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Women, Sex, and Food: A Review of Research on Eating Disorders and Sexuality

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There has long been a proposed link between sexuality and eating disorders. However, the empirical research on the potential relationship between sexual functioning and disordered eating generally has been unfocused and of relatively poor quality. In the current article I review research on relationships between eating disorders (anorexia nervosa and bulimia nervosa) and sexual attitudes and experience among women, including the sexual functioning of women who have been treated for an eating disorder. After drawing some limited conclusions from past research, I discuss several potentially important mediating variables that may explain observed relationships between disordered eating and sexuality. These potential mediating variables include certain personality characteristics, negative body image, early familial experiences, and history of sexual trauma. I conclude with criticism of past research and offer suggestions for future investigation.

For centuries, certain religious women engaged in self-starvation as a way to develop self-discipline and avoid sexual temptation (Bell, 1985). In various cultures and at different points in history, slender bodies for women were idealized in an apparent attempt to restrain women's sexual desire (Chernin, 1981; Seid, 1989; Wolf, 1991). Perhaps it is not surprising then that from the earliest clinical recognition of eating disorders, problems with sexuality were hypothesized as a causal factor (e.g., Janet, 1929; Lasegue, 1873). Even contemporary sociobiological accounts of anorexia nervosa are based on the notion that the disorder may be an adaptation to allow women to suppress reproduction under certain circumstances (Condit, 1990; Surbey, 1987; Voland & Voland, 1989).

Early clinical accounts of eating disorders generally were based on psychoanalytic theory; hence, ambivalence over sexuality by individuals who exhibited disordered eating was attributed to such conflicts as fear over oral impregnation (e.g., Waller, Kaufman, & Deutsch, 1940). However, decreased sexual interest can result from disordered eating and starvation (Keys, Brozek, Henschel, Mickelsen, & Taylor, 1950; Rahman, Richardson, & Ripley, 1939; Schiele & Brozek, 1948) or depression (Mathew & Weinman, 1982). It was unclear whether sexual problems played an etiologic role or were secondary effects among individuals with eating disorders.

Out of a psychoanalytic history, practicing clinicians have long assumed that conflicts with sexuality were at the root of eating disorders (e.g., Dally & Sargant, 1966; Lorand, 1943; Muller & Beck, 1973; Rampling, 1978), and some clinicians continue to assume so (e.g., Liss-Levinson, 1988; Meadow & Weiss, 1992; Zerbe, 1993). For some writers the belief that problems in psychosexual development led to eating disorders was fueled by observations that disordered eating was often precipitated by menarche and the initiation of breast development (Bruch, 1973, 1978; Crisp, 1980; Meyer, 1971), that individuals with eating disorders often had difficulty negotiating heterosexual relationships (Crisp, 1967, 1980; Selvini-Palazzoli, 1974) and ultimately appeared to avoid or reject the inevitability of becoming sexually mature (Crisp, 1967, 1980; Frick & Schindler, 1972; Muller & Beck, 1973).

At this point, one may ask, "What does the research show?" Unfortunately, the empirical research on relationships between eating disorders and sexuality generally has been unfocused and of relatively poor quality. Frequently, the samples have been small, control groups have been lacking, and potential confounds, such as physiological effects of the eating disorder, have not been controlled. Similarly, measures of sexual attitudes and experience have varied widely and frequently were of questionable reliability and validity. As a result, reviews of the relevant research literature have resulted in conflicting conclusions (e.g., Coovert, Kinder, & Thompson, 1989, vs. Scott, 1987).

In the current article I provide a comprehensive review of the research literature on relationships between eating disorders and sexual attitudes and experience. After outlining the results of this research, I discuss several potentially important mediating variables that may account for observed relationships between disordered eating and sexuality. I hope to provide a framework for clarifying the results of research on sexuality and eating disorders, after which I arrive at some tentative conclusions. I end with a discussion of problems with past research

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and suggestions for future investigation. First, I define more precisely what is meant by *eating disorders.*

Definition of Eating Disorders

With regard to relationships between sexuality and eating disorders, two primary types of disordered eating have been considered: Anorexia [or Anorexia Nervosa (AN)] and Bulimia [or Bulimia Nervosa (BN)]. These eating disorders occur almost exclusively among women, usually during adolescence or early adulthood (American Psychiatric Association, 1994; Hsu, 1989). Although obesity may be considered an eating disorder, and some writers have proposed links between sexuality and compulsive eating (e.g., Roth, 1982) or obesity (e.g., Beach & Martin, 1985; Stuart & Jacobson, 1987), very little research has been conducted on such potential relationships (but see Abramson & Catalano, 1985, as an exception).

The diagnostic criteria for AN have varied somewhat over time (see Beumont, Garner, & Touyz, 1994, for a review), yet a cardinal feature of the disorder has been emaciation. Individuals with AN maintain a substantially low body weight, primarily through severe caloric restriction (fasting), have amenorrhea, and typically experience intense drive for thinness, fear of fat, and extremely negative body image (American Psychiatric Association, 1994).

The term *bulimia* refers to the existence of binge eating, or the subjective experience of loss of control over food intake, such that during a binge episode, the bulimic individual ingests a very large quantity of food in a relatively short period of time. Bulimic individuals often engage in inappropriate compensatory behaviors, such as purging (self-induced vomiting or abuse of laxatives and/or diuretics) or fasting (American Psychiatric Association, 1994). Although bulimic behavior had been documented much earlier, bulimia nervosa was not a diagnostic entity until 1980, and diagnostic criteria for bulimia, or BN, have varied over time (see Crowther, Wolf, & Sherwood, 1992, and Vandereycken, 1994, for reviews). Typically, individuals with BN also experience persistent overconcern with body weight/shape, yet are usually average to slightly above average size.

Diagnostic distinctions can be confusing, especially as one considers individuals with AN who also experience symptoms of BN. The terms *anorexic* and *bulimic* will be used here to denote individuals who display behavioral features or symptoms of AN and BN, respectively. Hence, individuals who meet diagnostic criteria for AN but also experience symptoms of bulimia (i.e., binge eating, purging) will be referred to as *bulimic anorexics.*

Sexual Attitudes

The general belief among those treating AN has been that the disorder is a manifestation of anxiety over, and avoidance of, maturing sexuality (Dally & Gomez, 1979). Indeed, King (1963) noted that about two thirds of his sample of patients with AN were sexually naive and exhibited "sex-disgust." It was not for another two decades, however, that researchers administered to anorexics validated psychological instruments measuring sexual attitudes.

Three separate studies with anorexics have involved the Offer Self-Image Questionnaire (OSIQ; Offer, Ostrov, & Howard, 1981), a standardized instrument designed to measure several aspects of adolescent self-concept. The Sexual Attitudes scale consists of 10 items that appear to measure a combination of erotophobia/philia and self-perceptions of attractiveness to the other gender (see Offer et al., 1981, p. 151, for the items). In each of the three studies, the OSIQ was administered to approximately 30 adolescent girls diagnosed with AN (Casper, Offer, & Ostrov, 1981; Steinhausen & Vollrath, 1993; Swift, Bushnell, Hanson, & Logeman, 1986). In each study the anorexics scored at least one standard deviation below the normative sample, indicating significant sexual apprehension.

Beumont, Abraham, and Simson (1981) conducted psychosexual interviews with 31 young women being treated for AN. With regard to each topic, each respondent was judged to have "poor knowledge" or "disapproving attitude" versus "good knowledge" or "approving attitude." The majority of respondents exhibited "poor knowledge" of sexual functioning (65%) or contraception (68%), and fewer than one half the respondents indicated approval of premarital sex (48%) or masturbation (45%). Unfortunately, a matched control group was not included, so we do not know how the attitudes indicated by the anorexic adolescents would have compared to peers without eating disorders.

