Published in final edited form as:

Behav Med. 2017 ; 43(3): 200–207. doi:10.1080/08964289.2016.1276429.

Personality Disorders and Psychological Functioning Among Latina Women with Eating Disorders

Alyssa M. Minnick, M.S.¹, Fary M. Cachelin, Ph.D.¹, and Ramani Durvasula, Ph.D.²

¹University of North Carolina at Charlotte, Health Psychology Ph.D. Program

²California State University, Los Angeles

Abstract

Little is known about personality disorders (PD) and comorbidities amongst Latinas with eating disorders (ED). The dysregulation and chronicity of PDs can complicate and augment the symptomatology of EDs. This set of analyses provide a preliminary examination of PD and psychopathology in a sample of Latina women with ED. Participants ($N=34$) were administered the Structured Clinical Interview for the DSM, Eating Disorders Examination, and Millon Clinical Multiaxial Inventory-III to assess personality pathology, and questionnaires (BDI-II and BSI) to assess psychological functioning. Results indicated the most common clinically significant trait in the sample was Depressive personality (50% of the sample had a score of 75 or higher on this trait). For BN and BED, Avoidant (41%) and Depressive (65%) personalities, respectively, were the most common clinically significant traits. Anxiety disorders were the most common psychiatric diagnoses, and 52.9% of the sample reported both clinically significant PD traits and other major psychopathology. There were no significant differences between the BED and BN groups on prevalence of PD traits and psychopathology. This pilot study highlights the need for further examination of PD and psychopathology in Latinas with ED. Unlike previous research with White women, we found no differences on PD and psychopathology between BED and BN, and the most prevalent PDs among Latinas were different than White women. Personality and psychological functioning should be assessed in all patients with ED, with ongoing research focused on identifying patterns in understudied groups such as Latinas, a practice that may improve treatment for this underserved population.

Keywords

comorbidity; eating disorders; Latinas; personality; psychopathology

The lifetime prevalence of an eating disorder (ED) is 10% among women and men in the United States,¹ and two of the most prevalent eating disorders are Bulimia Nervosa (BN) and Binge Eating Disorder (BED).¹ Both of these eating disorders are characterized by episodes of binge eating, which include the consumption of an unusually large amount of food in a discrete period of time (i.e., 2 hours) with a sense of loss of control over eating. These objective binge episodes (OBEs) occur on a regular basis (i.e., at least 1 episode per

week over 3 months) in both disorders. In BN, binge eating episodes are also accompanied by subsequent compensatory behaviors, such as vomiting, the use of laxatives or diuretics, fasting, and/or excessive exercise, whereas those with BED do not compensate for the binge eating episodes.²

Given that BN and BED are common eating disorders, it is important to examine factors that contribute to their development and maintenance, such as comorbid personality disorders (PDs) and other major psychopathology. College students who reported disordered eating behaviors also reported higher levels of personality disorder traits (e.g., borderline traits) and psychological symptoms (e.g., depression, anger, and obsessive-compulsive behaviors) compared to those who did not report disordered eating.³ As many as 81.9% of eating disorder patients in one sample had at least one major psychiatric diagnosis, such as depression, anxiety, and substance use disorders, and 69% had at least one personality disorder diagnosis.⁴ In addition, a treatment study indicated that early improvements in ED symptomatology were related to greater improvements in personality disorder cognitions as well as depression and anxiety,⁵ suggesting an important interconnection between eating disorders and both personality disorders and psychopathology.

The dysregulation that typically accompanies personality disorders is congruent with that often observed in the eating disorders, particularly BN and BED. Borderline personality disorder, the PD that is most commonly comorbid with EDs,⁶ is associated with affective lability, interpersonal dysfunction and behavioral disinhibition. In this way, the presence of certain disordered personality patterns may magnify the symptomatology observed in BN and BED and complicate clinical management and long-term outcomes. For example, one study found that among patients with BED, those who had a current psychiatric comorbidity (mood, anxiety, or substance use disorder) had more severe ED symptoms, higher negative affect, and lower self-esteem, compared to those with a lifetime or no psychiatric disorder,⁷ all of which are factors that can influence the course and success of treatment. Moreover, in an intensive inpatient program for EDs, patients who did not make clinically significant improvements were more likely to have a comorbid borderline PD than those who had more successful treatment outcomes.⁸ Taken together, these findings demonstrate an important synergistic relationship between EDs, PDs, and other psychopathology that significantly influences treatment and outcomes.

