Eating Disorders, 12:191–208, 2004

ISSN: 1064-0266 print/1532-530X online
DOI: 10.1080/10640260490481410

BrunnerRoutledge Taylor & Francis healthsciences

Sexuality, Personality, and Eating Disorders

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To assess sexuality, personality, and eating pathology in women with eating disorders (EDs), we asked a random sample of 234 clinicians to describe an ED patient (age 16–65). Restricting AN patients tended to be childlike and prim/proper, while BN patients tended to be flirtatious and promiscuous. A constricted/overcontrolled personality predicted a childlike sexuality independent of AN diagnosis, and an undercontrolled, emotionally dysregulated personality predicted impulsive sexuality above and beyond BN diagnosis. Constraint and impulsivity are not isolated to the domain of eating in women with EDs. Personality provides a link between eating and sexuality in at least a subset of women with EDs.

A large body of clinical and empirical literature generated over the last 30 years has linked eating disorders (EDs) and sexuality (see Wiederman, 1996, for a recent review). This work suggests that sexuality differs between patients with anorexia nervosa (AN) and bulimia nervosa (BN), such that anorexic symptoms are associated with decreased sexual activity and bulimic symptoms

Preparation of this manuscript was supported in part by NIMH MH62377 and MH62378 to the third author; funding for this study was provided in part by a grant from the International Psycho-Analytic Association.

The authors acknowledge the assistance of the 234 clinicians who participated in this study.

Portions of this manuscript were presented by the first author at the International Conference on Eating Disorders, April 2002, Boston, MA.

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are associated with increased activity. Patients with AN, particularly restricting subtype AN (ANR), are likely to have less sexual experience with a partner and later onset of sexual activity than those with BN or healthy controls (e.g., Haimes & Katz, 1988; Vaz-Leal & Salcedo-Salcedo, 1992). In contrast, BN patients tend to be more sexually active than AN patients and controls (e.g., Abraham et al., 1985; Wiederman, Pryor, & Morgan, 1996). With respect to sexual behavior, both AN and BN are associated with substantial dysfunction, even if frequently in different directions (asexuality versus promiscuity). For example, a study using the Derogatis Sexual Functioning Inventory (DSFI; Derogatis & Melisaratos, 1979) found that AN and BN inpatients were both in the bottom percentile for sexual functioning compared with a normative population, indicating manifest sexual dysfunction (Rothschild, Fagan, Woodall, & Andersen, 1991).

Operationalizing sexual attitudes in ED patients can be challenging because many ED patients experience particular discomfort discussing sexuality. Several studies have found that AN patients have more negative attitudes towards sexuality than controls (Beumont, Abraham, & Simson, 1981; Leon, Lucas, Colligan, Ferdinande, & Kamp, 1985), whereas others have found no differences (Buvat-Herbaut, Hebbinckuys, Lemaire, & Buvat, 1983). Some of the contradictory findings may reflect different ways of operationalizing sexual attitudes (e.g., negative feelings, sexual morality, fear of sex, interest in relationships). For example, Casper, Offer, and Ostrov (1981) found that AN patients were frightened by sexual thoughts yet interested in having a boyfriend. Research on the sexual attitudes of BN patients has largely found them similar to non-ED comparison subjects (Mizes, 1988; Rathner & Rumpold, 1994; Weiss & Ebert, 1983), although some investigators have found those with bulimic symptoms report lower levels of sexual satisfaction, greater perceptions of performance pressure during sex, and lower sexual esteem (Allerdissen, Florin, & Rost, 1981; Raciti & Hendrick, 1992).

Clinicians and theoreticians have posited links between EDs and sexual attitudes and behavior since initial recognition of ED syndromes (e.g., Bruch, 1978; Janet, 1929; Lasegue, 1873). Clinical writings and some preliminary research have identified links between onset of EDs and onset of puberty and sexual development (e.g., Bruch, 1978; Janet, 1929), child sexual abuse (for recent review see Smolak & Murnen, 2002), and adult sexual trauma (e.g., rape; Schmidt, Tiller, Blanchard, Andrews, & Treasure, 1997). Others have suggested that sexual difficulties are a byproduct of EDs, with some hypothesizing that sexual disinterest or discomfort result from the extreme body image dissatisfaction or distortion that accompanies EDs (Allerdissen et al., 1981). Still other research implicates biological factors such as low body weight and decreased hormone levels in AN (Tuiten et al., 1993). Although starvation may lead to decreased libido, malnutrition alone does not appear to produce attitudes toward sexuality such as prudishness

observed in many patients with AN (e.g., Keys, Brozek, Henschel, Mickelsen, & Taylor, 1950), which also tend to persist post weight-restoration. Thus, causality likely runs in multiple directions in the relationship between sexuality and EDs.