Leon, Lucas, Colligan, Ferdinande, and Kamp (1985) did compare adolescent girls being treated for AN (n = 31) to a sample of high school girls without eating disorders (n = 37). All participants responded to several semantic-differential bipolar adjectives with regard to their self-evaluated sexual appeal to others (Sexual Evaluation), degree of sexual arousability (Sexual Interest), and general view of sexuality (Sexual Morality). Scores were created by summing the responses to individual items thought to measure each construct. Compared to the control group, the anorexic girls exhibited significantly more negative scores on Sexual Evaluation and Sexual Interest, whereas the two groups did not differ with regard to Sexual Morality. It appeared that the anorexics saw themselves as less sexually appealing and less interested in sexual activity, but not more negative about sex in general. Unfortunately, information on the reliability and validity of the measures was lacking.

In a comparison of French adolescents being treated for AN (n = 81) and French adolescent students (n = 288), Buvat-Herbaut, Hebbinckuys, Lemaire, and Buvat (1983) included a few questionnaire items dealing with sexual attitudes. A greater proportion

of anorexics (18%) than controls (3%) expressed "disgust" over the notion of being pregnant, and anorexics (33%) were more likely than controls (21%) to report fear of sexuality. Interestingly, the two groups did not differ in the proportion who reported "disgust" over sexual activity, and negative attitudes toward sex were reported by only a small minority of those adolescents with AN.

Compared to the research conducted on sexual attitudes of (adolescent) anorexics, relatively little attention has been paid to those with BN. Allerdissen, Florin, and Rost (1981) compared 28 women with binge eating and purging to 28 matched controls without disordered eating. Participants responded to seven questionnaire items meant to measure the extent to which individuals enjoyed sexual relationships and focused on their pleasure rather than worrying about meeting the expectations of their partner. Compared to controls, the bulimic women indicated lower sexual satisfaction and greater perceptions of performance pressure during sex.

Mizes (1988) compared 20 young women with BN to 20 women drawn from a university student sample who were screened to ensure the absence of disordered eating. Among the scales respondents completed were the Sex Anxiety Inventory (Janda & O'Grady, 1980) and the Sex Guilt Scale (Mosher, 1968), and the two groups did not differ in mean scores on either scale. Similarly, Weiss and Ebert (1983) compared a small sample of women with BN to matched controls and found no differences between the two groups in self-reported interest in heterosexual relationships. Raciti and Hendrick (1992) surveyed female college students (N = 232) regarding their eating and sexual attitudes. In this nonclinical sample, degree of bulimic behavior was unrelated to general sexual permissiveness but was negatively related to sexual self-esteem, $r = -.30, p < .001$. In contrast, among a nonclinical sample of female medical students in Austria (N = 155), Rathner and Rumpold (1994) found no relationship between binge eating or purging and scores on a sexual anxiety scale.

Abraham et al. (1985) interviewed a small sample of women being treated for BN (n = 20) as well as a sample of controls of similar age (n = 20). Based on responses during the interview, each respondent's attitude toward several sexual topics was classified as either "positive," "ambivalent," or "negative." Although formal statistical tests were not conducted, the distribution of responses was remarkably similar across groups on attitudes toward marriage, pregnancy, sexual intercourse, premarital sex, extramarital sex, oral sex, and anal sex. There were apparent differences on only two topics: 80% of those with BN versus 60% of controls reported "positive" attitudes toward masturbation, and 65% of bulimics versus 25% of controls held "positive" attitudes toward use of sexual aids such as a vibrator. Unfortunately, the generalizability of these results is hampered by the fact that the women in the control group were recruited "by requesting volunteers from the places of work or study of the patients" (Abraham et al., 1985, p. 72). The similarities between the two groups may have been due to a selection bias for individuals holding similar sexual attitudes and values.

Although the conclusions one can draw about the sexual attitudes of women with eating disorders are severely limited by the relative lack of solid research on the topic, it appears that individuals with AN may not necessarily hold more negative views about sexuality as a general concept (Buvat-Herbaut et al., 1983; Leon et al., 1985) but may experience increased apprehension about their sexual expression, sexual interest, and sexual attractiveness to others (Buvat-Herbaut et al., 1983; Casper et al., 1981; Leon et al., 1985; Steinhausen & Vollrath, 1993; Swift et al., 1986). Their perceptions of being relatively unattractive sexually may be realistic, given the emaciation and decreased libido that accompany AN.

Comparable research on those with BN has been sparse and inconclusive, but women with BN do *not* appear to hold more negative sexual attitudes than do their nondisordered peers (Abraham et al., 1985; Allerdissen et al., 1981; Mizes, 1988; Raciti & Hendrick, 1992; Weiss & Ebert, 1983), although they may experience greater self-perception of performance pressure and less sexual esteem and satisfaction (Allerdissen et al., 1981; Raciti & Hendrick, 1992). Is the relatively greater sexual apprehension demonstrated by anorexics reflected in less experience? How do the respective levels of sexual experience among women with AN and BN compare?

Sexual Experience

Some studies reviewed thus far also included data on sexual behavior or experience. For example, Beumont et al. (1981) found that the majority of their anorexic sample reported having experienced masturbation (58%) and sexual intercourse (65%). However, it is difficult to interpret the meaning of these statistics without a control group. Also, sexual experience was related to age, as only 30% of those younger than 19 years of age had had coitus. Interestingly, a comparison of exclusively restricting anorexic members of the sample (n = 15) to those who engaged in purging (n = 16) revealed no differences in age or sexual knowledge, yet the large marjority of those who had engaged in coitus and/or oral sex or had more than one intercourse partner were from the purging group (see Beumont, George, & Smart, 1976, and Garfinkel, Moldofsky, & Garner, 1980, for similar differences between exclusively restricting versus bulimic anorexics, and see Pryor, Wiederman, & McGilley, 1996, for an exception). These findings suggest that bulimic symptoms may indicate increased likelihood of sexual experience among young women with an eating disorder.

Raboch (1986) compared the sexual histories of 20 women hospitalized

for AN with those obtained from 50 women seen in a gynecological clinic whose age approximated that of the anorexics. Similarly, Raboch and Faltus (1991) compared the sexual experiences and functioning of 30 women being treated for AN to 50 female patients consecutively presenting at a gynecological clinic. In both studies, the anorexic women were much less likely to have married. For example, in the second study the mean age of both the anorexic and control groups was 24 years, yet 80% of the anorexics had not married, whereas 88% of the control group had. In both research reports, only an undescribed, overall index score of frequency of sexual activity was reported. The anorexics scored significantly lower than did the controls with regard to the index. Interestingly, of those who had sexual experience, the anorexic and control groups did not differ in age of onset of dating, breast and genital fondling, or first coitus. Also, of those currently married, there was no difference between anorexics and controls in current level of sexual activity.

Heavey, Parker, Bhat, Crisp, and Gowers (1989) studied the sexual functioning of adult women (age 20 years and greater) being treated for AN and compared those who were married (n = 39) to those who were not (n = 66). Those authors found no differences in overall interest in sexual activity, likelihood of recent sexual intercourse, and general sexual adjustment. However, the lack of differences did not appear to be the result of the single respondents matching a healthy level of functioning attained by the marrieds. The entire sample exhibited marked sexual impairment: Only 12% reported current interest in sexual activity, 77% indicated active avoidance of sexual activity, and only 12% reported "recently" engaging in sexual intercourse.

Vaz-Leal and Salcedo-Salcedo (1992) compared the sexual histories of 19 women hospitalized for AN to a sample of 40 young women who were treated in nonpsychiatric departments of the hospital. The anorexics and controls did not differ in likelihood of masturbation (79% vs. 70%, respectively), and although the controls were twice as likely as the anorexics to have had coitus (43% vs. 21%), this difference was not statistically significant because of the small sample size. However, compared to controls, those with AN were significantly less likely to have had nongenital (26% vs. 95%) and genital (26% vs. 55%) contact with a partner.