Research further suggests not only that EDs, in general, are related to PDs and psychopathology but also that there may be significant differences in comorbidity across the ED diagnoses. More specifically, McGregor and Lamborn⁹ found that BN and Eating Disorder Not Otherwise Specified (EDNOS) patients (some of whom the authors noted would be diagnosed with BED if DSM-5 criteria were used) differed on their prominent personality traits. BN patients reported higher dominance, as well as depression and schizophrenia, compared to EDNOS patients; however, additional research is needed to examine differences between BN and BED specifically. In a systematic review that focused exclusively on BED, those with this disorder were more likely to have a comorbid PD than those without BED,¹⁰ indicating that BED, like BN and EDNOS, has an important relationship to PDs. This comorbidity is observed with greater frequency in the presence of psychological distress and amongst BED patients with depressive symptoms, 46% had a

comorbid personality disorder, whereas only 10% of BED patients without depressive symptoms had this same level of comorbidity.¹¹ The differences between BN and BED have been further supported by a meta-analysis which found that among BN patients, borderline and avoidant PDs were most common, whereas among BED patients, avoidant and obsessive-compulsive PDs were the most common. The authors of this meta-analysis note that there is a paucity of diversity in the research and most participants in the studies reviewed were White women.¹² Although this research provides important information on the relationships between EDs, PDs, and psychological functioning, findings may not be generalizable to diverse populations, such as Latina women, and additional research is warranted.

The reliability and validity of PD diagnoses have long been debated,¹³ and there is a dearth of literature examining PD traits in ethnically diverse populations, particularly Latinas.¹⁴ Similarly, EDs may be influenced by cultural factors,¹⁵ further emphasizing that cultural aspects are important to consider in such research. Because there is virtually no work examining PD or its associated symptomatology in ED and psychopathology amongst Latinas, the current pilot study is intended to provide a preliminary description of such patterns with the aim of generating hypotheses for further research in this area.

Of the limited literature that does focus on diverse populations, it is unclear whether or not Latinas with EDs have differing psychiatric comorbidities than White women. Similar to White women,¹² Latinas with BN reported clinically significant levels of avoidant personality traits,¹⁶ but they did not report clinically significant levels of borderline personality traits, which is highly comorbid among White women with BN.¹² Moreover, Latinas with BED reported clinically significant schizoid and dependent personalities,¹⁷ which is different than the patterns observed in White women.¹² Taken together, these findings suggest that there may be some similarities in personality comorbidities between Latinas and White women with EDs, but there also may be important differences; therefore, behavioral health practitioners and researchers cannot simply apply current research (which includes predominantly White women) when assessing and treating Latinas with EDs but must expand the literature to focus on this population. Therefore, the current pilot study expands the literature by providing a preliminary examination of comorbidities among Latinas with EDs, specifically comparing the presence of PD traits and psychological symptoms among Latinas with BN and BED.

Methods

Participants

A case-finding procedure, targeting individuals who self-identified as having problems with binge eating or overeating, was used to recruit participants by posting flyers and ads in educational and community organizations. Recruitment materials solicited Latinas experiencing problems with overeating or binge eating to participate in a women's health study. Respondents meeting eligibility criteria (i.e., female, Latina, ages 18–55, BMI ≥ 18, self-report of regular overeating quantified as eating in one sitting the equivalent of 2–3 meals or a bag of groceries) were assessed for current history of eating disorder. Exclusion criteria were current pregnancy, brain injury or impairment affecting recall or ability to

complete assessments, or serious medical condition or medical risk that would require immediate hospitalization. The participants were recruited as part of a larger randomized clinical trial to assess a guided self-help program for eating disorders; all data presented are baseline assessments collected prior to starting the intervention.

Ninety individuals were screened for eligibility resulting in a sample of 34 participants who completed all study assessments (17 with BED and 17 with BN). Each participant was compensated for her time with a \$50 gift card. Informed consent was obtained from all participants in writing, and American Psychological Association¹⁸ and University IRB requirements for the ethical treatment of human subjects in research were followed.

Procedures

All assessments were conducted in English. Interview assessments (demographic questions, Eating Disorder Examination, SCID) were conducted on the phone and questionnaire measures were completed in paper-and-pencil format, delivered to and received from participants via mail.

Demographic Information—Participants' self-reported ethnicity, generation status, age, marital status, number of children, income level (1 = less than \$25,000 yearly household income; 2 = \$25,000–\$49,999; 3 = \$50,000–\$99,999; 4 = \$100,000 or more), level of education, and occupation were assessed. *Socioeconomic status (SES)* was calculated based on participants' education and occupation according to Hollingshead's two-factor index of social position.¹⁹ A lower score indicates higher social status.