The literature on sexuality and EDs has been limited by a primary focus on AN and inpatient samples that may not generalize to less severely disturbed patients, and by a relative inattention to personality variables that might account for some of the association between eating and sexuality (Wiederman, 1996). One hypothesis to explain contradictory findings regarding sexuality in patients with EDs, wherein patients exhibit dysfunctional sexual attitudes and behaviors in some studies and not in others, is that researchers have focused primarily on comparisons among *DSM* ED diagnoses. The inconsistencies in the literature on sexuality attitudes may reflect heterogeneity in ED patients that is not captured by Axis I ED diagnoses. Comparisons on the basis of symptom severity (not captured by *DSM* diagnosis) or personality profiles, for example, may offer more specific information about the nature of sexual difficulties in patients with EDs.

Westen and Harnden-Fischer (2001) recently identified three personality styles characteristic of patients with EDs that may be relevant to understanding sexuality in EDs. The first, a high-functioning/perfectionistic style is characterized by a number of healthy attributes such as conscientiousness and empathy, as well as by a combination of self-criticism, perfectionism, and negative affectivity (e.g., guilt and anxiety). A second, constricted/overcontrolled style, is characterized by more severe personality disturbance across multiple domains; a tendency to feel empty, helpless, depressed, inadequate, and ashamed; cognitively sparse, barren representations of the self and others; and a tendency to avoid relationships. The third style, emotionally-dysregulated/undercontrolled, represents in many respects the opposite form of pathology, characterized by poorly regulated emotions, impulsivity, and a tendency to seek relationships in desperate and often self-destructive ways to try to self-soothe. These personality styles show some relation to ED diagnoses, wherein patients with anorexic symptoms are more likely to show constriction and bulimic patients are more likely to show emotional dysregulation, but research to date suggests that all the *DSM-IV* (American Psychiatric Association [APA], 1994) ED diagnoses are heterogeneous with respect to these personality styles. The implication for sexuality in EDs is that patients who share the same ED diagnosis but different personality styles may show correspondingly different patterns of sexuality, manifesting constriction and overcontrol or emotional dysregulation and undercontrol. This might account for some of the inconsistencies in the literature.

The current investigation aims to explore the relation between eating pathology and sexuality, focusing on both differences among patients with different Axis I EDs and differences that may reflect broader personality constellations, which we hypothesized would show incremental validity in

predicting sexual attitudes and behavior. We address three questions: First, do ED patients differ by *DSM-IV* (APA, 1994) diagnoses with regard to sexuality (including attitudes and behaviors)? Second, do ED patients with different personality styles show corresponding differences vis-à-vis sexuality, such that patients who regulate their emotions and impulses in an overcontrolled versus undercontrolled way show corresponding ways of regulating both food intake and sexuality? Finally, in exploratory analyses, we examine the association between sexuality in ED patients and theoretically relevant developmental experiences such as childhood history of sexual abuse.

METHOD

We used a practice research network approach, in which randomly selected, experienced clinicians provide data on patients that can be aggregated for large-N research on the nature, classification, and treatment of psychopathology (Westen & Chang, 2000; Westen & Shedler, 1999a, 1999b; Wilkinson-Ryan & Westen, 2000). This method is an extension of practice research network approaches in psychiatry and other areas of medicine (e.g., West, Zarin, Peterson, & Pincus, 1998), but is aimed at using practice as a basis for basic, rather than applied, research.

Multiple studies using this method suggest that (a) clinician descriptions of patients strongly correlate with interview-based assessments (Heim, Muderrisoglu, & Westen, 2002; Westen, 1997; Westen & Shedler, 2000); (b) clinician descriptions predict criterion variables such as developmental and family psychiatric history in ways that are theoretically predictable and unrelated to clinicians' theoretical orientation or training (Shedler & Westen, 1998); (c) the factor structure of clinician-report versions of established instruments such as the Child Behavior Checklist (CBCL, Achenbach, 1991) tends to be similar to the factor structure that emerges with other informants (Dutra, Campbell, & Westen, 2002); and (d) clinicians tend to use appropriately conservative rules of inference in assessing etiologically relevant variables such as family and developmental history (e.g., requiring intact pre-treatment memories or other corroborating data before ascribing confidence to a history of childhood sexual abuse; Wilkinson-Ryan & Westen, 2000).