Few studies have involved explicit comparison of women with AN to those with BN. Haimes and Katz (1988) compared 10 patients with AN to 15 patients with BN and found that women with AN were less likely to have had coitus and were older at first date and first experience of coitus. Rothschild, Fagan, Woodall, and Andersen (1991) administered the Derogatis Sexual Functioning Inventory (DSFI; Derogatis & Melisaratos, 1979) to small groups of women hospitalized for AN (n = 29) or BN (n = 13). Although the groups did not differ in level of sexual functioning, comparison to the published norms for the DSFI indicated a relatively high incidence of sexual impairment. On the global Sexual Functioning Index, Rothschild et al.'s sample scored at the first percentile and, of those in a sexual relationship (n = 36), one half described their sexual satisfaction as "poor." Rothschild et al. (1991) concluded, "As a group, the patients described the frequencies of intercourse, masturbation, kissing, petting, and sexual fantasies at approximately the 20th percentile of the normative group" (p. 392).

Few studies have included an explicit focus on the sexual experiences of bulimic women. Abraham et al. (1985) found that their small sample of bulimic women was similar to the control sample with regard to incidence of masturbation, oral-genital sex, and orgasm; age of onset of dating and sexual intercourse; as well as number of coital partners. However, of those who had masturbated, 94% of the bulimics versus 47% of controls had experienced orgasm through self-stimulation ($p < .05$). In contrast, 71% of controls versus 37% of bulimics had experienced orgasm during coitus ($p < .05$). Similarly, Dykens and Gerrard (1986) compared a small sample of college women with bulimic symptoms (n = 27) to those without disordered eating (n = 29). Compared to the control group, bulimic women reported earlier onset of exclusive dating, kissing, and genital petting. Also, relative to the control group, bulimics reported dating and kissing a greater number of boys and having a greater number of steady boyfriends.

The studies reviewed thus far failed to control for a number of potential confounds when comparing sexual histories of anorexics, bulimics, and controls. For example, anorexics have very low body weights and amenorrhea, are typically younger, and may have had delayed menarche relative to bulimics (American Psychiatric Association, 1994). Each of these variables can have direct relationships with sexual and reproductive functioning in eating-disordered individuals (Pirke, Philipp, Schweiger, Broocks, & Wilckens, 1992; Stewart, 1992). In fairness, it may have been impossible to control for relevant physical variables in past research because of the relatively small samples used. However, in the most recent study of sexual experience among women with eating disorders, researchers attempted to control for these potential confounds using a substantially larger sample.

Wiederman, Pryor, and Morgan (1996) compared clinical samples of women with AN (n = 131) or BN (n = 319) with regard to incidence and age of onset of coitus and masturbation. A larger proportion of women with BN than with AN reported having engaged in masturbation (51% vs. 24%) and sexual intercourse (86% vs. 53%). Of those who had masturbated, the two groups did not differ in median age of onset of masturbation (15 years), but of those who had had sexual intercourse, women with BN reported a lower median age of onset compared to women with AN (17 vs. 18 years, $p < .05$). Wiederman et al.

(1996) further tested for group differences after controlling for variables related to sexual experience or menstrual status, including age, menarche, length of time since last menstrual cycle, and body mass index (body size). Logistic regression analyses revealed that, after controlling for the relevant covariates, diagnostic category was still predictive of having had coitus and having masturbated.

In summary, it appears that women with AN experience relatively low incidence of marriage (Raboch, 1986; Raboch & Faltus, 1991) and objectively low levels of sexual interest and activity (Beumont et al., 1981; Haimes & Katz, 1988; Heavey et al., 1989; Raboch, 1986; Raboch & Faltus, 1991; Rothschild et al., 1991; Vaz-Leal & Salcedo-Salcedo, 1992). Among those with AN, the presence of bulimic symptoms may indicate an increased likelihood of sexual experience (Abraham & Beumont, 1981; Beumont et al., 1976; Beumont et al., 1981; Garfinkel et al., 1980). Compared to women with AN, women with BN were more likely to have had coitus and to have started at a younger age (Haimes & Katz, 1988; Wiederman et al., 1996). Even when compared to normal controls, bulimic women may experience earlier onset of sexual activity involving a partner (Dykens & Gerrard, 1986) yet display decreased sexual functioning (De Silva, 1993; Rothschild et al., 1991). To help clarify the relationship between sexuality and eating disorders, it is important to consider sexual functioning among women who have been treated for the disorder.

Sexuality at Follow Up

Four studies included follow up of women who underwent hospitalization for AN (Hsu, Crisp, & Harding, 1979; Morgan & Russell, 1975; Steinhausen & Seidel, 1993; Sturzenberger, Cantwell, Burroughs, Salkin, & Green, 1977). In each investigation, between 26 and 100 women were studied an average of 4 to 5 years post-treatment, and in each sample the majority (65-78%) of women reported significant improvement or recovery from AN. Consistently, however, a substantial minority (17-38%) of the women in these studies displayed significant avoidance of, or aversion to, sexual activity. In two of these studies (Hsu et al., 1979; Morgan & Russell, 1975) there was a higher incidence of sexual avoidance/aversion among women of low weight (poor outcome), whereas potential relationships between sexual functioning and degree of recovery from AN were not examined in the other two studies (Steinhausen & Seidel, 1993; Sturzenberger et al., 1977).

Among their sample of anorexic adolescents, Leon et al. (1985) found a statistically significant degree of improvement in self-evaluated sexual appeal to others, but no change in degree of sexual interest, from initial assessment to immediately after release from the hospital. Despite some improvement, however, the anorexics continued to score much lower than did the control group. Similarly, among their sample of anorexic adolescents, Steinhausen and Vollrath (1993) found statistically significant improvement from initial assessment to discharge from hospital treatment in scores of self-perception of attractiveness to the other gender. However, the sexual attitudes of these girls were still markedly below the norm. Leon, Lucas, Ferdinand, Mangelsdorf, and Colligan (1987) surveyed their initial sample an average of three years after treatment. Self-rated sexual appeal to others and interest in sex at follow up were highly correlated with scores on these measures at pre-treatment. Scores at follow up were unrelated to length of treatment or duration of the follow-up period. So it seems that self-perceived sexuality of these anorexic patients remained relatively consistent over time.

Nussbaum, Shenker, Baird, and Saravay (1985) followed 63 anorexic patients an average of two years post-treatment. Nearly one half of the women were age 18 years or older at follow up; however, only 10 women (16%) were married or had a boyfriend. Other researchers have also found relatively low incidence of sexual relationships among anorexics at follow up (Gillberg, Rastam, & Gillberg, 1994).

Only one follow-up study involving data on sexuality has included individuals with BN. Morgan, Wiederman, and Pryor (1995) surveyed former patients treated for AN or BN an average of three years after treatment. The explicit focus of the mail-back survey was sexual functioning, so it is interesting that anorexics were significantly less likely than bulimics to return the questionnaire. The final sample consisted of 44 women ranging in age from 18 to 42 years, 22 of whom had been treated for AN and 22 of whom had been treated for BN. The majority of the sample (60%) reported being free from symptoms of an eating disorder or experiencing only residual symptoms currently (33%). Most respondents were currently married or involved in a serious dating relationship; however, of the six women who were not, five were from the anorexic group ($p < .08$). All but three respondents had engaged in coitus, but bulimics were more likely than anorexics to report having engaged in masturbation (76% vs. 45%, $p < .05$), and bulimics had higher scores on a measure of sexual esteem. The two groups did not differ on measures of erotophilia or sexual satisfaction or with regard to current frequency of coitus, orgasm during coitus, orgasm from partner caress, or negative emotions during sex.