Body Mass Index—BMI was calculated as weight in kilograms/height² in meters on the basis of self-reported height and weight. Self-reported height and weight are largely reliable and accurate for overweight and obese women and few under-report their weight by > 10%.²⁰

Eating Disorder Diagnosis—The Eating Disorder Examination (EDE)²¹ is a semi-structured clinical interview that assesses eating disorders based on DSM criteria.² The interview focuses on the past 28 days and assesses the frequency of disordered eating behaviors, including binge eating, purging, fasting, laxative and diuretic use, and excessive exercise. The frequency of these behaviors over the past 3-months and 6-months is assessed in order to determine a diagnosis. The interview also assesses for maladaptive eating- and body-related attitudes, such as overvaluation of shape and weight, as well as distress about binge eating behaviors. The EDE has high discriminant and concurrent validity and reliability, and is considered to be the most reliable and comprehensive interview for assessing eating problems.²² Internal consistency of the EDE is good, with Cronbach's alpha of the five subscales ranging from .67 to .90. Inter-rater reliability has been reported to be very good in several studies, both for individual items ($r = .69$ to 1.00) and for the subscales ($r = .83$ to $.99$).²³ The reliable use of the EDE with Latina samples has been established, with Cronbach's alpha of the subscales ranging from .80 to .85.²⁴

Major Psychopathology—The Structured Clinical Interview for the *DSM-IV-TR* (SCID)²⁵ was used to establish the presence or absence of major psychiatric disorders. The

SCID is a widely used interview for detecting current and lifetime psychiatric disorders and has strong reliability and validity with Kappa coefficients for the disorders ranging from .70 to 1.00.²⁶ Studies have found that SCID telephone interviews and face-to-face interviews generate comparable diagnostic information.²⁷

Personality Disorder Traits—The 175-item Millon Clinical Multiaxial Inventory, Third Edition (MCMI-III)²⁸ is a self-report questionnaire that assesses personality pathology using a true-false format. The questionnaire items can be used to examine the presence and severity of 14 personality disorders and 10 clinical syndromes. Personality and Clinical Syndrome base rate scores of 75–84 indicate the *presence* of a personality trait or clinical syndrome. Scores of 85 or above indicate the *persistence* of a personality trait or clinical syndrome. This measure has demonstrated adequate internal consistency ($\alpha=.70-.80$), as well as divergent and convergent validity.²⁹ For this study, only the 14 personality trait scales were analyzed.

Depression—The 21-item Beck Depression Inventory (BDI-II)³⁰ is a self-report measure of symptoms of depression (i.e., sad affect, self-blame, vegetative symptoms, and changes in activity level). Sample items include “I feel guilty all of the time” and “I am too tired to do anything.” Total scores range from 0 to 63, with higher scores indicating more depressive symptoms. The BDI has strong test-retest reliability ($r=.93$) and discriminant and convergent validity³¹ and has been widely used in studies with Latino populations.

Psychological Distress—The Brief Symptom Inventory (BSI)³² is an 18-item self-report instrument that measures general psychological functioning and provides a General Severity Index. The instrument includes items such as degree of “Feeling tense or keyed up” and “Feeling fearful” over the past seven days. Total scores range from 0 to 72, with higher scores indicating poorer psychological functioning. The BSI has strong reliability and validity and has been used widely in treatment outcome studies with Latino populations. It has demonstrated construct validity and reliability amongst community samples of Latinas.

33

Data Analysis

Descriptive statistics were used to compare the sample on age, BMI, socioeconomic status, income level, number of children, ED symptomology, and generation status. To explore differences between BED and BN groups on PD, ED, and psychopathology symptoms, *t*-test and chi-square analyses were employed, with statistical significance set at $p < .05$. The study sample size ($N = 34$) yields adequate power for chi-square tests.³⁴ Power analyses indicate that *t*-tests with $n = 17$ per group yield a power of approximately .29, which is considered low.³⁵ Therefore, results should be viewed as pilot data aimed to generate hypotheses for future research.

Results

Overall, participants were well educated, with 88.2% completing at least some college and most participants were single (73.5%). Participants were between the ages of 19 and 45, with an average age of 28.3 years ($SD = 6.7$), and 61.8% were second generation in the US.

On average they reported household income levels of less than \$50,000 annually and 79.4% were overweight (BMI > 24.9), with an average BMI of 32.0 ($SD = 7.0$). Unpaired t -tests indicated a significant difference on BMI, with BED participants reporting higher BMI than BN participants ($t(32) = -3.20, p < .01$; there were no significant differences between groups on any other demographic variables, (all p values > .05). In addition, participants reported an average of 18.3 objective binge episodes (OBEs) in the past 28 days, and those with BN reported an average of 12.0 purging episodes (i.e., vomiting and/or the use of laxatives and/or diuretics) in the past 28 days. Participants reported moderate levels of weight and shape importance, and were moderately to greatly distressed about their binge eating behaviors (see Table 1).

