Psychological and Behavioral Correlates of Feeling Fat in Women

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Because feeling fat may be an important risk factor in bulimia, two studies were conducted to investigate the psychological and behavioral variables associated with feeling fat and dissatisfied with one's body. In the first study, 46 female undergraduates completed a series of questions measuring a variety of psychological variables related to body image and weight. Regression analysis found five variables that were significantly related to feeling fat: percent overweight, perfectionism, perceived social pressure toward thinness, social comparison regarding weight, and the degree to which failure experiences affect feelings about one's body. Feeling fat was also highly correlated with perceived lack of control over food, repeated dieting efforts, and binge eating. The second study examined the association between feeling fat and self-reported eating behavior. Seventy-two female undergraduates completed the Stunkard and Messick (1985) eating inventory and a measure of body image satisfaction. Feeling fat was significantly related to a tendency to eat in response to external stimuli and emotional distress, and to feeling strong urges to eat. A subscale measuring successful dieting behavior was not found to correlate with feeling fat. Implications for future research are discussed.

In Western contemporary cultures, fear of overweight may be becoming more prevalent than actual overweight (Drewnowski, Riskey, &...
Desor, 1982; Huon & Brown, 1984; Pyle, Mitchell, Eckert, Halvorson, Neuman, & Goff, 1983; Wooley & Wooley, 1984). Women in particular appear to fear fatness, feel fat, and diet repeatedly (Garner, Olmsted, & Polivy, 1983; Herman & Polivy, 1975; Nielsen, 1979; Nylander, 1971; Polivy & Herman, 1985; Rodin, Silberstein, & Striegel-Moore, 1985). Only recently has research begun to focus directly on the deleterious effects of dieting on the dieter's physiological status, and on her behavioral and psychological adjustment (Polivy & Herman, 1985; Rodin et al., 1985). Now many investigators propose that women's pursuit of thinness has contributed to the increasing emergence of eating disorders in the past two decades (Boskind-White & White, 1983; Bruch, 1981; Garner & Garfinkel, 1980; Orbach, 1978; Rodin, et al., 1985; Schwartz, Thompson, & Johnson, 1981; Selvini-Palazzoli, 1978). Because of these serious potential consequences of feeling fat, it is important to identify possible causes of such feelings.

It has already been suggested that women's preoccupation with their weight is strongly influenced by general sociocultural pressures toward thinness as the current beauty ideal (Garner, Rockert, Olmsted, Johnson, & Coscina, 1985; Johnson, Lewis, & Hagman, 1984; Rodin et al., 1985). We would predict that a woman's dissatisfaction with her weight is exacerbated further by perceived pressure toward thinness from individuals in her immediate social environment (e.g., parents, friends). We further propose that a number of psychological variables may serve to amplify a woman's response to these social pressures towards thinness. Such variables include perfectionism, which would make a woman more intent on achieving the current ideal state (e.g., Garner et al., 1983), and low self-esteem, which might make a woman more vulnerable to external social pressures. While a positive correlation between actual body weight and feeling fat can be expected, it seems probable that an objective weight index alone (e.g., percent overweight) is not a sufficient predictor of feeling fat (e.g., Wooley & Wooley, 1984).

In addition to being more vulnerable to explicit and implicit social pressure, it is hypothesized that women who feel fat hold a self-schema in which body weight is central (Markus, Hamill, & Sentis, 1984). Self schemata are thought to be formed around those aspects of the self that are regarded as most important, and in turn self-schemata direct attention to stimuli that are informative of these aspects (Markus, 1977). If our hypothesis is correct, women who feel fat should process self-relevant information with their weight "in mind," and any experience leading to self-evaluation in general will also lead to evaluation of one's body and weight in particular. We propose that women who have a strong self-relevant weight schema will feel heavier than those who do not, even if their actual weights are identical. Two studies were conducted to gain a better understanding of these psychological and behavioral variables associated with feeling fat.
STUDY 1

The first study represents an attempt to formulate variables that might lead to excessive discontent with one's body weight, based on our model of risk factors in bulimia (Rodin, 1984a; 1984b; Striegel-Moore, Silberstein, & Rodin, 1986) and the studies and reviews described above. It was predicted that after accounting for actual percent overweight, the following variables would also be correlated with feeling fat: perfectionism, perceived social pressure toward achievement regarding both academic performance and appearance, negative self-image, and a tendency to process information with a focus on body and weight.

