Taste and eating disorders\textsuperscript{1-3}

Adam Drewnowski, PhD; Katherine A Halmi, MD; Beverly Pierce, MA; James Gibbs, MD; and Gerard P Smith, MD

ABSTRACT Taste responses to sucrose and fat-containing stimuli were examined in a population of young women with eating disorders. Anorectic-restrictor and anorectic-bulimic patients were compared with normal-weight bulimic patients and with normal-weight control subjects. Sensory estimates of sweetness and fat content of 20 different mixtures of milk, cream, and sugar did not differ among subject groups. In contrast, relative preferences for sugar vs fat as determined by the Response Surface Method differed between patients with eating disorders and control subjects. Normal-weight bulimic patients preferred sweeter stimuli than did control subjects. Anorectic-restrictor and anorectic-bulimic patients liked sweet but disliked high-fat stimuli and showed elevated optimal sugar:fat (S:F) ratios. This pattern of response did not change following weight regain. The stability of preference profiles suggests that taste responsiveness may be independent of diagnostic categories, bulimic behaviors, or acute changes in body weight. \textit{Am J Clin Nutr} 1987;46:442-50.

KEY WORDS Taste responsiveness, eating disorders, sugar and fat, Response Surface Method

Introduction

The psychiatric diagnosis of eating disorders distinguishes between anorexia nervosa and bulimia (1, 2). The two groups of patients differ in body weight and nutritional status (3–5). Anorexia nervosa is characterized by extreme dietary restriction, total avoidance of high-calorie foods, loss of body weight, and a variety of metabolic and endocrine dysfunctions, including primary or secondary amenorrhea (6–8). Bulimia is characterized by recurrent binge-eating episodes that are often followed by fasting or self-induced vomiting to lose weight (6). Patients with a combined diagnosis of anorexia nervosa with bulimia are underweight and alternate binge-eating episodes with purging, fasting, or prolonged periods of calorie-restricted dieting (4, 5).

Anorectic and bulimic patients report different patterns of food intake and a differential response to sweetened foods. Anorectic-restrictor patients profess to dislike sugars and starches and show a calculated avoidance of sweets and other desserts (7, 8). This carbohydrate phobia (7, 8) is not a stable trait of eating disorders. It is not observed, for example, during eating binges that characterize both anorectic-bulimic and normal-weight bulimic patients. Food binges generally involve the consumption of sweet or calorie-dense foods, such as cookies or ice cream, eaten rapidly over a short period of time (6). The question is whether such food preferences or aversions are linked primarily to the patients' body weight or to the category of psychiatric diagnosis and a history of binge eating.

This study examines taste responses to sucrose and fat-containing stimuli in female patients with eating disorders as a function of body weight and diagnostic category, including history of bulimia. Taste responses of emaciated anorectic-restrictor and anorectic-bulimic patients are compared with those of normal-weight bulimic patients and normal-weight volunteer controls.

Several studies (9–17) have attempted to link the pleasure (hedonic) response to sweetness with metabolic status and body weight. Preferences for sweet taste have long been regarded as a useful index of the postulated physiological set point (11). According to the set-point hypothesis, overweight or obese individuals maintaining body

\textsuperscript{1} From the School of Public Health (AD), University of Michigan, Ann Arbor, MI and the Department of Psychiatry, Cornell University Medical College and the Eating Disorders Institute, New York Hospital-Cornell University Medical Center (KAH, BP, JG, GPS), New York, NY.

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\textsuperscript{3} Address reprint requests to Adam Drewnowski, PhD, Human Nutrition Program, School of Public Health, The University of Michigan, Ann Arbor, MI 48109.

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weight below set point by virtue of constant dieting would find sweet solutions extremely pleasant: a finding reported in some studies (11, 12) but not in others (13, 14). Similarly, emaciated anorectic women with or without bulimia would be expected to show elevated taste preferences for sweet or calorie-dense foods. Such preferences would be expected to diminish during nutritional therapy as the patients’ body weights returned to normal.

An alternative hypothesis linking taste responsiveness with the category of psychiatric diagnosis is that abnormal sensory response to high-calorie foods is responsible for recurrent binging episodes regardless of the patient’s body weight. Anorectic-bulimic and normal-weight bulimic patients would then show similar response profiles as compared to nonbinging anorectic-restrictor patients and to normal-weight control subjects.