Morgan et al. (1995) found few differences between former anorexics and former bulimics, but the sample as a whole showed relatively high rates of sexual dysfunction. Compared to the normative sample on which the sexual functioning items had been developed, the former patients reported lower rates of sexual activity and orgasm and high-

er rates of negative emotions during sex. Indeed, nearly 40% of the total sample scored above the clinical cutoff on a measure of sexual discord with their current partner. Although some women in the sample reported a positive sex life, there was a substantial proportion for whom sexuality was experienced negatively.

In summary, more is known about sexuality after treatment for AN than for BN. Even after relatively successful treatment for AN, a substantial proportion of women showed avoidance of, and aversion toward, sexual activity (Hsu et al., 1979; Morgan & Russell, 1975; Morgan et al., 1995; Steinhausen & Seidel, 1993; Sturzenberger et al., 1977). From initial assessment to follow up, anorexic women may show general improvement in self-evaluation as a sexual partner but remain substantially below the norm as negative sexual evaluation appears to persist (Leon et al., 1985; Leon et al., 1987; Steinhausen & Vollrath, 1993). Similarly, the likelihood of anorexics engaging in sexually intimate relationships remains relatively low even after treatment (Gillberg et al., 1994; Morgan et al., 1995; Nussbaum et al., 1985). Relative to former anorexics, former bulimics may be more likely to engage in some forms of sexual activity (e.g., masturbation) and may perceive themselves as more desirable sexual partners (Morgan et al., 1995). In general, however, despite recovery, many women previously diagnosed with AN or BN continue to exhibit marked sexual dysfunction (Morgan et al., 1995).

Potential Mediating Variables

Although findings are not consistent, eating disorders and sexuality appear to be related in some interesting ways. However, these relationships may be mediated by one or more relevant variables that frequently coexist with disordered eating (Zerbe, 1992), namely, certain personality characteristics, features of the family of origin, negative body image, and history of sexual abuse.

Personality Characteristics

With regard to personality variables, women with AN have been shown to have a high degree of compulsivity, rigidity, perfectionism, and general constraint (see Vitousek & Manke, 1994, for a review). These personality traits can be exacerbated by starvation (Keys et al., 1950), yet for many women with AN, they are evident during childhood (prior to the onset of the eating disorder) and continue to persist after recovery from AN (Shafran, Bryant-Waugh, Lask, & Arscott, 1995; Srinivasagam et al., 1995; Vitousek & Manke, 1994). This tendency toward general inhibition may be antithetical to the experience of bodily/sexual pleasure and may make the prospect of potential loss of control (during orgasm or within a sexual relationship) extremely aversive (Hardman & Gardner, 1986; Simpson & Ramberg, 1992). The constricted emotionality of women with AN may also explain the relative deficit in general marital intimacy others have noted among the subpopulation of women with AN who marry (Van den Broucke & Vandereycken, 1988; Van den Broucke, Vandereycken, & Vertommen, 1995).

Among women with BN, borderline personality disorder or related personality characteristics appear to be present in a substantial proportion (Johnson & Wonderlich, 1992; Vitousek & Manke, 1994; Wonderlich, 1992). Prominent characteristics of borderline personality disorder include problems with self-regulation, chronic feelings of emptiness, and fears of abandonment, so it is not surprising that unstable interpersonal relationships are a common feature of this type of personality (American Psychiatric Association, 1994). These personality characteristics related to impulsivity and interpersonal insecurity and dependency may explain the apparent tendency for bulimic samples to demonstrate earlier onset of sexual activity and a greater number of sexual partners relative to controls (e.g., Dyckens & Gerrard, 1986) as well as a decreased perception of pressure to perform sexually (e.g., Allerdissen et al., 1984). This dynamic may explain the relative lack of sexual satisfaction women with BN have reported regarding sexual involvement with a partner (e.g., Abraham et al., 1985; Morgan et al., 1995; Rothschild et al., 1991). Indeed, in the one study comparing the sexuality of women with borderline personality disorder to controls, the personality-disordered women reported greater sexual assertiveness and more erotophilic attitudes, yet they also reported greater sexual dissatisfaction and concern over sex (Hurlbert, Apt, & White, 1992).

Perhaps a substantial proportion of women with BN participate in various sexual behaviors to please their romantic partner and attempt to achieve emotional union rather than from self-initiation or interest in sexual stimulation for oneself (Zerbe, 1993). Katzman and Wolchick (1984) found that bulimic college women reported greater need for approval relative to controls. Also, in a longitudinal study of bulimic college women, the existence of bulimic symptoms was predictive of persistent problems in relationships with men but was unrelated to quality of relationships with other women (Thelen, Farmer, Mann, & Pruitt, 1990). Bulimic women may be more likely than other women to use sexual activity instrumentally as a means of gaining approval, and attempting to meet the demands of a romantic partner, to secure a relationship (Zerbe, 1993).

A subgroup of women with BN have also been found to demonstrate significant problems with impulsivity in areas other than eating, such as binge spending and alcohol abuse, and this subgroup may be most likely to exhibit characteristics of borderline personality disorder (see Wiederman & Pryor, in press b). As in their eating, these bulimic women may feel out of control with their sexual impulses and have greater numbers of sex partners as a result. Based on clinical experience, Lacey (1982) con-

cluded, "So interrelated are bulimia and sexual activity . . . that [bulimic women] may use intercourse or masturbation as a means of thwarting a bulimic attack or, alternatively, gorging to sedation may be used to lower heightened sexual drive" (p. 64). The relatively greater number of sexual partners reported by some women with BN may be the result of more general impulsiveness or difficulty with self-regulation.

Family of Origin

A number of studies have been conducted on the perceived and actual familial interactions of adolescents with eating disorders. In general, families in which a daughter has AN or BN tend to experience relatively less cohesion, more conflict, and unhealthy patterns of attachment and communication (see Humphrey, 1992; Strober & Humphrey, 1987; and Wonderlich, 1992, for reviews). Could early experiences in their family of origin explain problematic sexuality during adolescence and adulthood for women with eating disorders (Zerbe, 1992)? Although no one has addressed this specific issue directly, numerous studies reveal links between childhood experiences and subsequent sexuality (Allgeier & Allgeier, 1995). Specifically, several researchers have found relationships between women's recollections of their relationships with parents during childhood and sexual functioning as adults in both clinical and nonclinical samples (e.g., Fisher, 1973; Heiman, Gladue, Roberts, & LoPiccolo, 1986; Raboch & Raboch, 1992).

In an intriguing study, Gupta and Schork (1995) surveyed more than 100 women attending a shopping mall and found inverse relationships between current body dissatisfaction and drive for thinness and perceptions of tactile nurturance during childhood. That is, those women who reported the greatest current concern over thinness and body dissatisfaction recalled relatively less tactile nurturance (e.g., being hugged, cuddled) from parents, even after controlling for current age and body size. Similarly, drive for thinness was related to an increased current desire to receive tactile nurturance.

Others have found that bulimic women tend to turn to food as a primary source of self-nurturance (Lehman & Rodin, 1989; Roth, 1982). It may be that bulimic women are also more likely to use sexual activity in an attempt to compensate for perceived deficits in tactile nurturance and affection. One could also speculate that if women with AN are more likely to experience unhealthy familial relationships during childhood, including a relative deficit in tactile affection, the stage is set for subsequent avoidance of sexual contact with others and sexual dysfunction. Perhaps an interaction of personality features (inhibition vs. impulsivity) with unhealthy familial attachments during childhood may explain the under- or over-involvement in sexual activity by some adult women with AN or BN. Early experiences regarding parental attachment, touch, and affection may also have implications for development of body image.