Sample

We contacted clinicians from the registries of five national organizations whose members were likely to include doctoral-level clinicians who treat ED patients (Academy for Eating Disorders, National Eating Disorders Association, Association of Professionals Treating Eating Disorders, American Psychiatric Association, and American Psychological Association). We included

both general-practice clinicians and specialists to maximize the range and representativeness of patients obtained.

An initial letter of solicitation invited clinicians to return a postcard if they currently had a patient in their practice with clinically significant eating disordered symptoms and were interested in participating in a study that would require approximately two hours of time for a modest honorarium ($50). Approximately 15% responded, of whom 50% (234/480) completed the study before we terminated data collection. Although the response rate appeared reasonable given that the time commitment was relatively large and that many clinicians do not treat ED patients (several members of the two APAs wrote to inform us that they routinely refer rather than treat patients with ED symptoms), we assessed for a number of potential biases bearing on generalizability (e.g., clinician training, experience, theoretical orientation), none of which influenced obtained results. The clinician sample also ranged on various demographic variables (e.g., years of experience, theoretical orientation, hours per week in direct clinical service, treatment setting) consistent with the published data on clinicians in the community. Hence, we felt confident that the results were not reducible to sampling error.

Procedure

Clinicians each described one patient using a battery of measures that required between two and four hours of their time. To maximize participation, we sent respondents who agreed to participate either a packet of paper-and-pencil questionnaires or a letter directing them to complete identical measures on our research website (www.psychsystems.net), depending on their stated preference. (As in other research [Butcher, Perry, & Atlis, 2000], we found no substantial differences in either absolute scores or patterns of association in computerized versus pencil-and-paper administration.) The materials included a personalized cover letter, informed consent form, honorarium request form, and a set of measures.

The cover letter instructed clinicians to describe a female patient between the ages of 16 and 65 with "clinically significant eating-disordered symptoms," whom they had seen for a minimum of 4 sessions and a maximum of 24 months. We asked clinicians to describe a patient with clinically significant eating symptoms, rather than requiring them to meet *DSM-IV* diagnostic criteria, to maximize generalizability and to allow us to assess dimensional approaches to classification (a goal of the wider project within which this study was embedded). To maximize the randomness of the sample, we instructed clinicians treating more than one patient who met study criteria to select the last patient they saw before completing the materials (e.g., the last patient of the day before they began work on the study). After obtaining the first 189 participants, we ascertained that patients with mixed

anorexic and bulimic symptoms (e.g., ANBP) were underrepresented in the sample relative to both prior published research and our own research using a similar sampling procedure. Thus, we oversampled to obtain patients with clinically significant restricting, bingeing, and purging, once again casting a broader net by not requiring that the patient meet severity and duration criteria to meet a *DSM-IV* diagnosis of ANBP.

Measures

Clinicians completed a battery of questionnaires. Here we describe those of relevance to the present report.

Clinical Data Form-Eating Disorders Version (CDF-ED)

The Clinical Data Form (CDF), which we have used in a number of studies (e.g., Westen & Shedler, 1999a; Westen, Shedler, Durrett, Glass, & Martens, 2003), assesses a range of variables relevant to demographics, diagnosis, and etiology. Clinicians first provide basic demographic data on themselves and the patient, including discipline (psychiatry or psychology), theoretical orientation, employment sites (e.g., private practice, inpatient unit, school), and sex; as well as the patient's age, sex, race, education level, socioeconomic status, Axis I diagnoses, and so forth. Following basic demographic and diagnostic questions, clinicians rate the patient's adaptive functioning, including employment history (1=unable to keep a job, 3=unstable, 5=stable, 7=working to potential); quality of relationships (1=very poor, 7=close and loving); typical level of personality functioning, based on Kernberg's (1984) system (1=psychotic, 3=personality disorder, 5=substantial problems, 7=high-functioning); history of suicide attempts, arrests, and hospitalizations; and social support (number of close friends in which the patient feels comfortable confiding). In prior research we have found such ratings to be highly reliable and to correlate strongly with ratings made by independent interviewers (Heim et al., 2002; Westen, 1997). The CDF also includes similar measures of childhood adaptive functioning, including history of school difficulties (1=failed/dropped out, 3=passing grades, 5=high achievement), arrests (1=none, 3=a few times, 5=frequently), and running away from home (1=never, 3=a few times, 5=frequently).