Methods

Subjects

Forty-six female undergraduate students (mean age = 18.6, SD = 0.7) volunteered to participate in this study for course credit. All subjects were of normal weight (percent overweight: X = -0.33, SD = 10.7), based on the Metropolitan Life Insurance Weight Tables (1983).

Procedure

Subjects participated in a one-hour session in groups of three to five students. All measures were presented in the form of a questionnaire booklet described below. After completing the questionnaire booklet, subjects were weighed and debriefed.

Measures

The questionnaire booklet contained a number of rating scales taken either from prior work or developed for this study. Feeling fat and dissatisfied with one's body was measured by a seven-item scale called "Feeling Fat" (internal reliability $\alpha = .91$). It included questions such as "Do you feel fat now," and "How do you feel about your thighs?" To measure parental attitudes towards achievement and physical appearance ("Parental Aspirations"), six items were formulated asking, for each parent separately, about the subjects' perceptions of what their parents consider important determinants for their children's success ($\alpha = .76$). The influence of weight-related remarks by significant others on a subject's feelings about her body was measured by a three-item scale ("Weight-related Remarks") including items such as "How much do remarks by family members influence the way you feel...

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1 A detailed description of the subscales, including sample means and standard deviations, can be obtained from the first author on request.

2 Several items were taken from a questionnaire developed by Wooley and Wooley (1984).
about your body?" (α = .79). A five-item scale, "Pressure toward Thin-
ness," assessed the extent to which a subject feels pressured to lose
weight by individuals in her immediate social environment (α = .53).¹
"Perceived Lack of Control over Eating" was measured by a three-item
scale² (e.g., "I give too much time and thought to food," α = .83).
Burns' (1980) "Perfectionism Scale"³ which consists of 15 items mea-
suring concern with excelling at all times was given (α = .85). A scale
consisting of 12 bipolar items ("Positive Self-image") describing a wide
range of personality attributes (excluding physical attractiveness) was
used to measure positive self-image (α = .78).
Two additional measures were included which each consisted of a
single item. One item simply measured the tendency to compare one's
own weight to other women's weight. The other item measured the
extent to which failure affects how the person feels about her body.
Both measures were based on our clinical data, which suggested that
women who feel fat tend to compare themselves to other women to
see how they rank on the weight dimension. Also, such women report
frequently that any experience of failure immediately brings up nega-
tive thoughts about their bodies, a tendency that is suggestive of a
strong cognitive schema for body weight. Finally, subjects were asked
to report the frequency of dieting and binge eating behaviors.

Correlates of Feeling Fat

To determine the correlates of feeling fat, a multiple regression/cor-
relation analysis was performed, entering as independent variables
perfectionism, self image, perceived parental aspirations, the effects of
failure on feelings about weight, pressure to be slim, social comparison
regarding weight, and the influence of other peoples' remarks about
one's body. Percent overweight was entered first in the model as cov-
ariate.

As is shown in Table 1, five variables accounted for 71% of the vari-
ance in "feeling fat." While the degree of overweight was significantly
related to feeling fat and dissatisfied with one's body as hypothesized,
percent overweight alone was not sufficient to predict feeling fat. Ad-
ditional significant predictors included perfectionism, with women
who felt fat indicating a stronger need to meet high standards. Women

