THE GLASS HALF EMPTY: FILLING THE VOID ON THE EMPTINESS CRITERION OF BORDERLINE PERSONALITY DISORDER

A Thesis in Psychology

by

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Abstract

Chronic emptiness in borderline personality disorder (BPD) has received relatively little empirical attention, despite its association with psychosocial morbidity, potentially impacting diagnostic accuracy and psychotherapy effectiveness. Evidence suggests a causal relationship between identity diffusion in BPD and emptiness, wherein emptiness characterizes the experience of the un-integrated self. We examined the prevalence of chronic emptiness, and the association of emptiness with other BPD criteria and other measures of personality. We also sought to better understand the relative importance of emptiness in predicting a BPD diagnosis compared to other BPD criteria. Undergraduates enrolled in psychology courses ($N=22,217$) completed self-report scales as part of mass screening collected every semester. All participants completed the McLean Screening Instrument (MSI) for BPD and subsets completed the International Personality Disorder Examination—Screening Questionnaire (IPDE-SQ; Loranger, et al., 1997), The Revised NEO Personality Inventory (Anxiety, Angry Hostility, Depression, and Positive Emotions [reversed] facets; Costa & McCrae, 1992), and the Depression Anxiety Stress Scales (DASS; Lovibond & Lovibond, 1995) as validity indicators. Emptiness was endorsed by 10.0% of respondents. Emptiness and identity disturbance correlated most strongly of the criteria, $r(22,216) = .52, p < .001$. MSI-emptiness was moderately related to emptiness on the IPDE-SQ ($r(2,732) = .61, p < .001$). MSI-emptiness was more correlated with depression as measured by the NEO ($r(10,505) = .43, p < .001$) and DASS ($r(1,109) = .51, p < .001$) than by other personality facets related to negative affect and BPD. This criterion warrants further study and attention related to assessment of BPD.
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Introduction

Borderline personality disorder (BPD) is a serious mental health condition that is characterized by impulsive and self-damaging behavior, difficulty in regulating emotions, unstable interpersonal relationships, and unstable sense of self (American Psychiatric Association, 2013). BPD is common across the lifespan; Zanarini et al. (2011) found that around 6% of adults and 3% of children/adolescents in community samples met criteria for BPD and relevant literature estimates 10-20% of psychiatric outpatients and 20-40% of psychiatric inpatients meet diagnostic criteria for BPD (Levy & Johnson, 2016). Individuals with BPD have a higher likelihood of presenting for psychological treatment, using psychopharmacological drugs (e.g. anti-anxiety, antidepressant, mood stabilizing, and antipsychotic medications), and receiving greater amounts of psychological services (Bender et al., 2001). Utilization of such services yields a large financial cost to both individuals and to the healthcare system, with one study estimating a median price of over $3,000 out-of-pocket and over $12,000 billed to insurance each year (Goodman et al., 2011). Adding to the severity of this disorder is the associated level of lethality. A meta-analysis by Pompili et al. (2005) found that the rate of suicide across eight different studies of individuals diagnosed with BPD was significantly higher than that of the general population, and long-term follow-up studies of borderline patients found that 3-9% go on to complete suicide (McGlashan, 1986; Stone et al., 1987).

Given the high cost of this disorder to individuals and the healthcare system, its high prevalence in psychiatric populations, and its lethality, it is critical that clinicians are able to maximize efficiency in delivering an accurate diagnosis and triaging clients and patients to the treatment that promises the best outcomes for that individual. Delivering an accurate diagnosis of BPD, however, has proven difficult. Kernberg & Yeomans (2013) outline a number of challenges in differentiating between BPD and other disorders including major depressive
disorder, attention-deficit/hyperactivity disorder, narcissistic personality disorder, and perhaps most notably bipolar disorder. Individuals with BPD are often misdiagnosed as having bipolar disorder (Zimmerman et al., 2010; Zimmerman et al., 2018), more so than any other diagnostic group (Ruggero et al., 2010). This does not seem surprising considering the superficial overlap of various symptoms and characteristics that cut across the disorders, including impulsivity, anger, and suicidal behavior. Often clinicians rely on one especially salient characteristic that they feel is representative of the disorder in order to make the diagnosis; in the case of BPD this criterion is typically self-harm/suicidal behavior as this criterion is unique to the disorder. Symptoms that do not require immediate attention, such as chronic emptiness, do not convey this same urgency and thus receive relatively little clinical attention. Misdiagnosis can result in serious negative outcomes, including being prescribed psychiatric medications inappropriately and otherwise receiving improper care. Although self-harm and suicidal behavior may be the most obvious of BPD symptoms a client may report, it is important to consider other criteria that potentially differentiate between diagnoses.