Body Image

Negative body image may play a role in the sexual functioning of women with eating disorders, and although relationships between body image and sexuality may seem obvious, surprisingly little research had been conducted on the intersection of these two domains (Allgeier & Allgeier, 1995). Intense body dissatisfaction, and sometimes body image distortion, is a hallmark characteristic of AN and BN (Rosen, 1990; Slade, 1985). At least among college students, negative relationships between body satisfaction and sexual experience have been found (Faith & Schare, 1993; Murstein & Holden, 1979). With regard to women with BN, Wiederman and Pryor (in press a) considered possible relationships between current body dissatisfaction and ever having experienced coitus or masturbation. In their large clinical sample (N = 221), 90% of the women had had coitus, not leaving much variance to explain. After controlling for age, body size, and age of onset of menses, current body dissatisfaction was unrelated to ever having experienced coitus but was negatively related to ever having masturbated and marginally related to decreased satisfaction with current sexual activity.

It may be that, at least for some women with eating disorders, intense body dissatisfaction results in avoidance of sexual activity because of self-consciousness when engaged in sex with a partner. Indeed, Mintz and Betz (1988) found that bulimic college women believed that their body weight (and presumably how they felt about their body weight) had a greater effect on their feelings about sex than their non-bulimic peers believed to be the case. Among these bulimic women, self-consciousness about their weight may have inhibited desire for sexual interaction with a partner. Research with women who have recovered from eating disorders revealed that body-image problems often persist and appear to be the last symptom to remit (Beresin, Gordon, & Herzog, 1989; Rorty, Yager, & Rossotto, 1993). Hence, it may not be surprising that women who had an eating disorder continue to experience sexual dysfunction despite apparent recovery (e.g., Morgan et al., 1995).

History of Sexual Trauma

Last, a potential mediating variable in the link between eating disorders and sexuality may be history of sexual abuse (Zerbe, 1992). A substantial minority of women with eating disorders have experienced some form of sexual abuse, most often during childhood (Connors & Morse, 1993; Fullerton, Wonderlich, & Gosnell, 1995). Because of differences in the way the presence of sexual abuse is defined and information is gathered (e.g., in therapy vs. community surveys), it is unclear whether rates of sexual abuse among women with eating disorders are higher than the

general population of women, and the issue remains controversial (Wooley, 1994). We do know, however, that women who have experienced sexual trauma report higher rates of sexual dysfunction (Becker, 1989; Koss, 1993; Wyatt, 1991). The functional role of sexual abuse in the etiology of eating disorders is just now receiving serious scholarly attention (see Everill & Waller, 1995). It may be that, at least for some individuals with eating disorders, history of traumatic sexual events plays a crucial role in their current sexual avoidance and dysfunction.

Discussion

Intriguing links between sexuality and disordered eating are suggested by the results of extant research. Though far from being accurate for every woman with an eating disorder, some generalizations appear warranted. Women with AN are relatively less likely to engage in sexually intimate relationships, are relatively self-critical about their sexual appeal to others, and report low levels of interest in sexual activity. In contrast, women with BN are as likely, and sometimes more likely, than women without an eating disorder to participate in sexual relationships and engage in a variety of sexual activities (perhaps from an earlier age as well). However, both groups of women with eating disorders exhibit increased sexual dysfunction and less sexual satisfaction relative to controls, and for many, these sexual difficulties persist beyond treatment for, and apparent recovery from, the eating disorder. Beyond these broad conclusions, it is difficult to ascertain more complex relationships between sexuality and disordered eating as the research to date has been lacking in several respects.

For one, based on the existing research concerning eating disorders and sexuality, it is difficult to gauge possible historical and cultural effects. The research covered in the current review spans three decades and involves samples from several countries other than the United States, including Australia (Abraham et al., 1985; Beumont et al., 1981), Austria (Rathner & Rumpold, 1994), Britain (Heavey et al., 1989; Hsu et al., 1979; Morgan & Russell, 1975), Canada (Garfinkel et al., 1980), Czechoslovakia (Raboch, 1986; Raboch & Faltus, 1991), France (Buvat-Herbaut et al., 1983); Germany (Allerdissen et al., 1981; Steinhausen & Seidel, 1993), Spain (Vaz-Leal & Salcedo-Salcedo, 1992), and Sweden (Gillberg et al., 1994).

As demonstrated in this literature review, past research on sexuality among women with eating disorders also has involved a variety of assessment and sampling techniques with regard to both the measurement of disordered eating and the measurement of sexuality variables. Despite the existence of many well-validated instruments to measure sexual attitudes and functioning (see Beere, 1990; Davis, Yarber, & Davis, 1988), much past research involved unsubstantiated interviews, unvalidated measures, simple semantic differentials, or an unspecified method of assessment. Also, past research has included both clinical samples (e.g., Raboch, 1986; Wiederman et al., 1996) and college student samples (e.g., Dykens & Gerrard, 1986; Raciti & Hendrick, 1992). Most of these samples (especially clinical ones) have been small, so potential relationships among some variables may not have been evident because of relatively low statistical power. Small samples also do not allow for multivariate analyses in which potential confounds can be statistically controlled and potentially important interactions among variables can be considered.

In future research on sexuality among women with eating disorders, physiological effects of disordered eating that are known to affect sexual desire and attractiveness, such as emaciation and amenorrhea (e.g., Wiederman et al., 1996), must be controlled. Also, given the wide array of validated sexuality measures currently available, there is no need to "reinvent the wheel" in future research on sexuality and disordered eating. Although the research to this point has been less than definitive, it does not seem relevant to conduct future research making simple comparisons among those with AN, BN, and healthy eating. If differences among these groups continue to be found, as I would expect to be the case, we are still left with the question, "Why?"

As I hoped to show in my brief coverage of variables that may mediate observed relationships between sexuality and disordered eating, several potentially important experiences frequently coexist with AN or BN. These include relevant personality characteristics (e.g., inhibition vs. impulsivity), problematic features of the individual's family of origin, persistently negative body image, and possible history of sexual abuse. Each of these variables, alone or in concert, could conceivably have greater relevance to understanding women's experience of sexuality than disordered eating per se. It is surprising how little research has been conducted on this possibility or on the interaction of these variables as related to sexuality.

Full-blown cases of AN or BN are of relatively low probability in the population (American Psychiatric Association, 1994), which probably explains the small sample sizes employed in most research to date. However, the symptoms and behaviors of disordered eating, as well as the potentially mediating variables discussed earlier, each lie on a continuum of severity (Kalodner & Scarano, 1992; Scarano & Kalodner, 1994). So, investigation of the issues raised in the current review could be profitably explored with "analogue," or nonclinical, samples. Body dissatisfaction is prevalent among young women (e.g., Bunnell, Cooper, Hertz, & Shenker, 1992), and some degree of disordered eating may be as well. Mintz and Betz (1988) surveyed a large sample of women attending a large state university and found that

the majority reported some degree of unhealthy eating (e.g., repeated dieting, binge eating, purging). How do these women, who are driven to extremes in their apparent attempt to control their weight, experience their sexuality relative to their peers? Unfortunately, the research needed to answer this question is lacking.

There appear to be interesting relationships between disordered eating and sexuality. Indeed, these apparent relationships have led some clinicians to advocate a direct focus on sexuality issues in the treatment of eating disorders (De Silva, 1993; Van Vreckem & Vandereycken, 1994; Woodside, Shekter-Wolfson, Brandes, & Lackstrom, 1993). However, sexual dysfunction is not universal among women with AN or BN. Further research is needed to determine for whom eating and sexuality may be simultaneous problems. Rather than focusing on general differences between groups (e.g., those with AN versus BN), future researchers need to consider individual differences in functional links between disordered eating and sexuality.