To examine the influence of body weight gain on taste responsiveness, anorectic patients were studied both at admission and following return to target body weight. A link between taste responses and body weight or body fatness measures would suggest that physiological factors may influence taste preferences and diet selection. Food preferences and diet choices might change following nutritional therapy and weight regain. Conversely, if taste response profiles are linked only to binging behaviors, then taste responsiveness might serve as a useful psychological marker in the assignment of diagnostic categories in eating disorders.

Methods

Subjects

Thirty-two females meeting DSM-III criteria for eating disorders participated in the study. This group included 12 patients with a diagnosis of anorexia nervosa characterized by exclusive dieting (anorectic restrictor); 13 patients with a diagnosis of anorexia with bulimia (anorectic bulimic); and 7 patients with bulimia (bulimic), with or without a prior history of anorexia nervosa. With the exception of two of the bulimic patients, all experimental subjects were admitted as inpatients to the Eating Disorders Treatment Program at the Westchester Division, Cornell Medical Center. The program includes medical care, nutritional rehabilitation, group therapy, individual cognitive psychotherapy, and family counseling. Two bulimic patients were in an outpatient program with individual cognitive psychotherapy, family counseling, group therapy, and weekly medical checks with the same inpatient staff. Because they did not differ from the inpatient bulimics in severity of illness or response to taste testing, they were included with the inpatient group.

Sixteen normal-weight female volunteers of comparable age were recruited at a university campus. These subjects were free of eating disorders as determined by their responses to a previously published and revised Eating Disorders Questionnaire (18).

The patients selected their own meals during the initial admission and evaluation week. They were then placed on a liquid diet (Sustacal®, Mead Johnson Co, Evansville, IN) administered six times per day. Caloric intake during the initial 5 d was determined with the Mayo Clinic Diet Manual (19) to provide sufficient calories for weight maintenance plus an additional 30% for activity. This amount was then increased by 50%, and was increased by a further 50% after another 5 d. Further increases were made as needed to ensure a steady weight gain of 2 lbs/wk (0.9 kg/wk) until the patient reached target weight. The target weight was the 50th weight percentile for the return of menses as determined by Frisch and McArthur (20). The patients maintained target weight for 3 wk on a regular diet of mixed foods.

Subject data are summarized in Table 1. Anorectic-restrictor patients weighed a mean of 37.4 kg on admission and gained an average of 10.6 kg body weight during the 8–16 wk of treatment. Anorectic-bulimic patients weighed a mean of 43.3 kg on admission and gained an average of 7.6 kg by the end of treatment. Bulimic patients weighed a mean of 56.8 kg on admission and gained a mean of 0.6 kg by the end of treatment.

The subjects’ body mass indices are also provided in Table 1. Body mass index (BMI, wt/ht2 in kg/m2) is a simple measure highly correlated with other estimates of body fatness, which minimizes the effects of height and permits comparison of populations. According to data from National Health and Nutrition Surveys (NHANES II) (21), a BMI of 21.0 corresponds to the 50th weight percentile for 19-y old women. By this standard, bulimic patients and control subjects were of normal weight, while both anorectic-restrictor and anorectic-bulimic patients were significantly below normal body weight. Anorectic-restrictor patients (mean BMI = 14.8) were below the 1st weight percentile for 16-y old women—an extreme degree of underweight.

All patients were tested twice. The first taste evaluation was conducted during the initial admission and evaluation week. A patient was retested after she reached a normal target weight and maintained it for a period of at least 3 wk. Two bulimic patients who did not participate in the inpatient program were tested at comparable time intervals. Control subjects were tested only once. All subjects were tested at 1000 after an overnight fast, which began at 2300. Although testers were aware of the condition of the subjects (eating disorder vs control), they were not always aware of the psychiatric diagnosis.

Taste stimuli

Taste stimuli included commercially available skim milk (0.1% fat wt/wt), whole milk (3.5%), half-and-half (10.5%), heavy cream (37.6%), and heavy cream blended with a 15% admixture

<table>
<thead>
<tr>
<th>TABLE 1</th>
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<tbody>
<tr>
<td>Summary of subject data*</td>
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<table>
<thead>
<tr>
<th>Subjects</th>
<th>Pretreatment</th>
<th>Posttreatment</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Age</td>
<td>Weight</td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>Anorectic restrictor (n = 12)</td>
<td>16.3 (2.2)</td>
<td>37.4 (3.7)</td>
</tr>
<tr>
<td>Anorectic bulimic (n = 13)</td>
<td>19.5 (4.2)</td>
<td>43.3 (7.1)</td>
</tr>
<tr>
<td>Bulimic (n = 12)</td>
<td>19.4 (2.5)</td>
<td>56.8 (6.2)</td>
</tr>
<tr>
<td>Control (n = 16)</td>
<td>19.1 (0.8)</td>
<td>57.8 (7.0)</td>
</tr>
</tbody>
</table>