**Chronic Feelings of Emptiness**

The BPD literature has thoroughly investigated several different criteria of BPD, namely suicidality (Yen et al., 2008; Klonsky et al., 2003), impulsivity (Lawrence et al., 2010; Whiteside & Lynam, 2001), and affective instability (Koenigsberg et al., 2002; Trull et al., 2008), but relatively less research has explored the chronic feelings of emptiness construct (see Klonsky, 2008 for an exception). Over a decade has passed since Klonsky’s study was published, and there remains a significant gap in our empirical knowledge about this criterion. In his study, Klonsky found that emptiness was associated with feelings of hopelessness, loneliness, and isolation, and posited that emptiness may play a role in the development of suicidal ideation. Alternatively, relevant theoretical literature suggests that chronic feelings of emptiness represent
the experience of individuals who suffer from identity diffusion (similar to the identity disturbance criterion of BPD\(^1\)), the inability to adequately distinguish between “the self” and “the other” (Kernberg, 1993). Emptiness also appears to cut across many areas of psychopathology, including narcissism and depressive disorders (Levy, 1984).

Notably, many have described significant difficulty in evaluating the presence of emptiness in clinical samples (Widiger et al., 1995). Although interview-based assessments of chronic emptiness, including the Structured Interview for DSM-IV Personality (SIDP-IV; Pfohl et al., 1997), the International Personality Disorder Examination (IPDE; Loranger et al., 1997), and screening measures such as the McLean Screening Instrument for Borderline Personality Disorder (MSI-BPD; Zanarini et al., 2003) employ face-valid questions, they often leave the respondent confused and uncertain about the meaning of the term. Widiger et al. (1995) provide recommendations in their interview manual for additional descriptors that can be provided in the case that a person does not understand what is meant by term, emphasizing an absence of meaning or purpose.

What else does the empirical literature tell us about chronic feelings of emptiness in BPD? Historically, emptiness has been conceptually associated with “boredom” and was even included in the DSM-III definition of the criterion (American Psychiatric Association, 1980). Klonsky (2008), however, found that the hypothesized boredom aspect of BPD emptiness was indeed likely distinct from other affective states that have been more strongly associated with

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\(^1\) The terms identity disturbance and identity diffusion are similar, but with fundamental differences. Identity disturbance is the term used by the DSM, an unstable sense of self that may result in frequently shifting goals and values (APA, 2013). The concept of identity disturbance evolved out of the collective work of Kernberg, Adler & Buie, among others, and is viewed as broader than that of identity diffusion. Kernberg coined the term the “syndrome of identity diffusion” (1993, p. 12). Similar to the DSM concept of identity disturbance, Kernberg saw identity diffusion as part of borderline personality organization and is characterized by an inability to integrate positive and negative representations of the self and others in relation to the self. This lack of integration results in the patient having an unstable sense of themselves and difficulty with commitments to roles, career, values, and problems with self-other boundaries that can result in tumultuous relationships that are typical of individuals with BPD (de Meulemeester et al., 2017).
emptiness (e.g. hopelessness, loneliness), supporting the change in language over time. In a study investigating aspects believed to overlap between depression and BPD, Rogers et al. (1995) found that boredom was not associated with borderline pathology.

Research suggests that there may be gender differences in rates of chronic emptiness in the context of BPD (Benson et al., 2017; Hoertel et al., 2014; Zanarini et al., 2011), with the majority of findings suggesting that women endorse the symptom at higher rates than men, although childhood and adolescent emptiness may be a sentinel symptom in development of BPD in adolescent boys (Goodman et al., 2013).

Researchers have also found that other models of personality pathology may not closely capture the construct of chronic emptiness; in a study predicting presence of DSM-5 Section III traits from presence of DSM-5 BPD criteria chronic emptiness was the only trait that yielded no significant association (Bach & Sellbom, 2016). In this case, the authors suggested that this symptom may be better conceptualized within a framework of overall level of dysfunction, such that presence of emptiness would be indicative of greater psychopathology on the whole but not with any particular disorder presentation. In contrast, others have argued that a lack of self/identity is at the core of BPD, without which the disorder is not likely to occur, and that this “self system” in BPD is comprised of identity disturbance, fear of abandonment, and chronic feelings of emptiness (Meares, 1993; Meares et al., 2011).