I propose that other variables, beyond disordered eating per se, may better explain apparent relationships between eating disorders and problematic sexuality. However, further research is needed to evaluate how these variables and others may be related, alone or in combination, to sexual attitudes, experience, and dysfunction among women with eating disorders. Only by asking more specific questions than have been posed in past research may we come to understand the nature of relationships between disordered eating and sexuality among women.

References

Abraham, S. F., Bendit, N., Mason, C., Mitchell, H., O'Connor, N., Ward, J., Young, S., & Llewellyn-Jones, D. (1985). The psychosexual histories of young women with bulimia. *Australian and New Zealand Journal of Psychiatry, 19,* 72-76.

Abraham, S., & Beumont, P. J. V. (1981). Varieties of psychosexual experience in patients with anorexia nervosa. *International Journal of Eating Disorders, 1*(3), 10-19.

Abramson, E. E., & Catalano, S. (1985). Weight loss and sexual behavior. *Journal of Obesity and Weight Regulation, 4,* 268-273.

Allerdissen, R., Florin, I., & Rost, W. (1981). Psychological characteristics of women with bulimia nervosa (bulimerexia). *Behavior Analysis and Modification, 4,* 314-317.

Allgeier, A. R., & Allgeier, E. R. (1995). *Sexual interactions* (4th ed.). Lexington, MA: D. C. Heath.

American Psychiatric Association. (1994). *Diagnostic and statistical manual of mental disorders* (4th ed.). Washington, DC: Author.

Beach, V., & Martin, D. (1985). Obesity, sexuality, and psychological treatment for women. *Women and Therapy, 4,* 53-60.

Becker, J. V. (1989). Impact of sexual abuse on sexual functioning. In S. R. Leiblum & R. C. Rosen (Eds.), *Principles and practice of sex therapy: Update for the 1990s* (pp. 293-318). New York: Guilford.

Beere, C. A. (1990). *Sex and gender issues: A handbook of tests and measures.* New York: Greenwood Press.

Bell, R. M. (1985). *Holy anorexia.* Chicago: University of Chicago Press.

Beresin, E. V., Gordon, C., & Herzog, D. B. (1989). The process of recovering from anorexia nervosa. *Journal of the American Academy of Psychoanalysis, 17,* 103-130.

Beumont, P. J. V., Abraham, S. F., & Simson, K. G. (1981). The psychosexual histories of adolescent girls and young women with anorexia nervosa. *Psychological Medicine, 11,* 131-140.

Beumont, P. J. V., Garner, D. M., & Touyz, S. W. (1994). Diagnoses of eating disorders: What may we learn from past mistakes? *International Journal of Eating Disorders, 16,* 349-362.

Beumont, P. J. V., George, G. C. W., & Smart, D. E. (1976). "Dieters" and "vomiters and purgers" in anorexia nervosa. *Psychological Medicine, 6,* 617-622.

Bruch, H. (1973). *Eating disorders: Obesity, anorexia nervosa, and the person within.* New York: Basic Books.

Bruch, H. (1978). *The golden cage: The enigma of anorexia nervosa.* Cambridge, MA: Harvard University Press.

Bunnell, D. W., Cooper, P. J., Hertz, S., & Shenker, I. R. (1992). Body shape concerns among adolescents. *International Journal of Eating Disorders, 11,* 79-83.

Buvat-Herbaut, M., Hebbinckuys, P., Lemaire, A., & Buvat, J. (1983). Attitudes toward weight, body image, eating, menstruation, pregnancy, and sexuality in 81 cases of anorexia compared with 288 normal control school girls. *International Journal of Eating Disorders, 2,* 45-59.

Casper, R. C., Offer, D., & Ostrov, E. (1981). The self-image of adolescents with acute anorexia nervosa. *The Journal of Pediatrics, 98,* 656-661.

Chernin, K. (1981). *The obsession: Reflections on the tyranny of slenderness.* New York: Harper & Row.

Condit, V. K. (1990). Anorexia nervosa: Levels of causation. *Human Nature, 1,* 391-413.

Connors, M. E., & Morse, W. (1993). Sexual abuse and eating disorders: A review. *International Journal of Eating Disorders, 13,* 1-11.

Coovert, D. L., Kinder, B. N., & Thompson, J. K. (1989). The psychosexual aspects of anorexia nervosa and bulimia nervosa: A review of the literature. *Clinical Psychology Review, 9,* 169-180.

Crisp, A. H. (1967). Anorexia nervosa. *Hospital Medicine, 1,* 713-718.

Crisp, A. H. (1980). *Anorexia nervosa: Let me be me.* New York: Grune & Stratton.

Crowther, J. H., Wolf, E. M., & Sherwood, N. E. (1992). Epidemiology of bulimia nervosa. In J. H. Crowther, D. L. Tennenbaum, S. E. Hobfoll, & M. A. P. Stephens (Eds.), *The etiology of bulimia nervosa: The individual and familial context* (pp. 1-26). Philadelphia, PA: Hemisphere Publishing.

Dally, P., & Gomez, J. (1979). *Anorexia nervosa.* London: William Heinemann Medical Books.

Dally, P., & Sargant, W. (1966). Treatment and outcome of anorexia nervosa. *British Medical Journal, 2,* 793-795.

Davis, C. M., Yarber, W. L., & Davis, S. L. (Eds.). (1988). *Sexuality-related measures: A compendium.* Lake Mills, IA: Graphic Publishing Company.

Derogatis, L. R., & Melisaratos, N. (1979). The DSFI: A multidimensional measure of sexual functioning. *Journal of Sex and Marital Therapy, 5,* 244-280.

De Silva, P. (1993). Sexual problems in women with eating disorders. In J. M. Ussher & C. D. Baker (Eds.), *Psychological perspectives on sexual problems* (pp. 79-109). New York: Routledge Press.

Dykens, E., & Gerrard, M. (1986). Psychological profiles of purging bulimics, repeat dieters, and controls. *Journal of Consulting and Clinical Psychology, 54,* 283-288.

Everill, J. T., & Waller, G. (1995). Reported sexual abuse and eating psychopathology: A review of the evidence for a causal link. *International Journal of Eating Disorders, 18,* 1-11.

Faith, M. S., & Schare, M. L. (1993). The role of body image in sexually avoidant behavior. *Archives of Sexual Behavior, 22,* 345-356.

Fisher, S. (1973). *The female orgasm.* New York: Basic Books.

Frick, V., & Schindler, A. (1972). Preliminary results of an investigation of psychological, gynecological, and endocrinological relationships in secondary amenorrhea. *Medicine, 23,* 1934-1936.

Fullerton, D. T., Wonderlich, S. A., & Gosnell, B. A. (1995). Clinical characteristics of eating disorder patients who report sexu-

al or physical abuse. *International Journal of Eating Disorders, 17,* 243-249.

Garfinkel, P. E., Moldofsky, H., & Garner, D. M. (1980). The heterogeneity of anorexia nervosa: Bulimia as a distinct subgroup. *Archives of General Psychiatry, 37,* 1036-1040.

Gillberg, I. C., Rastam, M., & Gillberg, C. (1994). Anorexia nervosa outcome: Six-year controlled longitudinal study of 51 cases including a population cohort. *Journal of the American Academy of Child and Adolescent Psychiatry, 33,* 729-738.

Gupta, M. A., & Schork, N. J. (1995). Touch deprivation has an adverse effect on body image: Some preliminary observations. *International Journal of Eating Disorders, 17,* 185-189.

Haimes, A. L., & Katz, J. L. (1988). Sexual and social maturity versus social conformity in restricting anorectic, bulimic, and borderline women. *International Journal of Eating Disorders, 7,* 331-341.