* The data are means and standard deviations (in parentheses).  
† Body mass index = wt/ht2 (kg/m2).
of safflower oil (> 50% fat wt/wt). The macronutrient content of these dairy products is shown in Table 2: the stimuli contained comparable amounts of carbohydrate and protein but differed markedly in the percentage of milk fat (22). Differences in fat content would affect the appearance, thickness, mouthfeel, and viscosity of the stimuli. Additional differences in the content and composition of lactones, esters, and other fat-soluble or volatile flavor compounds would be expected to affect the flavor profile of the stimuli. The overall oral perception of fatness intensity is most likely based on a combination of such salient physicochemical and sensory attributes. Our aim was to track the oral perception of sweetness and fat content with a model system that was both palatable and bore a resemblance to real foods.

The five products were combined with added sucrose at levels 0, 5, 10, and 20% wt/wt to give a total of 20 taste samples (23, 24). The experimental design is summarized in Table 3. The measure of wt/wt sucrose rather than the more common measure of percent wt/vol was used in order to provide a direct means of comparison with sweetened real foods and with semisolid and solid food systems.

The samples were served chilled to 5°C and were presented to subjects in 10 mL plastic cups for taste and hedonic evaluation. For the scaling of pleasantness, the subjects used a standard nine-point hedonic preference scale, ranging from dislike extremely to like extremely (25). For the scaling of perceived sweetness and fat content, the subjects used two unipolar nine-point category scales, Sweet and Fat, with each quality ranging from absent to extreme. We did not use red light to minimize visual differences or employ nose clips to reduce olfactory input; the aim was to monitor the oral perception of sugars and fats under naturalistic testing conditions. The order of the stimuli was randomized to reduce potential loss of taste discrimination or taste fatigue. The subjects were instructed to spit out the samples and to rinse their mouths thoroughly with water between tastings.

These procedures were approved by the institutional review committee, and informed consent was obtained from the patients after the procedures had been fully explained.

Data analysis

Previous studies established that sensory response functions for sweetness and pleasantness follow different psychophysical laws (26). Whereas the perceived intensity of a stimulus increases monotonically with the logarithm of its concentration, \( I = a_0 + a_1 \log C \), hedonic preference functions are typically non-monotonic and are characterized by an inverted-U shape. Such curves typically contain an optimal range or breakpoint, beyond which preferences tend to decline (26). In taste preference studies the composition of the best-preferred stimulus is of greater practical importance than the magnitude of the hedonic response (23, 24). For this reason hedonic response profiles in this study were analyzed using two principal dependent variables: the relative magnitude of taste responsiveness to a given stimulus and the composition of the best-tasting mixture (9).

Hedonic preference scores were first analyzed using analysis of variance (ANOVA) for repeated measures. Initial comparisons were made between patients (\( n = 32 \)) and normal-weight control subjects (\( n = 16 \)) with lipid (five levels) and sucrose (four levels) as the within-subject variables. Subsequent analyses examined the effect of treatment (pre- and post-) on the three diagnostic groups (anorectic restrictor, anorectic bulimic, and bulimic). Separate ANOVAs were carried out on sensory evaluation scores (sweetness and fat content) and on hedonic preference scores.

The composition of mixtures rated by individual subjects as best-tasting was modeled with the help of a multivariate analytical procedure known as the Response Surface Method (23, 24, 27). This model assumes that hedonic response to a complex stimulus is a nonlinear function of perceived ingredient levels. For the present system of fat and sugar, hedonic response (H) was assumed to be a function of both sucrose (S) and fat (F) concentrations such that

\[
H = a_0 + a_1 \log S + a_2 \log F
\]

\[
+ a_3 \log (S^2 + F^2) + a_4 \log (S \cdot F)
\]

(1)

After coefficient values \( a_0 \) through \( a_4 \) were determined by solving simultaneous equations, this algorithm was used to predict hedonic responses to a variety of sucrose (S) and fat (F) levels, including those not empirically tested. Twenty values of S and 20 values of F (in 0.1 log increments) were used to generate a total of 400 predicted values of hedonic response (H). The model interpolates predicted data points among the 20 empirically obtained ones to yield a more accurate representation of the hedonic response profile than could be obtained on the basis of experimental data alone. This procedure allows the determination of the optimally preferred sample in a series when the subject assigned the same maximum rating to several samples. Goodness of fit of the model was determined by the least squares method (9).