¹The relatively modest internal consistency of this scale may be a result of the diverse
range of significant others included in this scale (e.g., parents, same and opposite sex
friends, teachers, coaches).
²Two items of this scale were taken from the Eating Attitudes Test (Garner & Garfin-
kel, 1979).
³When we conducted this study, the Eating Disorders Inventory (Garner et al., 1983)
had not been published yet. Currently we have obtained pilot data suggesting that
Burn's (1980) perfectionism scale correlates significantly with the EDI subscale "Perfec-
tionism."
who felt fat also were more likely to report that failures adversely affected how they felt about their bodies. Furthermore, feeling fat was associated with a tendency to compare one's own body to the bodies of other women, and with perceived social pressure toward thinness. The variables "weight-related remarks by others," "general self image," and "perceived parental attitudes regarding their daughters' achievements in a wide range of domains," were not significantly related to feeling fat once these five psychological variables were entered. Feeling fat scores were at least as highly correlated with two of these five psychological variables (comparison of one's body with other women's bodies, \( r = .54, p < .001 \); failures affect how you feel about your body, \( r = .54, p < .001 \)) as with actual percent overweight (\( r = .54, p < .001 \)).

To determine whether feeling fat related significantly to various aspects of self-reported eating behavior, correlations were calculated between the "Feeling Fat" scale and binge eating, dieting, and the "Lack of Control over Eating" scale. An extremely strong relationship was found between lack of control over eating and feeling fat (\( r = .80; p < .0001 \)). Feeling fat was significantly related to frequency of dieting (\( r = .50; p < .0004 \)) and to frequency of binging behavior (\( r = .53, p < .0002 \)). Indeed one out of every two women who reported feeling fat also reported binging once a week or more.

**Discussion**

Based on the eating disorders literature and our conceptualization of women's dissatisfaction with their weight, this study examined the relationship between feeling fat and a number of psychological variables that may amplify the impact of explicit and implicit sociocultural pressures on women to attain a thin body ideal. As predicted, feeling fat

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**Table 1. Summary of stepwise regression analysis predicting feeling fat \( (R^2 = 0.7108) \)**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Beta</th>
</tr>
</thead>
<tbody>
<tr>
<td>Percent overweight</td>
<td>0.401338</td>
</tr>
<tr>
<td>Perfectionism</td>
<td>-0.290346</td>
</tr>
<tr>
<td>Failures(^2)</td>
<td>0.206025</td>
</tr>
<tr>
<td>Pressure toward thinness</td>
<td>0.237788</td>
</tr>
<tr>
<td>Comparison(^b)</td>
<td>0.294233</td>
</tr>
</tbody>
</table>

\(^a\)Failures affect feelings about one's body.
\(^b\)Comparison of one's body with other women's bodies.

\(^*p < .001.\)
\(^{**}p < .01.\)
\(^{***}p < .05.\)
and perfectionism were found to be significantly related. This result is consistent with the finding that weight-preoccupied college women obtained elevated perfectionism scores on the Eating Disorders Inventory in a study by Garner, Olmstead, Polivy, and Garfinkel (1984). While the relationship between feeling fat and perfectionism in both studies was correlational and therefore does not permit confirmation of causal inferences, one might argue that women who pursue excellence in many areas of their life also set extremely high standards regarding their physical appearance, which would lead to aspiring to be thinner than most other women. Setting a thin beauty standard may result in feeling fat, if the ultra-thin ideal cannot attained. Feeling fat was correlated not only with self-imposed pressures (i.e., perfectionism), but also with perceived social pressure toward thinness. We conjecture that experiencing pressure to be thin may lead to feeling fat because such pressure implies that a sufficiently thin standard has not yet been attained.

Feeling fat was found to be associated with a tendency to engage in social comparison with other women regarding body weight. Two hypotheses are suggested by these data: women who feel fat may be particularly sensitive to weight as a salient dimension in evaluating themselves as well as other women. Thus, women who feel fat may be more likely to compare their own bodies to the bodies of other women because they may hold a strong cognitive schema with weight as a central feature (Markus et al., 1984). Conversely, feeling fat may be the result of, or at least amplified by, a tendency to compare oneself to other women. The significant correlation between feeling fat and the tendency for failure experiences to affect how the person feels about her body supports the view that women who feel fat hold a strong schema for weight. Evaluation of one's body appears to be activated under circumstances of feedback regarding performance, even when this performance is unrelated to body size or eating.