Above all else, perhaps, is the question of clinical significance – do chronic feelings of emptiness predict certain outcomes for individuals, with or without BPD, seeking treatment? Ellison et al., (2015) conducted a study examining a group of individuals seeking psychiatric treatment who endorsed only one criterion of BPD compared to individuals who endorsed no criteria. They found that only the emptiness criterion was independently associated with all eight different indices of psychosocial morbidity measured, including: unemployment, poorer social
functioning, having increased numbers of comorbid psychopathology, disability status, and suicidality. It should be noted that this study was only able to analyze data for chronic emptiness, impulsivity, affective instability, and anger, as these were the only items that occurred frequently enough in the sample in isolation. Importantly, this study was unable to determine causality or temporal precedence, and it remains unclear if chronic emptiness may be antecedent to such outcomes or a product of them. Research also suggests that less behavioral features of BPD such as emptiness may be more prevalent in older adults than in younger adults; in a large outpatient sample of individuals with BPD, chronic emptiness was reported in 65% of young adults (age 18-25) and was reported in 85% of older adults (age 45-68) (Morgan et al., 2013). In a longitudinal study of BPD, chronic emptiness was found to have the longest median time to remission (between 8 and 10 years), along with chronic anger, of 24 symptoms assessed (Zanarini et al., 2007). Korner et al. (2008) found that in a sample of BPD patients those who were randomly assigned to receive two years of psychotherapy rather than one year saw continued and greater improvement in emptiness, suggesting that these characteristics may be slow to change in treatment. A one-year follow-up study measuring outcomes of interpersonal and vocational functioning found that chronic emptiness is significantly positively associated with amount of work missed and negatively associated with improvement in psychosocial functioning (Miller et al., 2018). Finally, expanding beyond individuals diagnosed with BPD, a study comparing suicide ideators to suicide attempters found that chronic emptiness appeared in higher rates in suicide attempters (Pérez et al., 2017).

Although there is much to be learned about chronic feelings of emptiness as it relates to various clinical presentations, preliminary questions related to psychometric properties of the items currently used to assess this construct can be studied in a broad, non-clinical population. In a large representative sample, we can observe secular changes in the endorsement of emptiness,
patterns of responding to items on repeat administration, and relative contributions of different items in predicting a diagnosis of BPD. A more complete understanding of the function of these items can provide useful information about the emptiness construct and the utility of these assessments that will inform future studies that are more specific and less exploratory in nature, and which may help to refine the construct definition and provide a greater understanding of where it falls in a nomological network of psychopathology.

**Objectives**

The chronic feelings of emptiness criterion remains a poorly understood symptom of BPD, and reportedly occurs transdiagnostically as well as in non-clinical samples. As such, it is important that researchers and clinicians develop a more complete understanding of this symptom in order to aid in making diagnoses, developing effective treatment plans, and making accurate judgments as to the severity of various forms of psychopathology. Using a convenience sample of undergraduate students screened for BPD, this study seeks to 1) explore self-report items of chronic feelings of emptiness in terms of their rates of endorsement, 2) explore psychometric properties of the item, and 3) determine its validity by assessing the association between chronic feelings of emptiness and other BPD criteria as well as other personality traits. Based on relevant theoretical and empirical literature related to feelings of emptiness, the authors have formulated the following hypotheses:

H1: Repeat administrations of the MSI-BPD (Zanarini et al., 2003) will demonstrate adequate test-retest reliability, as evidenced by a moderate-strength correlation at time 1 and time 2, and the MSI-BPD and IPDE – Screening Questionnaire (IPDE-SQ; Loranger et al., 1997) will demonstrate convergent validity between one another, as evidenced by a moderate-strength correlation between items.
H2: There will be a stronger positive association between self-reported emptiness and identity disturbance than between emptiness and each of the other BPD criteria. There will also be a stronger positive association between self-reported identity disturbance and emptiness than between identity disturbance and each of the other BPD criteria.

The authors further plan to explore the relation between emptiness and other personality facets on the NEO Personality Inventory (NEO; Costa & McCrae, 1992) as well as the prevalence of chronic feelings of emptiness in a large non-clinical sample of college undergraduates.
Method

Participants

The sample consisted of 22,217 undergraduate students from a large rural public mid-Atlantic university who participated in subject pool screening between 2008 and 2019. The sample was 64.5% women and the modal age was 18 (range = 18-55, mean = 18.77, SD = 1.75). Due to the nature of the screening process, many demographic details are not available; however, the sample is believed to be representative of the general university population; 66% of students identify as White, with 7% or fewer identifying as either Hispanic/Latino, African American, Asian American, multiracial, or other.