Prevalence of clinically significant personality traits on the MCMI-III for the overall sample, as well as BN and BED groups, are shown in Table 2. While none of the overall group's mean scores met clinical thresholds (i.e., score over 75), there were individual participants who reported clinically significant personality disorder traits (i.e., scores of 75 and above). The most common clinically significant trait among *individual participants* in the overall sample was Depressive personality (observed in 50% of the sample), followed by Avoidant and Dependent personalities (each reported by 44.1% of the sample). The most common clinically significant trait reported by *individual participants* in the BN group was Avoidant personality (41.2%), while the most common clinically significant trait among *individual* BED participants was Depressive personality (64.7%), followed by Dependent (52.9%) and Avoidant (47.1%) personalities.

Anxiety disorders were the most common major psychiatric diagnoses in the overall sample, as well as in the BN and BED groups. In the overall sample, 20.6% reported more than one current psychiatric disorder, and 52.9% had both at least one clinically significant personality disorder trait and at least one major psychiatric disorder (see Table 3). Among the overall sample, 35.0% had clinically significant total scores (≥ 17) on the BDI-II. In addition, 23.2% of the overall sample had clinically significant total scores (T-score ≥ 63) on the BSI: 35.2% of the overall sample had clinically significant scores on the depression subscale, 32.2% on the anxiety subscale, and 38.1% on the somatization subscale (T-scores ≥ 63). Among BN participants, 23.6% and 29.5% reported clinically significant scores on the BSI and BDI-II, respectively, and among BED participants, 23.6% and 41.3%, respectively.

Comparison of BED and BN on Personality and Psychopathology

Univariate tests (ANOVA) revealed no significant differences between BED and BN on the two measures of psychological functioning (BDI and BSI) (all p values > .05). Multivariate analysis of variance (MANOVA) indicated no significant differences between BED and BN on the 14 MCMI-III PD traits, overall $F(14,19) = 1.11, p = .41$, Pillai's Trace = .45. Additionally, univariate ANOVAs showed no significant differences between the groups on any of the MCMI scales (all p values > .05). Similarly, chi-square tests of independence indicated no significant relationships between ED diagnosis (i.e., BED vs. BN) and the presence of a clinically significant personality trait (i.e., below 75 vs. 75+) on the 14 MCMI-III scales ($p > .05$) (see Table 2). BED (94.1%) and BN (94.1%) groups were equally likely

to have at least one clinically significant personality disorder trait (i.e., MCMI-III score of 75 and above), $\chi^2(1, N=34) = 0.00, p = 1.00$.

Using chi-square tests, there was no difference between BED and BN on the presence (yes/no) of a Mood, Anxiety, or Substance Use Disorder ($p > .05$; see Table 2). Again, BED (58.8%) and BN (58.8%) groups were equally likely to have at least one psychiatric diagnosis (based on the SCID), $\chi^2(1, N=34) = .00, p = 1.00$. There was also no significant difference (using a chi-square analysis) between diagnostic group and having comorbid personality and major psychiatric diagnosis (i.e., having at least one clinically significant PD trait *and* at least one psychiatric disorder; $p = 1.00$; see Table 2). Finally, the BED and BN groups did not differ significantly on their likelihood of having clinically significant scores on the three BSI subscales (all p values $> .05$).

Discussion

Results of this pilot investigation suggest that in this sample of Latinas with ED, specifically Bulimia Nervosa (BN) and Binge Eating Disorder (BED), nearly half endorse symptoms associated with the presence of significant depressive, avoidant and dependent personality traits, and there was no difference between BN and BED groups on endorsement of these symptoms. In addition, anxiety disorders were most prevalent in this sample. At the same time, no statistically significant differences were found between BN and BED on rates of psychiatric symptoms or diagnoses. Overall, while our findings are based on a small sample, they do suggest a profile of anxious, socially uncomfortable, and depressive styles in Latina women with these ED diagnoses; however, further research is needed to confirm this pattern of symptoms.

Previous research demonstrates that PDs and psychopathology are associated with EDs. Personality disorders may contribute to the etiology, maintenance and management of EDs due to the greater likelihood of behavioral instability, poor affective regulation, interpersonal distress, and diminished coping, and PD-ED comorbidity may be associated with poorer treatment outcomes.^{36,37} In this sample, PDs characterized by behavioral dysregulation *per se* (e.g., Borderline, Antisocial) were not prevalent; however, the PD patterns that did emerge as more common were characterized by anxious avoidance, fear of social evaluation, and depressed mood. In addition, there is little research examining PDs in ethnically diverse samples of women. Studies to date have focused almost exclusively on clinical samples of White women,¹² highlighting the need for further research that examines the relationship between these disorders among diverse populations, such as Latina women.