The sucrose and fat composition of the optimally preferred mixtures was determined for each individual subject. Because the relative preference for sweetness vs orally perceived fat content was the chief variable of interest, the optimally preferred sugar:fat (S:F) ratio was used as the principal single measure of taste response. High values of the optimal S:F ratio reflect hedonic preferences for sweetness over fat content; low values reflect enhanced preferences for fat over sugar. Differences in the S:F ratio among subject groups were determined using one-way analyses of variance followed by F-tests for comparisons among pairs of means.

### Table 2

<table>
<thead>
<tr>
<th>Carbohydrate</th>
<th>Protein</th>
<th>Fat</th>
<th>Calories</th>
</tr>
</thead>
<tbody>
<tr>
<td>g</td>
<td>g</td>
<td>g</td>
<td>kcal</td>
</tr>
<tr>
<td>Skim milk</td>
<td>5.1</td>
<td>3.6</td>
<td>0.1</td>
</tr>
<tr>
<td>Milk</td>
<td>4.9</td>
<td>3.5</td>
<td>3.5</td>
</tr>
<tr>
<td>Half and half</td>
<td>4.6</td>
<td>3.2</td>
<td>10.5</td>
</tr>
<tr>
<td>Heavy cream</td>
<td>3.1</td>
<td>2.2</td>
<td>37.6</td>
</tr>
</tbody>
</table>

### Table 3

Summary of experimental design

<table>
<thead>
<tr>
<th>Fat per 100 g</th>
<th>Sucrose levels</th>
</tr>
</thead>
<tbody>
<tr>
<td>g</td>
<td>% wt/wt</td>
</tr>
<tr>
<td>Skim milk</td>
<td>0.1</td>
</tr>
<tr>
<td>Milk</td>
<td>3.5</td>
</tr>
<tr>
<td>Half and half</td>
<td>10.5</td>
</tr>
<tr>
<td>Heavy cream</td>
<td>37.6</td>
</tr>
<tr>
<td>Cream and oil</td>
<td>52.6</td>
</tr>
</tbody>
</table>
Results

Sensory perception of sweetness and fat content did not differ among subject groups. However, there were significant differences in sensory preference profiles that were not affected by regaining body weight to target levels.

Sensory perceptions

There were no significant differences in the perceived sweetness intensity or fat content among the three diagnostic groups of patients tested before treatment. Therefore, pooled patient data were compared with those for normal-weight control subjects. Data summarized in Figure 1 show ratings along nine-point category scales as a function of increasing sucrose or fat content (percent wt/wt). Patients and control subjects did not differ in their sensory evaluations. Estimates of sweetness intensity showed a significant main effect of sucrose \( F[3,138] = 255.61; p < 0.01 \) but no effect of subject group, and no group-by-sweetness interaction \( F[1,46] < 1 \). Estimates of stimulus fat content showed a significant main effect of fat \( F[4,184] = 63.81; p < 0.01 \) but no effect of subject group and no group-by-fat-content interaction \( F[1,46] < 1 \). Taste perception of sweetness intensity and the oral perception of fat content appear unaffected by body weight status or by presence of eating disorders.

Sensory evaluations of sweetness and fat content revealed the presence of mixture phenomena. Perceived sweetness was masked by increasing fat content of the stimulus. The main effect of fat was significant \( F[4,184] \)

**FIG 1.** (A) Mean estimates of stimulus sweetness as a function of sucrose content for each type of dairy product. Sucrose levels are plotted as log percent wt/wt. (B) Mean estimates of stimulus fatness as a function of lipid content at each level of sucrose. Lipid levels are plotted as log percent wt/wt.
increasing dairy control patients (9).

Hedonic optima

In subsequent analyses hedonic responsiveness was expressed in terms of optimally preferred sucrose and fat levels. The Response Surface Model (9) yielded predicted values for optimal sucrose ($S_{opt}$) and fat ($F_{opt}$) composition of mixtures maximally preferred by individual subjects. The ratio of these two numbers yielded a third dependent variable: the optimally preferred S:F ratio.