Not surprisingly, a significant correlation was found between feeling fat and an objective index of subjects’ body weight. However, the fact that the relationship between the objective weight index and feeling fat was in some instances equalled and surpassed by the relationships between feeling fat and psychological variables suggests that psychological variables, in addition to actual body weight, need to be considered in an effort to understand women’s experience of feeling fat.

General self-image and feeling fat were not significantly related in the regression analysis. Self-image was highly correlated with perfectionism ($r = .59, p < .0001$) and may therefore not have accounted for additional variance once perfectionism entered the regression equation. Perceptions of parental attitudes regarding achievement and appearance were not directly related to feeling fat, or to any of the variables
measured in the study except perceived pressures to be thin. By the
time women reach college age, their own internal standards, as mea-
sured by perfectionism and reactions to failure, appear more important
determinants of how they feel about their bodies than the views they
believe their parents hold.

Consistent with our culture's pervasive attitude that weight is under
volitional control (Bennett, 1984), a significant correlation was found
between feeling fat and dieting, and feeling fat and binge eating. Again,
the correlational nature of the data does not permit a definite
causal statement, but several hypotheses may be proposed. Feeling fat
may prompt a woman to reduce her food intake in an attempt to lose
weight, and/or repeated unsuccessful weight loss efforts may increase
the likelihood of feeling fat. Also in accordance with the work of other
researchers is the finding of a strong association between feeling fat
and binging, a relationship that may be mediated by stringent dieting
(Boskind-White & White, 1983; Marcus, Wing, & Lamparski, 1985; Po-
livy & Herman, 1985; Rodin et al., 1985; Wardle, 1980).

STUDY 2

Study 1 was primarily designed to identify the psychological corre-
lates of feeling fat. Since we also found a high incidence of dieting and
binge eating among women who reported feeling fat and dissatisfied
with their bodies, we conducted a second study to investigate more
closely the relationship between feeling fat and eating behavior. The
literature on individuals who diet chronically, so called restrained eat-
ers, shows that conscious restraint of food intake for the sake of weight
control is associated with overeating in situations where cognitive con-
tral is disrupted, for example by emotional arousal or distraction (for
reviews see Polivy & Herman, 1985; Polivy, Herman, Olmsted, & Ja-
zwinski, 1984).

Stunkard (1981) proposed that restraint is a multidimensional con-
struct, and with Messick developed a new eating inventory (Stunkard
& Messick, 1985) with three orthogonal factors: (1) "cognitive re-
straint," (2) tendency "toward disinhibition," and (3) "perceived hun-
ger." Items on factor 1 reflect dieting behavior (e.g., "I consciously
hold back at meals in order not to gain weight"). Factor 2 consists of
items that are characteristic of individuals who eat in response to nega-
tive emotions or external stimuli (e.g., "I usually eat too much at social
occasions like parties or picnics," or "When I feel lonely, I console my-
self with food"), and items assessing actual weight fluctuations. Items
on factor 3 reflect the intensity and frequency of perceived hunger and
appetite (e.g., "I am always hungry enough to eat at any time"). No
prior research has investigated how feelings of weight dissatisfaction are related to self-reported eating behavior as measured by these three factors.

Method

Subjects

Sixty-one female undergraduate students (age: \( X = 18.3, SD = 2.5 \)) of normal body weight (percent overweight: \( X = -0.02, SD = 11.8 \)) participated in this study for course credit.

Measures

The Eating Inventory (Stunkard & Messick, 1985) is a 58-item questionnaire that consists of true or false and scale items. The Eating Inventory results in three subscales: “Cognitive Restraint,” “Tendency toward Disinhibition,” and “Perceived Hunger.” As in Study 1, a “Feeling Fat” scale was constructed which measured feeling fat and dissatisfied with one’s body.