In addition, the CDF assesses variables potentially related to etiology, such as history of abuse and family history of psychiatric disorders. Although we do not presume the reliability of every data point provided by every clinician, ongoing research suggests that, in aggregate, these data tend to be accurate, producing correlations with other variables (e.g., diagnosis) similar to those found using other methods (e.g., Eisikovits, Dutra, & Westen, 2002). As noted above, part of the reason is that doctoral-level clinicians tend to be relatively conservative in reporting confidence in historical

events or symptoms in patients' relatives, leading to many more false negatives than false positives. For example, when asked to check off reasons for their belief that a patient had a history of sexual abuse, virtually all clinicians checked off items indicating involvement of authorities such as police or Department of Social Services, intact memories of sexual abuse prior to treatment, and corroboration from family members or court records; few indicated that their judgment reflected inferences from the symptom picture or recovered memories, and clinicians tended to rate cases with questionable or ambiguous reasons for inference as "unsure" (Wilkinson-Ryan & Westen, 2000). Aggregated ratings of patients' relationships with their parents also correlate strongly with factor scores from a clinician-report version of the Parental Bonding Inventory (PBI), which shows the same factor structure and similar correlates as the widely used self-report version of the instrument (Russ, Heim, & Westen, 2003).

The CDF-ED is an expanded version of the CDF that, additionally, assesses current ED symptomatology (e.g., body mass index, frequency of binge/purge behaviors) and ED history. The CDF-ED also includes a set of items assessing sexual attitudes and behaviors of potential relevance to ED patients, in which the clinician rates the following seven variables using a seven-point Likert-type scale: "appears asexual or presents herself as asexual," "is childlike in appearance or mannerisms," "appears or presents herself as 'prim and proper'," "has a healthy sex life," "is flirtatious," "is hypersexualized," and "engages in one-night stands, sex with strangers, etc." Other variables relevant to sexuality assessed on the CDF-ED include involvement in an abusive adult relationship; history of adult rape (and number of times raped); quality of romantic relationships (7-point Likert-type rating); age at first sexual intercourse; history of promiscuity; and history of sexual abuse.

Axis I Eating Disorders Checklist

To diagnose *DSM-IV* EDs without relying on clinicians to apply *DSM-IV* diagnostic algorithms, we asked clinicians to circle "no" or "yes" in response to a randomly ordered diagnostic criteria taken directly from the *DSM-IV* diagnoses of AN, BN, and eating disorder not otherwise specified (EDNOS).

Shedler-Westen Assessment Procedure-200 (SWAP-200)

The SWAP-200 is a 200-item Q-sort instrument designed to assess personality pathology. Clinicians sort 200 personality-descriptive statements into eight categories ranging from not true at all of the patient to defining of the patient's personality. The instrument was designed to yield *DSM-IV* Axis II dimensional diagnoses as well as to be used in the development of empirically derived diagnostic groupings (Westen & Shedler, 1999a, 1999b). Interrater reliability of the SWAP-200 is in the range of $r = .80$ for scale scores (Westen &

Muderrisoglu, 2003). Scales derived from the SWAP-200 correlate with the range of criterion measures in both adult and adolescent samples supporting the instrument's validity, including relatively objective indices such as history of arrests, suicide attempts, failure to keep jobs over time, independent interview assessments of personality disorders and adaptive functioning variables, and self-reported borderline and antisocial personality disorders (Bradley, Hilsenroth, & Westen, 2003; Westen & Muderrisoglu, 2003; Westen & Shedler, 2000).

Of particular relevance to the present investigation, our research group has identified three personality profiles relevant to patients with ED, using inverted factor analysis (Q-analysis): High-functioning/perfectionistic, constricted/overcontrolled, and dysregulated/undercontrolled (Westen & Harnden-Fischer, 2001). These personality profiles have shown substantial evidence of reliability as well as concurrent and predictive validity with regard to adaptive functioning, ED symptoms, impulsivity, patterns of comorbidity, and treatment outcome in subsequent research (Morrison, 2001; Thompson-Brenner & Westen, 2002). The three personality styles can be summarized as follows:

High-functioning/Perfectionistic The patient is characterized by healthy attributes such as conscientiousness and empathy, as well as a combination of self-criticism, perfectionism, guilt, and anxiety.

Constricted/Overcontrolled The patient tends to be inhibited or constricted, to have a limited range of emotions, to blame herself for bad things that happen, and to have little psychological insight.

