowling Green University Press.
- Jeffery, R. W., Adlis, S. A., & Forster, J. L. (1991). Prevalence of dieting among working men and women: The healthy worker project. *Health Psychology*, 10, 274–281. doi:10.1037/0278-6133.10.4.274.
- Jung, J., & Forbes, G. (2006). Multidimensional assessment of body dissatisfaction and disordered eating in Korean and U.S. college women: A comparative study. *Sex Roles: A Journal of Research*, 55, 39–50. doi:10.1007/s11199-006-9058-3.
- Keel, P. K., Mitchell, J. E., Davis, T. L., & Crow, S. J. (2001). Relationship between depression and body dissatisfaction in women diagnosed with bulimia nervosa. *International Journal of Eating Disorders*, 30, 48–56. doi:10.1002/eat.1053.
- Liechty, J. M. (2010). Body image distortion and three types of weight loss behaviors among nonoverweight girls in the United States. *Journal of Adolescent Health*, 47, 176–182. doi:10.1016/j.jadohealth.2010.01.004.

- Martz, D. M., Petroff, A. B., Curtin, L., & Bazzini, D. G. (2009). Gender differences in fat talk among American adults: Results from the psychology of size survey. *Sex Roles, 61*, 34–41. doi:10.1007/s11199-009-9587-7.
- Mukai, T., Kambara, A., & Sasaki, Y. (1998). Body dissatisfaction, need for social approval, and eating disturbances among Japanese and American college women. *Sex Roles: A Journal of Research, 39*, 751–752. doi:10.1023/A:1018812218467.
- Muthén, L. K., & Muthén, B. O. (1988–2009). *Mplus user's guide* (5th ed.). Los Angeles: Muthen & Muthen.
- Nichter, M. (2000). *Fat talk*. Cambridge: Harvard University Press.
- Nichter, M., & Vuckovic, N. (1994). Fat talk. In N. Sault (Ed.), *Many mirrors: Body image and social relations* (pp. 109–131). New Brunswick: Rutgers University Press.
- Ousley, L., Cordero, E. D., & White, S. (2008). Fat talk among college students: How undergraduates communicate regarding food and body weight, shape, and appearance. *Eating Disorders, 16*, 73–84. doi:10.1080/10640260701773546.
- Payne, L.O., Martz, D.M., Tompkins, K.B., Petroff, A.B., & Farrow, C.V. (2011). Gender comparisons of fat talk in the United Kingdom and the United States. *Sex Roles: A Journal of Research*. doi:10.1007/s11199-010-9881-4.
- Rodin, J., Silberstein, L., & Striegel-Moore, R. (1985). Women and weight: A normative discontent. In T. B. Sonderegger (Ed.), *Nebraska symposium on motivation, psychology and gender* (pp. 267–308). Lincoln: University of Nebraska.
- Safir, M. P., Flaisher-Kellner, S., & Rosenmann, A. (2005). When gender differences surpass cultural differences in personal satisfaction with body shape in Israeli college students. *Sex Roles: A Journal of Research, 52*, 369–378. doi:10.1007/s11199-005-2679-0.
- Salk, R. H., & Engeln-Maddox, R. (2011). “If you’re fat then I’m humongous”: Frequency, content, and impact of fat talk among college women. *Psychology of Women Quarterly, 35*, 18–28. doi:10.1177/0361684310384107.
- Sanftner, J. L., Barlow, D. H., Marschall, D. E., & Tangney, J. P. (1995). The relation of shame and guilt to eating disorder symptomatology. *Journal of Social and Clinical Psychology, 4*, 315–324.
- Silberstein, L.R., Striegel-Moore, R. H., & Rodin, J. (1987). Feeling fat: A woman's shame. In H. B. Lewis (Ed.), *The role of shame in symptom formation* (pp. 89–108). Hillsdale: Erlbaum.
- Smith, P. M., & Ogle, J. P. (2006). Interactions among high school cross-country runners and coaches: Creating a cultural context for athletes’ embodied experiences. *Family and Consumer Sciences, 24*, 276–307. doi:10.1177/1077727X05283598.
- Spillane, N. S., Boerner, L. M., Anderson, K. G., & Smith, G. T. (2004). Comparability of the eating disorder inventory–2 between women and men. *Assessment, 11*, 85–93. doi:10.1177/1073191103260623.
- Stice, E. (2002). Risk and maintenance factors for eating pathology: A meta-analytic review. *Psychological Bulletin, 128*, 825–848. doi:10.1037/0033-2909.128.5.825.
- Stice, E., Maxfield, J., & Wells, T. (2003). Adverse effects of social pressure to be thin on young women: An experimental investigation of the effects of “fat talk”. *International Journal of Eating Disorders, 34*, 108–117. doi:10.1002/eat.10171.
- Tompkins, K. B., Martz, D. M., Rocheleau, C. A., & Bazzini, D. G. (2009). Social likeability, conformity, and body talk: Does fat talk have a normative rival in female body image conversations? *Body Image, 6*, 292–298. doi:10.1016/j.bodyim.2009.07.005.
- Tucker, K. L., Martz, D. M., Curtin, L. A., & Bazzini, D. G. (2007). Examining ‘fat talk’ experimentally in a female dyad: How are women influenced by another women’s body presentation style? *Body Image, 4*, 157–164. doi:10.1016/j.bodyim.2006.12.005.
- Van den Berg, P., & Thompson, J. K. (2007). Self-schema and social comparison explanations of body dissatisfaction: A laboratory investigation. *Body Image, 4*, 29–38. doi:10.1016/j.bodyim.2006.12.004.
- Watson, D., Clark, L. A., & Tellegen, A. (1988). Development and validation of brief measures of positive and negative affect: The PANAS scales. *Journal of Personality and Social Psychology, 54*, 1063–1070. doi:10.1037/0022-3514.54.6.1063.