Results

To determine the eating behavior correlates of feeling fat, a hierarchical regression analysis was performed. After entering percent overweight first as a covariate, the three Eating Inventory subscales were entered in successive steps in the order cognitive restraint, tendency toward disinhibition, and perceived hunger. This order was determined by theoretical assumptions about the relative importance of the three subscales to feeling fat. Since cognitive restraint is associated with dieting behavior, it was expected to relate to feeling too heavy, based on the results of Study 1. Based on the data for binging in Study 1, tendency towards disinhibition was judged to be quite strongly related as well. We have no particular hypothesis about the relationship between perceived hunger and feeling fat; therefore it was entered last.

As Table 2 shows, cognitive restraint was not significantly related to feeling fat. A highly significant relationship was obtained between feeling fat and perceived tendency toward disinhibition. Perceived hunger, entered last, was also significantly related to feeling fat. Because of the high correlation between perceived hunger and tendency toward disinhibition (see Table 3), the latter variable did not remain statistically reliable in the regression once perceived hunger was entered.

Discussion

Although the Eating Inventory yielded orthogonal factors in the original Stunkard and Messick (1985) work using subjects of both sexes, in
Table 2. Summary of hierarchical regression analysis predicting feeling fat

<table>
<thead>
<tr>
<th>Variable</th>
<th>Step 1 Beta</th>
<th>Step 2 Beta</th>
<th>Step 3 Beta</th>
<th>$R^2$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Percent overweight</td>
<td>.44*</td>
<td>.28***</td>
<td>.33**</td>
<td>.21</td>
</tr>
<tr>
<td>Factor 1$^a$</td>
<td>.11</td>
<td>.03</td>
<td>.07</td>
<td></td>
</tr>
<tr>
<td>Step 2</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Factor 2$^b$</td>
<td>.46*</td>
<td>.25</td>
<td>.38</td>
<td></td>
</tr>
<tr>
<td>Step 3</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Factor 3$^b$</td>
<td>.33**</td>
<td>.45</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

$^a$Cognitive restraint.
$^b$Tendency toward disinhibition.
$^c$Perceived hunger.

$^*p<.001$.
$^{**}p<.01$.
$^{***}p<.05$.

Table 3. Zero-order correlations

<table>
<thead>
<tr>
<th>Feeling Fat</th>
<th>Percent Overweight</th>
<th>Factor 1$^a$</th>
<th>Factor 2$^b$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Feeling fat</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>overweignt</td>
<td>.49*</td>
<td>- .03</td>
<td></td>
</tr>
<tr>
<td>Factor 1$^a$</td>
<td>.09</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Factor 2$^b$</td>
<td>.56*</td>
<td>.35**</td>
<td>.16</td>
</tr>
<tr>
<td>Factor 3$^b$</td>
<td>.49*</td>
<td>.08</td>
<td>- .02</td>
</tr>
</tbody>
</table>

$^a$Cognitive restraint.
$^b$Tendency toward disinhibition.
$^c$Perceived hunger.

$^*p<.001$.
$^{**}p<.01$.

this sample of women only the scales “Tendency toward Disinhibition” and “Perceived Hunger” were highly correlated. Two explanations for the correlation between tendency toward disinhibition and perceived hunger may be proposed. The stronger the woman’s urges to eat, the more likely she may be to give in to them. This may lead her to view herself as a disinhibited eater, as someone whose eating is not controlled by a biological rhythm or a set structure but rather by erratic external or internal stimuli. Alternatively, a woman who finds herself eating under a wide range of stimulus conditions may attribute her eating behavior as resulting from intense hunger or appetite. With these hypotheses, the significant relationship between these two vari-

$^1$Stunkard and Messick (1985) developed their scale using samples with both male and female subjects. For another study, not relevant to present concerns, we also gave males the Eating Inventory and found, like Stunkard and Messick, that factor analysis of a sample of males and females combined yielded three orthogonal factors. Thus, while for females tendency toward disinhibition and perceived hunger are correlated, these two subscales appear unrelated in male subjects.
ables on the Eating Inventory and feeling fat is quite understandable. Feeling fat may sensitize a woman to her appetite and hunger feelings and make her more likely to notice them, and she may feel fat because she is often hungry and preoccupied by food. She also may be more attentive to weight fluctuations and to emotion-induced eating incidents than a woman who does not feel fat.