Dysregulated/Undercontrolled The patient tends to express emotion in exaggerated ways, to express intense and inappropriate anger, to become irrational when strong emotions are stirred up, to be unable to soothe or comfort herself when distressed, and to act impulsively.

Statistical Analysis

To aggregate the sexuality variables assessed from the CDF-ED, we ran a Principal Components Analysis (PCA) using a Varimax rotation, extracting components with eigenvalues > 1, and using the variance explained and scree plot to determine the number of factors to rotate. We then examined the correlations between the obtained principal components (hereafter referred to as factors, for simplicity) and ED diagnoses, symptoms, personality profiles, and selected developmental history variables. To examine overall differences among ED subgroups and to test specific hypotheses about differences between groups on sexuality variables, we used ANOVA. We used contrast analyses to test a priori hypotheses about the relationships between diagnoses assessed categorically and sexuality factors. Finally, to examine the incremental validity of personality in predicting sexuality dimensions above and beyond ED diagnosis, we ran a series of stepwise

multiple regressions, entering *DSM-IV* ED diagnoses (dummy coded present/absent) in the first step and dimensional measures of each of the three personality prototypes in the second. To obtain these dimensional scores, we corrlated each patient's 200-item SWAP-200 profile with the 200-item profile for each personality prototype identified by Westen and Harnden-Fischer (2001). Thus, patients' scores for each prototype reflect the correlation, or degree of match, between the patient's personality and the prototype.

RESULTS

Sample Characteristics

The sample comprised 234 clinicians who reported on 33 patients with ANR, 29 with binge-purge anorexia nervosa (ANBP), 86 with BN (we did not obtain enough nonpurging BN patients to subtype the BN group), and 86 with an EDNOS. Roughly 1/5 of the respondents were psychiatrists and 4/5 psychologists. Analyses yielded no differences between psychiatrists and psychologists, suggesting that neither professional training nor differential response rates significantly biased the pattern of findings. The majority of clinicians reported working in private practice (80%), although most reported secondary affiliations, with 32.3% working in a hospital setting (e.g., outpatient department, inpatient unit, or partial hospitalization program), 18% working in a clinic, and 6% working in school settings.

Patients averaged 29 years of age (*SD* 9.72) with mean GAF scores of 51.9 (*SD* 11.4). Most were middle class (63.4%), with an additional 20.7% of the sample described as upper class, and 16.0% as working class. The sample was 96% Caucasian, which is not unusual for an eating-disordered sample. Level of education was varied, with 16.4% having completed high school only, 29.9% having some college, another 29.5% with a college degree, and 21.4% with graduate level education. Patients had been seen in treatment for an average of 12.4 months (*SD* 8.8); thus, clinicians knew the patients well. There were no significant differences on demographic variables among the four ED groups except on GAF scores ($F=4.41$, $df=3$, $p=.005$), where patients with ANR had the lowest scores ($M=46.6$, $SD=13.3$) and those with BN the highest ($M=54.0$, $SD=10.2$). Although patients were currently being treated on an outpatient basis, 42% had a history of hospitalization, suggesting that the sample included patients with serious eating pathology.

Eating Disorder Symptoms and Sexuality

We first ran a Principal Components Analysis (PCA) on our sexuality variables for data reduction purposes and to maximize reliability of measurement. We labeled the principal components (factors) "*seductive sexuality*," "*healthy*

sexuality," "*destructive sexuality*," and "*childlike sexuality*". As can be seen from Table 1, these factors were coherent and readily interpretable. Together, the four factors accounted for 67% of the variance.

We assessed associations between sexuality factors and ED diagnoses (coded 0/1) and ratings of severity of ED symptoms using correlational analysis, which provides a readily interpretable measure of effect size (Table 2). The correlations for categorical ED diagnoses were generally small but in accord with prior clinical and empirical literature. Notably, ANR was negatively associated with healthy sexuality, whereas BN was positively associated with seductive sexuality and negatively with childlike sexuality. Severity ratings showed small, but slightly higher, correlations with sexuality variables and tended to produce a similar picture. Of note, however, was a medium to large correlation between a rating of interoceptive awareness of hunger and satiety and healthy sexuality. Analysis of lifetime history data (not reported in the table) showed similar patterns, with history of anorexic symptoms negatively associated with healthy sexuality ($r[228]=-.21$, $p=.002$) and positively correlated with childlike/prim sexuality ($r[228]=.17$, $p=.009$), and history of bulimic symptoms associated with both seductive and destructive sexuality ($r[228]=.14$ and .15, respectively, $p<.05$).