Hardman, R. K., & Gardner, D. J. (1986). Sexual anorexia: A look at inhibited sexual desire. *Journal of Sex Education and Therapy, 12*(1), 55-59.

Heavey, A., Parker, Y., Bhat, A. V., Crisp, A. H., & Gowers, S. G. (1989). Anorexia nervosa and marriage. *International Journal of Eating Disorders, 8,* 275-284.

Heiman, J. R., Gladue, B. A., Roberts, C. W., & LoPiccolo, J. (1986). Historical and current factors discriminating sexually functional from sexually dysfunctional married couples. *Journal of Marital and Family Therapy, 12,* 163-174.

Hsu, L. K. G. (1989). The gender gap in eating disorders: Why are the eating disorders more common among women? *Clinical Psychology Review, 9,* 393-407.

Hsu, L. K. G., Crisp, A. H., & Harding, B. (1979). Outcome of anorexia nervosa. *The Lancet, 1,* 61-65.

Humphrey, L. L. (1992). Family relations. In K. A. Halmi (Ed.), *Psychobiology and treatment of anorexia nervosa and bulimia nervosa* (pp. 151-167). Washington, DC: American Psychiatric Press.

Hurlbert, D. F., Apt, C., & White, L. C. (1992). An empirical examination into the sexuality of women with borderline personality disorder. *Journal of Sex and Marital Therapy, 18,* 231-242.

Janda, L. H., & O'Grady, K. E. (1980). Development of a sex anxiety inventory. *Journal of Consulting and Clinical Psychology, 48,* 169-175.

Janet, P. (1929). *The major symptoms of hysteria.* New York: Macmillan.

Johnson, C., & Wonderlich, S. (1992). Personality characteristics as a risk factor in the development of eating disorders. In J. H. Crowther, D. L. Tennenbaum, S. E. Hobfoll, & M. A. Parris Stephens (Eds.), *The etiology of bulimia nervosa: The individual and familial context* (pp. 179-196). Philadelphia, PA: Hemisphere Publishing.

Kalodner, C. R., & Scarano, G. M. (1992). A continuum of nonclinical eating disorders: A review of behavioral and psychological correlates and suggestions for intervention. *Journal of Mental Health Counseling, 14,* 30-41.

Katzman, M. A., & Wolchick, S. A. (1984). Bulimia and binge eating in college women: A comparison of personality and behavioral characteristics. *Journal of Consulting and Clinical Psychology, 52,* 423-428.

Keys, A., Brozek, J., Henschel, A., Mickelsen, O., & Taylor, H. L. (1950). *The biology of human starvation.* Minneapolis: University of Minnesota Press.

King, A. (1963). Primary and secondary anorexia nervosa syndrome. *British Journal of Psychiatry, 109,* 470-479.

Koss, M. P. (1993). Rape: Scope, impact, interventions, and public policy responses. *American Psychologist, 48,* 1062-1069.

Lacey, J. H. (1982). The bulimia syndrome at normal body weight: Reflections on pathogenesis and clinical features. *International Journal of Eating Disorders, 2*(1), 59-66.

Lasegue, E. C. (1873). De l'anorexie hysterique. Translated in M. R. Kaufman & M. Heinman (Eds.), *Evolution of psychosomatic concepts: Anorexia nervosa, a paradigm* (pp. 141-155). New York: International Universities Press, 1964.

Lehman, A. K., & Rodin, J. (1989). Styles of self-nurturance and disordered eating. *Journal of Consulting and Clinical Psychology, 57,* 117-122.

Leon, G. R., Lucas, A. R., Colligan, R. C., Ferdinande, R. J., & Kamp, J. (1985). Sexual, body image, and personality attitudes in anorexia nervosa. *Journal of Abnormal Child Psychology, 13,* 245-258.

Leon, G. R., Lucas, A. R., Ferdinand, R. F., Mangelsdorf, C., & Colligan, R. C. (1987). Attitudes about sexuality and other psychological characteristics as predictors of follow-up status in anorexia nervosa. *International Journal of Eating Disorders, 6,* 477-484.

Liss-Levinson, N. (1988). Disorders of desire: Women, sex, and food. *Women and Therapy, 7,* 121-129.

Lorand, S. (1943). Anorexia nervosa: A case. *Psychosomatic Medicine, 5,* 282-292.

Mathew, R. J., & Weinman, M. L. (1982). Sexual dysfunction in depression. *Archives of Sexual Behavior, 11,* 323-328.

Meadow, R. M., & Weiss, L. (1992). *Women's conflicts about eating and sexuality: The relationships between food and sex.* New York: Harrington Park Press.

Meyer, J. E. (1971). Anorexia nervosa of adolescence: The central syndrome of the anorexic group. *British Journal of Psychiatry, 118,* 539-542.

Mintz, L. B., & Betz, N. E. (1988). Prevalence and correlates of eating disordered behaviors among undergraduate women. *Journal of Counseling Psychology, 35,* 463-471.

Mizes, J. S. (1988). Personality characteristics of bulimic and non-eating-disordered female controls: A cognitive behavioral perspective. *International Journal of Eating Disorders, 7,* 541-550.

Morgan, H. G., & Russell, G. F. M. (1975). Value of family background and clinical features as predictors of long-term outcome in anorexia nervosa: Four-year follow-up study of 41 patients. *Psychological Medicine, 5,* 355-371.

Morgan, C. D., Wiederman, M. W., & Pryor, T. L. (1995). Sexual functioning and attitudes of eating-disordered women: A follow-up study. *Journal of Sex and Marital Therapy, 21,* 67-77.

Mosher, D. L. (1968). Measurement of guilt in females by self-report inventories. *Journal of Consulting and Clinical Psychology, 32,* 690-695.

Muller, M., & Beck, D. (1973). Anorexia nervosa. *Medical Practice, 63,* 1059-1069.

Murstein, B. I., & Holden, C. C. (1979). Sexual behavior and correlates among college students. *Adolescence, 14,* 625-639.

Nussbaum, M., Shenker, I. R., Baird, D., & Saravay, S. (1985). Follow-up investigation in patients with anorexia nervosa. *Journal of Pediatrics, 106,* 835-840.

Offer, D., Ostrov, E., & Howard, K. I. (1981). *The adolescent: A psychological self-portrait.* New York: Basic Books.

Pirke, K. M., Philipp, E., Schweiger, U., Broocks, A., & Wilckens, T. (1992). Neuroendocrine and reproductive function. In K. A. Halmi (Ed.), *Psychobiology and treatment of anorexia nervosa and bulimia nervosa* (pp. 151-167). Washington, DC: American Psychiatric Press.

Pryor, T., Wiederman, M. W., & McGilley, B. (1996). Clinical correlates of anorexia nervosa subtypes. *International Journal of Eating Disorders, 19,* 371-379.

Raboch, J. (1986). Sexual development and life of psychiatric female patients. *Archives of Sexual Behavior, 15,* 341-353.

Raboch, J., & Faltus, F. (1991). Sexuality of women with anorexia nervosa. *Acta Psychiatrica Scandinavica, 84,* 9-11.

Raboch, J., & Raboch, J. (1992). Infrequent orgasm in women. *Journal of Sex and Marital Therapy, 18,* 114-120.

Raciti, M., & Hendrick, S. S. (1992). Relationships between eating disorder characteristics and love and sex attitudes. *Sex Roles, 27,* 553-564.

Rahman, L., Richardson, H. B., & Ripley, H. S. (1939). Anorexia nervosa with psychiatric observations. *Psychometric Medicine, 1,* 335-365.

Rampling, D. (1978). Anorexia nervosa: Reflection of theory and practice. *Psychiatry, 41,* 296-301.