There were no significant differences in hedonic optima between anorectic-restrictor and anorectic-bulimic patients for any of the variables tested. Therefore, their data were combined in subsequent analyses. Optimal sucrose and fat levels and the S:F ratio are summarized in Table 4.

One-way analysis of variance of optimally preferred sucrose levels (as log percentages) showed a marginal effect of subject group ($F_{2,45} = 2.49; 0.05 < p < 0.10$). Subsequent comparisons of pairs of means showed that normal-weight bulimic patients preferred sweeter stimuli than did normal-weight control subjects ($S_{opt} = 15.3\%$ and $9.1\%$, respectively; $F = 4.15; p < 0.05$). Anorectic patients ($n = 25$) also preferred somewhat sweeter stimuli ($S_{opt} = 12.7\%$) than did normal-weight control subjects ($F = 2.88, 0.05 < p < 0.10$). Anorectic and normal-weight bulimic patients did not significantly differ in hedonic optima for sucrose.

Analyses of optimal fat preferences showed no main effect of subject group ($F_{2,45} = 1.88$). Because previous analyses of hedonic response showed significant group-by-fat-content interactions, comparisons between pairs of means were tested for statistical significance. Normal-weight bulimic patients and normal-weight control sub-

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**FIG 2.** Mean hedonic preference ratings as a function of sucrose content for each type of dairy product. Sucrose levels are plotted as log percent wt/wt.
TABLE 4
Optimally preferred levels of sucrose (S) and fat (F) and the optimal S:F ratio as established by the Response Surface Model (19)∗

<table>
<thead>
<tr>
<th>Subjects</th>
<th>S (% wt/wt)</th>
<th>F (% wt/wt)</th>
<th>S:F ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anorectic (n = 25)</td>
<td>12.7 (7.3)</td>
<td>16.5∗ (19.7)</td>
<td>2.33∗ (2.2)</td>
</tr>
<tr>
<td>Bulimic (n = 7)</td>
<td>15.3∗ (6.7)</td>
<td>27.9∗ (23.1)</td>
<td>1.21 (1.0)</td>
</tr>
<tr>
<td>Control (n = 16)</td>
<td>9.1∗ (7.5)</td>
<td>28.7∗ (23.4)</td>
<td>0.72∗ (0.6)</td>
</tr>
</tbody>
</table>

∗ The data are means and standard deviations (in parentheses). Values with different superscripts differ significantly (p < 0.05) using F tests.

In contrast, no significant differences in S:F ratios were observed between normal-weight control subjects and normal-weight bulimic patients (F < 1) or between anorectic and normal-weight bulimic patients (F = 2.37, p < 0.13).

Figure 3 shows taste responsiveness profile of the average subject in each of the three groups, anorectic, bulimic, and normal-weight control subjects, expressed in the form of three-dimensional projections and isopreference contours. The axes represent sucrose (x axis) and lipid content (y axis) of the stimulus, expressed as log percentages wt/wt. Regions of optimum preference as determined by the Response Surface Model are denoted by + signs.

Taste preferences and body weight

Values of the optimal S:F ratio plotted against individual body mass indices, used here as a simple measure of body fatness, are shown in Figure 4. The data are for patients tested before treatment and for normal-weight control subjects. Body mass index was negatively correlated with the optimally preferred S:F ratio (r = -0.44, n = 48, p < 0.01). The most underweight subjects expressed

FIG 3. Hedonic response surfaces for the average subject expressed in terms of three-dimensional projections (top) and isopreference contours (bottom). The axes represent sucrose (x axis) and lipid content (y axis) of the stimulus expressed as log percentages wt/wt. Regions of optimal preference as predicted by Response Surface Model (9) are denoted by + signs.
greater taste preferences for sweetness over fat whereas normal-weight subjects showed greater preferences for fat over sugar. These data complement a previous report that obese subjects consistently preferred low-sugar but high-fat stimuli (9) and showed low values of S:F ratio. Taste responsiveness to sweet, fat-containing foods may be influenced to some extent by the subjects’ long-term status of body weight.

Effects of treatment

Further analyses addressed potential differences in taste responsiveness among the three patient groups (anorectic-restricter, anorectic-bulimic, and bulimic) as a function of clinical intervention and weight regain to target levels.