TABLE 1. Principal Components Analysis: Sexuality Variables

	Seductive	Healthy	Destructive	Childlike
Hypersexual	.88			
One-night stands	.85			
Flirtatiousness	.78			
Romantic relationship		.85		
Healthy sex		.77		
Asexual		–.57		
Adult abusive relationship			.82	
History of rape			.75	
Prim/proper				.83
Childlike				.55

TABLE 2. Correlations between Sexuality Factors and *DSM-IV* EDs and Symptoms

	Seductive	Healthy	Destructive	Childlike
AN-R	–.12	–.25**	–.09	.00
AN-BP	–.07	–.13	.06	.00
BN	.18**	.10	–.08	–.17*
EDNOS	–.05	.17*	.10	.17*
Percent of ideal body weight	.12	.17*	.00	–.14*
Binge frequency	.17*	.12	.06	–.20**
Purge frequency	.15*	.09	.16*	–.23**
Interoceptive awareness	.06	.41**	.11	.08

*$p < .05$, **$p < .01$.

Note: Binge severity, purge severity, and interoceptive awareness were measured using anchored rating scales.

Because the data lent themselves to hypotheses about patterns in the relations among ED diagnoses and the sexuality variables, prior to conducting the analyses above we used a priori contrasts to test focal one-tailed hypotheses (Rosenthal, Rosnow, & Rubin, 1999). For the seductive sexuality factor, we tested two alternative hypotheses: (1) ANR < both ANBP, EDNOS < BN, and (2)ANR, ANBP, EDNOS < BN. These hypotheses were strongly supported, although the first was a slightly better fit to the data ([1]: $t(110.38)=3.66$, $r=.33$, $p<.001$; [2]: $t(118.61)=2.91$, $r=.26$, $p<.01$). For the healthy sexuality factor, we tested two hypotheses: (1) ANR < ANBP, BN, and EDNOS, and (2) ANR, ANBP, BN < EDNOS. These hypotheses were equally supported ([1]: $t(48.41)=3.33$, $r=.43$, $p<.01$; [2] $t(144.10)=3.37$, $r=.27$, $p<.001$). For destructive sexuality, we hypothesized that ANR, EDNOS, BN < ANBP; this hypothesis was not supported ($p>.10$). For the childlike sexuality factor, we tested two alternative hypotheses: (1) ANR > ANBP, EDNOS > BN, and (2) ANR, ANBP, EDNOS > BN. The first hypothesis was not supported ($p>.10$), but the second received some support ($t(156.51)=2.08$, $r=.16$, $p<.05$).

Personality and Sexuality

Next, we correlated sexuality variables with personality variables (Table 3) using the three personality prototypes. The pattern of findings suggests clear links between sexuality and personality in ED patients. The high-functioning perfectionistic prototype was positively associated with healthy sexuality and negatively associated with seductive sexuality and destructive sexuality. The constricted/overcontrolled prototype was strongly negatively associated with healthy sexuality and positively associated with childlike sexuality. The emotionally dysregulated/undercontrolled prototype was particularly associated with seductive sexuality.

Incremental Value of Personality Styles in Predicting Sexual Attitudes and Behavior

To see whether personality style predicted variance in sexual attitudes and behavior above and beyond variance predicted by ED diagnosis, we used hierarchical linear regression to predict each of the four sexuality factors,

TABLE 3. Correlations between Sexuality Factors and Personality Prototypes

	Seductive	Healthy	Destructive	Childlike
High functioning/Perfectioninstic	–.23**	.33**	–.24**	–.08
Constricted/Overcontrolled	–.22**	–.42**	.13	.24**
Emotionally dysregulated/Undercontrolled	.36**	.03	.17*	–.17*

*$p < .05$, **$p < .01$.

TABLE 4. Predicting Sexual Attitudes and Behavior from Eating Diagnoses and Personality Styles using Hierarchical Linear Regression: Model Summaries

	R	R-Squared	F Change	Sig. F Change
Seductive				
Model 1 (ED diagnosis)	.22	.05	3.25	.02
Model 2 (ED diagnosis plus personality)	.47	.22	14.64	.0001
Healthy				
Model 1	.28	.08	5.84	.001
Model 2	.55	.30	20.58	.0001
Destructive				
Model 1	.15	.02	1.61	.188
Model 2	.30	.09	4.89	.003
Childlike				
Model 1	.18	.03	2.14	.097
Model 2	.34	.11	6.14	.001

entering ED diagnoses (dummy coded 0/1) in the first step and adding patients' scores on the three personality scales (i.e., their match to each of the three prototypes) in the second (Tables 4–5).