Rathner, G., & Rumpold, G. (1994). Convergent validity of the Eating Disorder Inventory and the Anorexia Nervosa Inventory

for self-rating in an Austrian nonclinical population. *International Journal of Eating Disorders, 16,* 383-393.

Rorty, M., Yager, J., & Rossotto, E. (1993). Why and how do women recover from bulimia nervosa? The subjective appraisals of forty women recovered a year or more. *International Journal of Eating Disorders, 14,* 249-260.

Rosen, J. C. (1990). Body image disturbance in eating disorders. In T. F. Cash & T. Pruzinsky (Eds.), *Body images: Development, deviance, and change* (pp. 190-214). New York: Guilford.

Roth, G. (1982). *Feeding the hungry heart: The experience of compulsive eating.* New York: Penguin Books.

Rothschild, B. S., Fagan, P. J., Woodall, C., & Andersen, A. E. (1991). Sexual functioning of female eating-disordered patients. *International Journal of Eating Disorders, 10,* 389-394.

Schiele, B. C., & Brozek, J. (1948). Experimental neurosis resulting from semi-starvation in man. *Psychosomatic Medicine, 10,* 31-50.

Scarano, G. M., & Kalodner, C. R. (1994). A description of the continuum of eating disorders: Implications for intervention and research. *Journal of Counseling and Development, 72,* 356-361.

Scott, D. W. (1987). The involvement of psychosexual factors in the causation of eating disorders: Time for a reappraisal. *International Journal of Eating Disorders, 6,* 199-213.

Seid, R. P. (1989). *Never too thin: Why women are at war with their bodies.* New York: Prentice Hall.

Selvini-Palazzoli, M. (1974). *Self starvation.* London: Chaucer.

Shafran, R., Bryant-Waugh, R., Lask, B., & Arscott, K. (1995). Obsessive-compulsive symptoms in children with eating disorders: A preliminary investigation. *Eating Disorders: The Journal of Treatment and Prevention, 3,* 304-310.

Simpson, W. S., & Ramberg, J. A. (1992). Sexual dysfunction in married female patients with anorexia and bulimia nervosa. *Journal of Sex and Marital Therapy, 18,* 44-54.

Slade, P. (1985). A review of body-image studies in anorexia nervosa and bulimia nervosa. *Journal of Psychiatric Research, 19,* 255-265.

Srinivasagam, N. M., Kaye, W. H., Plotnicov, K. H., Greeno, C., Weltzin, T. E., & Rao, R. (1995). Persistent perfectionism, symmetry, and exactness after long-term recovery from anorexia nervosa. *American Journal of Psychiatry, 152,* 1630-1634.

Steinhausen, H. C., & Seidel, R. (1993). Outcome in adolescent eating disorders. *International Journal of Eating Disorders, 14,* 487-496.

Steinhausen, H. C., & Vollrath, M. (1993). The self-image of adolescent patients with eating disorders. *International Journal of Eating Disorders, 13,* 221-227.

Stewart, D. E. (1992). Reproductive functions in eating disorders. *Annals of Medicine, 24,* 287-291.

Strober, M., & Humphrey, L. L. (1987). Familial contributions to the etiology and course of anorexia nervosa and bulimia. *Journal of Consulting and Clinical Psychology, 55,* 654-659.

Stuart, R. B., & Jacobson, B. (1987). *Weight, sex, and marriage: A delicate balance.* New York: Norton.

Sturzenberger, S., Cantwell, D. P., Burroughs, J., Salkin, B., & Green, J. K. (1977). A follow-up study of adolescent psychiatric inpatients with anorexia nervosa. *Journal of the American Academy of Child Psychiatry, 16,* 703-715.

Surbey, M. K. (1987). Anorexia nervosa, amenorrhea, and adaptation. *Ethology and Sociobiology, 8,* 47S-61S.

Swift, W. J., Bushnell, N. J., Hanson, P., & Logeman, T. (1986). Self-concept in adolescent anorexics. *Journal of the American Academy of Child Psychiatry, 25,* 826-835.

Thelen, M. H., Farmer, J., Mann, L. M., & Pruitt, J. (1990). Bulimia and interpersonal relationships: A longitudinal study. *Journal of Counseling Psychology, 37,* 85-90.

Vandereycken, W. (1994). Emergence of bulimia nervosa as a separate diagnostic entity: Review of the literature from 1960-1979. *International Journal of Eating Disorders, 16,* 105-116.

Vaz-Leal, F. J., & Salcedo-Salcedo, M. S. (1992). Sexual adjustment and eating disorders: Differences between typical and atypical anorexic adolescent females. *International Journal of Eating Disorders, 12,* 11-19.

Vitousek, K., & Manke, F. (1994). Personality variables and disorders in anorexia nervosa and bulimia nervosa. *Journal of Abnormal Psychology, 103,* 137-147.

Van den Broucke, S., & Vandereycken, W. (1988). Anorexia and bulimia nervosa in married patients: A review. *Comprehensive Psychiatry, 29,* 165-173.

Van den Broucke, S., Vandereycken, W., & Vertommen, H. (1995). Marital intimacy in patients with an eating disorder: A controlled self-report study. *British Journal of Clinical Psychology, 34,* 67-78.

Van Vreckem, E. V., & Vandereycken, W. (1994). A sexual education programme for women with eating disorders. In B. Dolan & I. Gitzinge (Eds.), *Why women? Gender issues and eating disorders* (pp. 110-116). London: Athlone.

Voland, E., & Voland, R. (1989). Evolutionary biology and psychiatry: The case of anorexia nervosa. *Ethology and Sociobiology, 10,* 223-240.

Waller, J. V., Kaufman, M. R., & Deutsch, F. (1940). Anorexia nervosa: A psychosomatic entity. *Psychosomatic Medicine, 2,* 3-16.

Weiss, S. R., & Ebert, M. H. (1983). Psychological and behavioral characteristics of normal weight bulimics and normal weight controls. *Psychosomatic Medicine, 45,* 293-303.

Wiederman, M. W., & Pryor, T. (in press a). Body dissatisfaction and sexuality among women with bulimia nervosa. *International Journal of Eating Disorders.*

Wiederman, M. W., & Pryor, T. (in press b). Multi-impulsivity among women with bulimia nervosa. *International Journal of Eating Disorders.*

Wiederman, M. W., Pryor, T., & Morgan, C. D. (1996). The sexual experience of women diagnosed with anorexia nervosa or bulimia nervosa. *International Journal of Eating Disorders, 19,* 109-118.

Wolf, N. (1991). *The beauty myth.* New York: William Morrow.

Wonderlich, S. (1992). Relationship of family and personality features in bulimia. In J. H. Crowther, D. L. Tennenbaum, S. E. Hobfoll, & M. A. P. Stephens (Eds.), *The etiology of bulimia nervosa: The individual and familial context* (pp. 103-126). Philadephia, PA: Hemisphere.

Woodside, W. B., Shekter-Wolfson, L. F., Brandes, J. S., & Lackstrom, J. B. (1993). *Eating disorders and marriage: The couple in focus.* New York: Brunner/Mazel.

Wooley, S. C. (1994). Sexual abuse and eating disorders: The concealed debate. In P. Fallon, M. A. Katzman, & S. C. Wooley (Eds.), *Feminist perspectives on eating disorders* (pp. 171-211). New York: Guilford.

Wyatt, G. E. (1991). Child sexual abuse and its effects on sexual functioning. *Annual Review of Sex Research, 2,* 249-266.

Zerbe, K. J. (1992). Why eating-disordered patients resist sex therapy: A response to Simpson and Ramberg. *Journal of Sex and Marital Therapy, 18,* 55-64.

Zerbe, K. J. (1993). *The body betrayed: Women, eating disorders, and treatment.* Washington, DC: American Psychiatric Press.

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