Previous research also suggests that among White women, there may be differences between BN and BED on PDs and problematic traits. For example, as many as 69% of one clinical sample of ED patients met criteria for at least one PD.⁴ The most common PDs in BN are borderline and avoidant, whereas BED appears to be associated with avoidant and obsessive-compulsive PDs.¹² The present study's results were only partly consistent with these previous findings. Overall mean scores for the MCMI-III were never above the clinical threshold of 75, however, in the case of some patterns (e.g., avoidant, dependent, depressive) – 40–50% of the sample did have scores over these thresholds. Avoidant and Dependent

patterns are associated with social anxiety and discomfort, and may also result from shame about eating patterns.³⁸ Shame and stigma are often highlighted as dynamics in Latino/a populations regarding mental illness and help seeking,³⁹ and the dynamic of shame may be a contributor to the higher rates of Avoidant traits in this sample. Although we did not examine acculturation and assimilation in this sample, patterns such as Dependent PD may point to cultural factors – as this personality dynamic and pattern highlights submissiveness, cognitive naiveté, lack of autonomy, and avoidance of conflict. These are all patterns that are often culturally reinforced in Latina women,⁴⁰ and as such, these elevations may represent a cultural congruity rather than pathology per se, but may also translate into a diminished willingness or ability to seek assistance for clinical issues such as EDs.

One possible explanation for our findings may be that the MCMI-III, which was developed with clinical samples of predominantly White individuals,²⁹ is not accurately capturing personality pathology of Latinas; thus, future research should examine the appropriateness of using the MCMI in assessing personality traits among this population. Another consideration is that previous research utilizing the MCMI, even among Latinas,^{16,17} included clinical samples, whereas the present study included a community sample which may be less severe in symptomatology; additional research is needed to investigate this possibility. Finally, the clinical picture of ED symptomatology in Latina women may represent a different cluster of family dynamic issues, culture, and other psychosocial issues than observed in other ethnic groups (particularly White women) and that result in PDs having differential associations with EDs. Future research is needed that examines samples of ethnically diverse women experiencing PDs and EDs in order to better understand culturally specific dynamics that may be at play.

The present pilot study also explored the presence of syndromal psychiatric disorders among Latinas with BN and BED. The results indicated that, overall, 23% of the sample reported clinically significant psychological distress (as measured by the BSI-18) and 35% reported clinically significant levels of depression. In addition, 41% of the sample was diagnosed with a comorbid anxiety disorder, followed by 18% with a mood disorder, and 12% with substance use disorder; there were no significant differences between BN and BED in the likelihood of having these psychiatric diagnoses. Furthermore, almost 53% of this ED sample had at least one major psychiatric diagnosis comorbid with at least one clinically significant PD trait. While there were no significant differences between BN and BED on the likelihood of having this comorbidity, a number of participants (i.e., almost 53%) did report all three conditions--i.e., an ED, PD trait(s), and major psychiatric disorder(s). This pattern suggests that eating disorders among Latinas may not only be independently related to personality pathology and psychopathology, but that in many individuals all three types of disorders are likely to be inter-related, which is consistent with previous findings with primarily White samples.¹¹ Further research with women with ED, especially ethnic minority women with EDs, is essential to discern not just relationships between personality and ED, but also the differential impacts of other major psychiatric disorders and symptoms on ED outcomes including prognosis, course, and treatment seeking and process. In general, these findings support the consistent finding that women with EDs often present with multifaceted psychiatric profiles, and as such treatment must address not simply eating patterns and body image distortion, but also other wide ranging psychiatric and psychosocial

issues. Overall, there is very limited research examining comorbidities among Latinas and further research is warranted to replicate these findings.

In interpreting the current study's findings, there are limitations that must be considered. First, this study utilized a small sample size, which renders it an exploratory examination, with the hopes of initiating future research. In addition, the small sample size also resulted in very small numbers of women who actually met thresholds for clinically significant personality patterns, and interpretation must be undertaken cautiously. Personality disorder symptomatology was indexed on the basis of clinically significant scores on the MCMI-III personality trait subscales; however, a clinically significant score alone cannot be used to make a psychiatric diagnosis of PD. Instead, future research should consider using more rigorous measurements, such as a structured clinical interview (e.g., Structured Clinical Interview for DSM-5 Personality Disorders), to obtain a clinical diagnosis of personality disorder(s). The absence of a comparison group of Latinas without PD limits the ability to determine whether these rates of participants with PD scores over the clinical threshold are a pattern observed in this group as a whole (e.g., whether Dependent and Avoidant patterns are more common in Latina women independent of ED). We did not assess other factors that could contribute to these personality patterns in Latinas with ED, including acculturation, assimilation, and dynamics including shame and stigma. Finally, PDs and their related symptomatology remain a complex issue of reliable and valid assessment, and operationalization of these traits remains elusive.