ED diagnosis alone predicted between 2% and 8% of the variance in sexuality factor scores, which was significant for two of the factors; however, adding personality to the equations produced substantially stronger predictions (Table 4). Interestingly, as suggested by the standardized beta weights (Table 5), adding personality as a second step and retaining all variables in the equation did not diminish the predictive power of ED diagnosis generally. At the same time, adding personality variables substantially and significantly increased prediction for all four sexuality factors, even though the personality styles bear some association to ED diagnosis in both this sample and the derivation sample (Westen & Harnden-Fischer, 2001).

TABLE 5. Predicting Sexual Attitudes and Behavior from Eating Diagnoses and Personality Styles using Multiple Regression: Standardized Betas

	Seductive	Healthy	Destructive	Childlike
Step 1				
AN-R	–.09	–.27**	–.14	–.07
AN-BP	–.03	–.17*	–.01	–.06
BN	.16*	–.01	–.13	–.20*
Step 2				
AN-R	–.02	–.24***	–.12	–.13
AN-BP	–.05	–.11	–.04	–.08
BN	.16*	–.02	–.14	–.18*
High functioning/perfectionistic	–.22**	.26***	–.16*	–.10
Constricted/overcontrolled	–.24***	–.35***	.11	.21**
Emotionally dysregulated/undercontrolled	.22**	.03	.11	–.18*

*$p < .05$, **$p < .01$, ***$p < .001$.

TABLE 6. Correlations between Sexuality Factors and Developmental History Variables

	Seductive	Healthy	Destructive	Childlike
Relationship with mother[a]	−.06	.09	−.20**	.01
Relationship with dad[a]	.02	.22**	−.24**	.00
Maternal adaptive functioning[a]	.02	.18**	−.22**	−.07
Paternal adaptive functioning[a]	.00	.29***	−.16*	.05
Mother's psychiatric history[b]	.07	.06	.25***	.04
Father's psychiatric history[b]	.11	−.11	.23**	.03
Stability of family environment[a]	.01	.17*	−.29***	.14*
Warmth of family environment[a]	.02	.15*	−.23**	−.08
Physical abuse[b]	.09	−.13*	.30***	.04
Sexual Abuse[b]	.09	−.20**	.32***	−.02
Promiscuity as teen[a]	.23**	.00	.38***	−.07

[a]Rated on a 7-point Likert scale; [b]Rated "absent," "unsure," or "present."
*P < .05, **P < .01, ***P < .001.

Sexuality and Developmental History in Patients with Eating Disorders

Finally, we were interested in looking at the association between the sexuality factors and selected developmental history variables, including both those of potential etiological significance and those that might indicate the extent to which current attitudes and behavior showed developmental precursors (Table 6). We highlight the important findings here, particularly where they form a clear pattern. Seductive sexuality only was associated with promiscuity as an adolescent, suggesting continuity of the behavior over time. Healthy sexuality was associated across the board with more positive experiences in childhood, and particularly with paternal functioning. Destructive sexuality showed the strongest correlates, showing significant correlations with all of the childhood history variables, particularly physical and sexual abuse, and showing precursors in adolescent promiscuity. Finally, childlike sexuality had only one weak predictor, stable home environment.

DISCUSSION

Within the limitations (described below) of this study the data support decades of clinical observation, theory, and research linking disordered eating with sexual attitudes and behavior, but they suggest that the link may be complex. Sexual attitudes and behaviors do appear to be associated with ED symptoms and diagnoses, as suggested by clinical theories and corroborated in several studies, but the correlations tend to be modest. Lower body weight and history of anorexic symptoms in ED patients are associated with more childlike and prim/proper sexuality, whereas greater purging (and to a lesser extent, bingeing) frequency and lifetime history of bulimic symptoms

are associated with seductive and destructive sexuality. That these findings emerged in a study using a very different method and source of informants than used in prior studies (a practice network study using clinician-informants who completed different questionnaires than used in prior studies of EDs and sexuality) suggests that these findings are reliable across methods and samples.