Cognitive restraint, the third factor on the Stunkard and Messick (1985) scale, was not found to be related to feeling fat. This may seem surprising, particularly in light of the results of Study 1 which suggest a strong relationship between feeling fat and dieting behavior. However, careful evaluation of the individual items on the cognitive restraint scale suggests that this subscale measures perceptions of successful dieting behavior, (e.g., "I deliberately take small helping as a way of controlling my weight"). Individuals who feel fat are not likely to experience themselves as successful dieters. Rather, they diet frequently and whenever they slip, even slightly, they perceive this as a failure in their attempts to diet (e.g., Herman & Polivy, 1984). Measures are needed that differentiate more clearly between perceptions of successful versus unsuccessful efforts at cognitive restraint and dieting.

CONCLUSIONS

The data indicate that women who feel fat report experiencing significantly more external (and internal) pressures to be thin, thus confirming the hypothesis that current sociocultural pressures toward thinness may be creating problems for many women. Whether these perceptions are veridical or not, they are associated with eating-related difficulties including binge eating and they may motivate food-disordered behavior. Garner et al. (1984) showed that weight preoccupied women (identified by the drive for thinness subscale of the EDI) appeared similar to women with anorexia nervosa on measures of body dissatisfaction, bulimic behaviors, and perfectionism. The present study suggests that these weight preoccupied women (identified by a scale measuring feeling fat) show other aspects of disordered eating including frequent dieting, intense hunger urges and emotion-induced disinhibition of food intake. Attempts to suggest which factors cause these feelings of fatness and body dissatisfaction are needed, as well as prospective studies to test directly the causal hypotheses suggested by these data.

Several intriguing relationships are suggested which merit further investigation. First, feeling fat is not simply a matter of being overweight, at least by objective weight standards. While there was a positive correlation between percent overweight and feeling fat, many women at or below the norm shared these feelings. These were women
who were highly perfectionistic and perceived strong social pressure towards thinness. Such women frequently engaged in comparisons between their own bodies and those of other women, as if they needed to check where they stood. When they experienced failure in non-weight-related domains as well, it affected their feelings about their bodies. The latter data are important because they are the first suggestion that women who feel fat hold self schemas that are strongly weight relevant. More work is needed to assess the self schemas of women with eating disorders. If the self schemas of binge eaters and women who feel fat, for example, revolve around weight, eating and appearance, then any stimulus related to these domains would become automatically self-relevant and would be processed within the context of the self-schema. For these individuals, a schema-relevant stimulus becomes “more” of a stimulus than it is for others because the self schema is implicated in the information processing sequence. Thus the very way they process and extract information from their world would reinforce and perpetuate their preoccupation with body weight and eating, making it even more difficult to break out of their bulimic behavior.

The psychological predictors of feeling fat were complemented by a set of self-reported behavioral characteristics indicative of disordered eating. In particular, feeling fat was associated with repeated dieting attempts (and not with successful perceived restraint), with perceived lack of control over food, with a tendency to eat in response to external stimuli and to negative emotions, and with a high frequency and intensity of urges to eat. Finally, feeling fat was associated with binge eating. Although the role of feeling fat as a risk factor in the development of frank eating pathology, such as anorexia nervosa and bulimia, cannot be determined in correlational studies, we conjecture that feeling fat does indeed have etiological significance.

Future studies need to investigate more fully the experiences by which a woman arrives at feeling fat. Such an understanding would be valuable in both preventive and therapeutic efforts. For example, the link between perfectionism and body dissatisfaction suggests that one strategy to improve body image may involve helping women to set more realistic goals and standards for themselves.

REFERENCES