Conclusions

The present pilot study is one of the first studies examining the comorbidity of PD traits and psychological distress (i.e., major psychiatric disorders, depression, anxiety, and somatization) among Latinas with EDs, particularly BN and BED. Our results suggest that while additional research is required to clarify personality and psychological comorbidities among Latinas with EDs, practitioners and researchers should not assume that this population, as well as others from diverse backgrounds, experiences the same psychiatric comorbidities as White women. Behavioral medicine will want to incorporate the assessment of personality and psychopathology into treatment protocols for ethnic minorities with EDs, which will allow practitioners to gain a better understanding of the individual's overall well-being.

Acknowledgments

This research was funded in part by a grant from the National Institute of Mental Health (1SC1MH087975).

References

1. Hudson JI, Hiripi E, Pope HG, Kessler RC. The prevalence and correlates of eating disorders in the national comorbidity survey replication. *Biol Psychiatry*. 2007; 61:348–358. [PubMed: 16815322]
2. American Psychiatric Association. Diagnostic and statistical manual of mental disorders. 5. Arlington, VA: American Psychiatric Association; 2013.
3. Raynal P, Melioli T, Chabrol H. Personality profiles in young adults with disordered eating behavior. *Eat Behav*. 2016; 22:119–123. [PubMed: 27289047]

4. Braun DL, Sunday SR, Halmi KA. Psychiatric comorbidity in patients with eating disorders. *Psychol Med.* 1994; 24:859–867. [PubMed: 7892354]
5. Turner H, Marshall E, Wood F, Stopa L, Waller G. CBT for eating disorders: The impact of early changes in eating pathology on later changes in personality pathology, anxiety and depression. *Behav Res Ther.* 2016; 77:1–6. [PubMed: 26690743]
6. Sansone RA, Levitt JL, Sansone LA. The prevalence of personality disorders among those with eating disorders. *Eat Disord.* 2005; 13:7–21. [PubMed: 16864328]
7. Wilfley DE, Friedman MA, Dounchis JZ, Stein RI, Welch RR, Ball SA. Comorbid psychopathology in Binge Eating Disorder: Relation to eating disorder severity at baseline and following treatment. *J Consult Clin Psychol.* 2000; 68:641–649. [PubMed: 10965639]
8. Diedrich A, Schlegl S, Greetfeld M, Fumi M, Voderholzer U. Intensive inpatient treatment for bulimia nervosa: Statistical and clinical significance of symptom changes. *Psychother Res.* 2016; 25:1–16. [epub ahead of print].
9. McGregor MW, Lamborn P. Personality Assessment Inventory profiles of university students with eating disorders. *J Eat Disord.* 2014; 2:1–9. [PubMed: 24999424]
10. Gerlach G, Loeber S, Herpertz S. Personality disorders and obesity: A systematic review. *Obes Rev.* 2016; 17:691–723. [PubMed: 27230851]
11. Stice E, Agras WS, Telch CF, Halmi KA, Mitchell JE, Wilson T. Subtyping binge eating-disordered women along dieting and negative affect dimensions. *Int J Eat Disord.* 2001; 30:11–27. [PubMed: 11439405]
12. Cassin SE, von Ranson KM. Personality and eating disorders: A decade in review. *Clin Psychol Rev.* 2005; 25:895–916. [PubMed: 16099563]
13. Grove WM, Tellegen A. Problems in the classification of personality disorders. *J Pers Disord.* 1991; 5:31–41.
14. Krueger RF, Derringer J, Markon KE, Watson D, Skodol AE. Initial construction of a maladaptive personality trait model and inventory for DSM-5. *Psychol Med.* 2012; 42:1879–1890. [PubMed: 22153017]
15. Miller MN, Pumariega AJ. Culture and eating disorders: A historical and cross-cultural review. *Psychiatry.* 2001; 64:93–110. [PubMed: 11495364]
16. Martin Murcia FM, Cangas AJ, Pozo EM, Martinez Sanchez M, Lopez Perez M. Personality disorders in eating disorder patients. *Psicothema.* 2009; 21:33–38. [PubMed: 19178853]
17. Jauregui Lobera I, Santiago Fernandez ML, Estebanez Humanes S. Eating behavior disorders and personality: A study using MCMI-II. *Aten Primaria.* 2009; 41:201–206. [PubMed: 19328599]
18. American Psychological Association. Publication manual of the American Psychological Association. 6. Washington, DC: American Psychological Association; 2010.
19. Hollingshead AB, Redlich FC. Social class and mental illness: A community study. New York, NY: Wiley; 1958.
20. DeRoo LA, Jacobs SR, Sandler DP. Accuracy and reliability of self-reported weight and height in the Sister Study. *Public Health Nutr.* 2012; 15:989–999. [PubMed: 22152926]
21. Fairburn CG, Cooper Z. The eating disorder examination. In: Fairburn C, Wilson G, editors *Binge eating: Nature, assessment, and treatment*. 12. New York: Guilford Press; 1993. 317–360.
22. Rizvi SL, Peterson CB, Crow SJ, Agras WS. Test-retest reliability of the Eating Disorder Examination. *Int J Eat Dis.* 2000; 28:311–316.
23. Williamson DA, Anderson DA, Jackman LP, Jackson SR. Handbook of assessment methods for eating behaviors and weight related problems: Measures, theory and research. Thousand Oaks: Sage; 1995. Assessment of eating disordered thoughts, feelings, and behaviors. In: DB Allison, editor; 347–386.
24. Escursell RMR, Giral MM, Clarasó JT. Uso de la entrevista EDE para evaluar los trastornos alimentarios en población universitaria. *Psicología Contemporanea.* 2000; 7:36–47.
25. First MB, Gibbon M, Spitzer RL, Williams JBW. Structured Clinical Interview for DSM-IV-TR Axis I Disorders--Research version. New York: Biometrics Research Department, New York State Psychiatric Institute; 2001.