Sensory estimates of sweetness and fat content did not vary among patient groups (F[2,29] < 1) and showed no significant effects of treatment (F[1,29] < 1). Absence of significant differences suggests that perception of sweetness and fatness is not affected by this degree of body weight gain. The previously observed mixture effects were obtained at both levels of body weight. Sensitivity estimates showed a significant main effect of sucrose (F[3,87] = 197.65; p < 0.01), lipid (F[4,116] = 9.05; p < 0.01), and lipid-by-sucrose interaction (F[12,348] = 2.21; p < 0.05). Estimates of perceived fat content showed a significant main effect of lipid (F[4,116] = 71.85; p < 0.01), sucrose (F[3,87] = 5.85; p < 0.05) and lipid-by-sucrose interaction (F[12,348] = 2.23; p < 0.01). No significant group effects were observed and there were no group-related interactions.

Hedonic response profiles for the three diagnostic groups showed no significant effect of treatment (F[1,29] < 1) and no treatment-related interactions were observed. There was no significant main effect of subject group (F[2,29] = 2.96) and group-by-lipid interaction was marginal (F[8,116] = 1.84; 0.05 < p < 0.10). Only the effects of lipid (F[4,116] = 5.29; p < 0.01) and sucrose (F[3,87] = 16.23; p < 0.01) were significant. Individual preferences for sweetness and fat were not systematically influenced by weight gain to target levels.

Analyses of hedonic optima observed posttreatment yielded the following mean values (±SEM): Anorectic patients best liked mixtures containing 17.8% (±3.9) fat and 10.6% (±1.5) sucrose. Normal-weight bulimic patients best liked mixtures containing 19.3% (±7.1) fat and 13.3% (±2.4) sucrose. Mean values of the S:F ratio were 2.39 for anorectic and 1.53 for bulimic patients. These data are directly comparable to pretreatment values (Table 3).
Discussion

Patients with eating disorders show no evidence of deficits in sensory perception of stimulus sweetness and fat content. Their sensory evaluations did not differ from those of normal-weight control subjects and remained unaffected, moreover, following significant gains in body weight. Previous investigators (28) were concerned that taste functioning in eating disorders might be influenced by protein-calorie malnutrition, zinc deficiency, or total abstinence from sugar-containing foods. Our data indicate that such concerns may be unfounded at least for sweet stimuli at suprathreshold levels. Our data complement earlier reports that perception of sweetness intensity was equally unaffected in obesity (13) and did not change following weight reduction (13, 14).

Patients with eating disorders differed significantly from normal control subjects in their sensory preferences for sweetness and fat. Underweight anorectic and bulimic patients disliked intense for taste as measured by the magnitude of their preferences for high-fat stimuli relative to those of control subjects (Fig 2). Anorectic-restrictor and anorectic-bulimic patients showed significantly larger S:F ratios than did control subjects (Table 3), reflecting elevated preferences for sweetness relative to fat content. There were no differences between anorectic-restrictor and anorectic-bulimic patients on any of the taste variables tested. Normal-weight bulimic patients preferred the sweetest stimuli of all (15.3% sucrose).

Individual profiles of taste preference appear more closely linked to the long-term status of body weight than to the nature of psychiatric diagnosis and a history of bulimia. The fact that the S:F ratio was inversely correlated with BMI before treatment (Fig 4) may be taken as evidence that the taste response is associated with stable body weight or some other index of metabolic status. However, we do not interpret our results in terms of the set-point framework (11, 12) since the taste response profiles did not change following weight regain to levels appropriate for age and height (29). No significant differences in taste-response profiles or in hedonic optima were obtained even following an average gain of 10.6 kg, suggesting that taste responsiveness may not be tied directly to acute changes in body weight. Of course, rapid weight recovery with normal weight maintained for up to 3 wk before testing may not be sufficient time for observable differences in taste preference to occur. Abnormal taste profiles may be a highly enduring characteristic of individuals with eating disorders, requiring long periods of time to normalize. Other investigators have also noted that affective responses to sweetness are surprisingly resistant to changes over time. Garfinkel et al (30, 31) have noted that interoceptive disturbances in anorectic patients, as demonstrated by the absence of satiety aversion to sucrose, were stable from year to year and were not affected by significant weight gain to normal levels (31). In other studies on overweight patients, moderate caloric restriction (9, 17), or weight loss (14) did not result in significant changes in sweet taste preference.

Identification of factors responsible for sensory preferences or aversions may have important implications for nutritional intervention strategies in eating disorders. It may be that the pattern of sensory responsiveness to sweetness and fat during childhood or early adolescence may predate changes in body weight and serve as a psychobiological early marker for eating disorders.

References