At the same time, a cross-cutting set of variables related to EDs, namely personality variables, appears to account for more variance in sexual attitudes and behavior than ED diagnoses or symptoms. Patients who are emotionally constricted and overcontrolled, who in this sample as in others tend to restrict their eating and to lack interoceptive awareness of hunger sensations, evidence a similarly restrictive sexual style. Patients who are emotionally dysregulated and undercontrolled, who in this study and in others tend to binge more, purge more, and gain weight more readily, manifest a similarly impulsive and self-destructive sexual style. Thus, for at least a subset of ED patients, broader patterns of impulse and affect regulation appear to express themselves in multiple realms of life, including eating symptoms and sexual attitudes and behavior.

Exploratory analyses suggest that problems with sexuality in ED patients need to be understood in their developmental context. Not only do adult sexual attitudes and behaviors in ED patients show continuity with childhood problems related to sexuality (e.g., adolescent promiscuity), but they also are associated with specific developmental experiences such as sexual abuse. The importance of developmental context is particularly relevant for patients with a greater propensity to enter into abusive relationships or to find themselves in unsafe sexual situations (which we labeled destructive sexuality, for the combination of self-destructiveness and vulnerability to the destructiveness of others). Patients high in destructive sexuality appear to have poor childhood relationships with both parents (particularly fathers), to grow up in unstable environments with more psychiatrically disturbed parents, and to have a history of physical and sexual abuse.

Like all studies, this one has its strengths and weaknesses. To our knowledge, this is the first investigation of personality variables linking sexuality to ED symptoms. In contrast to many prior studies of sexuality in EDs, which have relied primarily on anorexic and inpatient samples, the present sample drew from patients in treatment across North America and did not require that patient meet specific *DSM-IV* ED criteria; thus, the results are likely to be generalizable to the kinds of patients seen in clinical practice. The overall pattern of results was clear, theoretically coherent, and sensible in light of prior research.

Two primary limitations point the way toward future research. The first was the absence of a comprehensive measure of sexual attitudes and behaviors. Because this was the first study examining this topic using a practice network approach, we consider the results preliminary, and are working to

develop clinician-report measures of sexual attitudes and behavior that could be useful, both in research and in practice, for quantifying and tracking sexual pathology. The consistency with prior findings using very different methods, however, is certainly reassuring.

The second is the reliance on a single observer, the treating clinician, for all data on each patient. One potential concern is that clinicians may not know much about their patients' sexuality. However, fewer than 5% of clinician respondents either did not respond to the sexuality items or noted that they were unsure, suggesting considerable familiarity. Further, Thompson-Brenner and Westen (2002) recently have found that issues of sexuality are commonly addressed in treatment of patients with EDs in the community of every theoretical orientation. In addition, missing or unreliable data would likely attenuate findings, rather than augment them, increasing the probability of Type II, not Type I errors.

The other concern raised by clinicians providing all the data is that clinicians' intuitive theories may have affected their responding and hence produced inflated correlations. Three responses, however, mitigate this concern. First, research to date using psychometric instruments designed for clinician report, including this study, has not tended to find systematic biases related to theoretical orientation (Shedler & Westen, 1998, 2003). Even asking clinicians to describe a patient with a particular personality disorder, such as borderline personality disorder, does not tend to yield descriptions that closely mirror Axis II criteria using a personality disorder Q-sort, suggesting that clinicians, when asked to describe a specific patient using specific items, tend to reflect on the patient and not on a diagnostic prototype. Second, in the present study, such biases would have led to stronger correlations between sexuality variables and *DSM-IV* diagnoses than personality prototypes (and to larger correlations with *DSM* symptoms than the modest correlations we observed), given that clinicians can be expected to know about theories linking sexuality to anorexia or bulimia but not to personality prototypes first described in the published literature after most of the data had been collected. Finally, the use of a single informant to provide all data in a study is not unusual; the modal study of EDs (and indeed of all psychiatric disorders) relies on a single informant (the patient) to provide all the data, either through structured interviews or self-report questionnaires.

Clearly, however, future investigations should include a more comprehensive assessment of sexuality, and should include patient-report in addition to clinician-report data. More broadly, given the clear relation between sexuality and eating pathology, future studies of treatment for EDs should use sexual attitudes and behaviors, along with personality variables that address impulse and affect regulation, as outcome variables. Future treatment research also should compare current treatment strategies with treatments that target these broader personality patterns (which would likely require substantially longer than the 19–20 sessions characteristic of current

empirically-supported treatment manuals) alone and in combination with treatments that focus more specifically on eating behaviors and attitudes, to determine whether they have comparable or greater short-term and long-term effects.

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