26. First MB, Gibbon M, Spitzer RL, Williams JBW, Benjamin LS. Structured Clinical Interview for DSM-IV-TR. Washington, D.C.: American Psychiatric Press; 1997.
27. Study Group on Anorexia Nervosa. Anorexia nervosa: Directions for future research. *Int J Eat Disord.* 1995; 3:235–241.
28. Millon T, Millon C, Davis R, Grossman S. MCMI-III Manual. 4. Minneapolis, MN: Pearson Education, Inc; 2009.
29. Strack S, Millon T. Contributions to the dimensional assessment of personality disorders using Millon's model and the Millon Clinical Multiaxial Inventory (MCMI-III). *J Personal Asses.* 2007; 89:56–69.
30. Beck AT, Steer RA, Brown GK. Beck Depression Inventory – Second Edition Manual. San Antonio, TX: Psychological Corporation, Harcourt, Brace; 1986.
31. Wiebe JS, Penley JA. A psychometric comparison of the Beck Depression Inventory-II in English and Spanish. *Psychol Asses.* 2005; 17:481–485.
32. Derogatis LR, Melisaratos N. The brief symptom inventory: An introductory report. *Psychol Med.* 1983; 13:595–605. [PubMed: 6622612]
33. Prelaw HM, Weaver SR, Swenson RR, Bowman MA. A preliminary investigation of the validity and reliability of the Brief-Symptom-Inventory-18 in economically disadvantaged Latina American mothers. *J Community Psychol.* 2005; 33:139–155.
34. VanVoorhis CRW, Morgan BL. Understanding power and rules of thumb for determining sample sizes. *Tutor Quant Methods Psychol.* 2007; 3:43–50.
35. Rosenthal R, Rosnow RL. *Essentials of Behavioral Research: Methods and Data Analysis.* McGraw-Hill; New York: 1984.
36. Reas DL, Rø Ø, Karterud S, Hummelen B, Pedersen G. Eating disorders in a large clinical sample of men and women with personality disorders. *Int J Eat Disord.* 2013; 46:801–809. [PubMed: 23983043]
37. Sansone RA, Fine MA. Borderline personality as a predictor of outcome in women with eating disorders. *J Personal Disord.* 1992; 6:176–186.
38. Grabhorn R, Stenner H, Stangier U, Kaufhold J. Social anxiety in anorexia and bulimia nervosa: The mediating role of shame. *Clin Psychol Psychot.* 2006; 13:12–19.
39. Kouyoumdjian H, Zamboanga BL, Hansen DJ. Barriers to community mental health services for Latinos: Treatment considerations. *Clin Psychol Sci Pr.* 2003; 10:394–422.
40. Andrés-Hyman RC, Ortiz J, Añez LM, Paris M, Davidson L. Culture and clinical practice: Recommendations for working with Puerto Ricans and other Latinas (os) in the United States. *Prof Psychol Res Pr.* 2006; 37:694–701.

Table 1

Descriptive Statistics for Demographic Variables

Variable	Group			
	Overall (<i>N</i> = 34)	BED (<i>n</i> = 17)	BN (<i>n</i> = 17)	
	<i>M</i> (<i>SD</i>)	<i>M</i> (<i>SD</i>)	<i>M</i> (<i>SD</i>)	
Age	28.3 (6.7)	28.8 (6.1)	27.9 (7.3)	
BMI ^{**}	32.0 (7.0)	35.4 (7.6)	28.6 (4.3)	
SES Score	3.3 (1.0)	3.2 (0.9)	3.4 (1.2)	
Income Level	1.8 (0.9)	2.0 (0.9)	1.6 (0.9)	
Number of Children	0.5 (1.0)	0.6 (1.0)	0.5 (1.1)	
Generation Status	2.1 (1.0)	2.1 (0.9)	2.2 (1.0)	
OBEs in past 28 days	18.3 (20.6)	15.9 (10.2)	20.8 (27.6)	
Purging Behaviors in past 28 days	12.0 (14.7)	N/A	12.0 (14.7)	
Weight Importance in past 28 days	4.1 (1.4)	3.9 (1.5)	4.2 (1.4)	
Shape Importance in past 28 days	4.5 (1.3)	4.5 (1.3)	4.5 (1.3)	
Distress about OBEs	3.8 (0.9)	4.1 (0.8)	3.6 (0.9)	

Note.^{**}
p < .01.

BED = Binge Eating Disorder. BN = Bulimia Nervosa. BMI = Body Mass Index. SES Score = Hollingshead's two-factor index of social position based on education and occupation; higher score indicates lower socioeconomic status. Income level: 1 = less than \$25,000 yearly household income; 2 = \$25,000-\$49,999; 3 = \$50,000-\$99,999; 4 = \$100,000 or more. Purging behaviors include vomiting and the use of laxatives and diuretics. Generation Status: 1 = 1st generation; 2 = 2nd generation; 3 = 3rd generation; 4 = 4th generation.

Table 2

Comparison of BED and BN on Personality Traits

	Group			
	Overall (<i>N</i> = 34)	BED (<i>n</i> = 17)	BN (<i>n</i> = 17)	
% of Clinically Significant MCMI-III Scales				
Schizoid	26.5 (9)	23.5 (4)	29.4 (5)	
Avoidant	44.1 (15)	47.1 (8)	41.2 (7)	
Depressive	50.0 (17)	64.7 (11)	35.3 (6)	
Dependent	44.1 (15)	52.9 (9)	35.3 (6)	
Histrionic	17.6 (6)	11.8 (2)	23.5 (4)	
Narcissistic	17.6 (6)	5.9 (1)	29.4 (5)	
Antisocial	11.8 (4)	17.6 (3)	5.9 (1)	
Sadistic	14.7 (5)	23.5 (4)	5.9 (1)	
Compulsive	2.9 (1)	0.0 (0)	5.9 (1)	
Negativistic	29.4 (10)	23.5 (4)	35.3 (6)	
Masochistic	20.6 (7)	23.5 (4)	17.6 (3)	
Schizotypal	2.9 (1)	0.0 (0)	5.9 (1)	
Borderline	23.5 (8)	29.4 (5)	17.6 (3)	
Paranoid	26.5 (9)	17.6 (3)	35.3 (6)	

Note. BED = Binge Eating Disorder; BN = Bulimia Nervosa. MCMI-III = Millon Clinical Multiaxial Inventory- 3rd Edition.

Table 3

Comparison of BED and BN on Psychological Functioning

Variable	Group			
	Overall (<i>N</i> = 34)	BED (<i>n</i> = 17)	BN (<i>n</i> = 17)	
	<i>M</i> (<i>SD</i>)	<i>M</i> (<i>SD</i>)	<i>M</i> (<i>SD</i>)	
BDI-II	16.9 (14.1)	17.4 (13.4)	16.4 (15.2)	
BSI	20.3 (17.9)	18.2 (14.4)	22.7 (21.5)	
Number of major psychiatric disorders	0.9 (1.1)	1.0 (1.3)	0.9 (0.9)	
	% (n)	% (n)	% (n)	
Mood Disorder	17.6 (6)	23.5 (4)	11.8 (2)	
Anxiety Disorder	41.2 (14)	47.1 (8)	35.3 (6)	
Substance Use Disorder	11.8 (4)	5.9 (1)	17.6 (3)	
% with personality and major psychiatric disorder comorbidity	52.9 (18)	52.9 (9)	52.9 (9)	

Note. BDI-II = Beck Depression Inventory, 2nd Edition; BSI = Brief Symptom Inventory.