Procedure

Data were obtained from participants who completed self-report measures as part of an undergraduate psychology subject pool online screening process from the spring of 2008 to the spring of 2019. Participants were granted research credit as part of their coursework for completing the screening battery. Participants completed the McLean Screening Instrument for BPD (MSI-BPD; Zanarini et al., 2003), a self-report measure of BPD symptoms. Subsets of participants also received further research credit for completing supplementary measures and interviews used to measure convergent validity in this study, including a second administration of the MSI-BPD by an interviewer over the phone within the same semester timeframe. All procedures were approved by the university’s Institutional Review Board.

Measures

Chronic emptiness was measured using the MSI-BPD (Zanarini et al., 2003) and the International Personality Disorder Examination – Screening Questionnaire (IPDE-SQ; Loranger et al., 1997). The MSI-BPD is a 10-item screening tool that contains one item assessing for chronic feelings of emptiness (“have you chronically felt empty?”), which was administered to
all participants in the screening process. The item is measured dichotomously with a yes/no response. In total, this screening tool assesses for each of the nine criteria of BPD. A subset of individuals also completed the IPDE-SQ for BPD, which also contained one item assessing for chronic feelings of emptiness (“I often feel ‘empty’ inside”), which was measured dichotomously. Both the MSI-BPD and the IPDE-SQ have demonstrated strong psychometric properties.

Subsets of participants who completed the screening process also provided data measuring personality traits of negative affectivity (Depression Anxiety Stress Scales [DASS]; Lovibond & Lovibond, 1995) and other personality facets related to BPD (The Revised NEO Personality Inventory [NEO]—Anxiety, Angry Hostility, Depression, Positive Emotions [reversed], and Impulsivity facets; Costa & McCrae, 1992), and another subset was screened a second time via telephone using the MSI-BPD (Zanarini et al., 2003) to determine inclusion in another study. The DASS is a 42-item self-report measure that measures state levels of depression, anxiety, and stress, over the past week; items responses range from 0 (“did not apply to me at all”) to 3 (“applied to me very much, or most of the time”). The NEO is a self-report measure and responses are rated on a 5-point Likert-type scale where higher values indicate greater levels of the trait.
Data Analysis

Frequency of endorsement of self-reported emptiness was examined over a multiple year period using the MSI-BPD described earlier. For the MSI-BPD data is typically collected twice a year. Changes in rates of endorsement of emptiness were examined using regression analysis.

Test-retest reliability of the MSI-BPD emptiness item was calculated using a Pearson correlation in a subset (N = 141) of participants who participated in subsequent studies. We examined the raw and corrected item-total correlations for each of the BPD criteria to further test the reliability of the emptiness criterion relative to other criteria.

We aimed to evaluate the validity of the MSI-BPD emptiness item by examining the pattern of correlations with collateral measures and with other MSI-BPD criteria. Convergent and divergent validity was determined by examining the pattern of correlations between emptiness items with NEO facets corresponding to negative affect, impulsivity, anger, depression, and anxiety, as well as to negative states of depression, anxiety, and stress on the DASS. Although chronic feelings of emptiness in BPD is theoretically different from emptiness that may be more associated with depressive disorders (Levy, 1984), it is hypothesized that participants endorsing this item will be more likely to endorse higher levels of trait- and state-level depression (rather than anxiety or stress) due to its theoretical association with depressive disorders. Because the causal pathway between emptiness and these types of psychopathology is not well established we ran the models to predict endorsement of emptiness from convergent measures and also to predict endorsement of convergent measures from emptiness. Among BPD criteria, we predict that the strongest zero-order correlation will occur between identity disturbance and chronic emptiness given that they are theoretically linked.

Finally, we sought to better assess the relative strength of endorsement of the emptiness criterion in contributing to greater levels of BPD pathology. We planned to conduct a logistic
relative weight analysis (Tonidandel & LeBreton, 2011) in order to test the strengths of the different MSI-BPD criteria; however, when running the model, it appeared to yield “perfect” prediction of the outcome and was not able to provide results about the relative weights of the items. Instead, we tested the relative predictive validity of emptiness compared to other BPD criteria in predicting borderline psychopathology by comparing tetrachoric correlations between different MSI-BPD items and the dichotomous BPD outcome. BPD diagnosis was a dichotomous outcome, determined by the presence of six or more reported symptoms on the MSI-BPD. For this analysis, the sample was split in two equal halves, each consisting of 50% of those in the larger sample with a likely BPD diagnosis and 50% of those without a likely BPD diagnosis. The second sample served to confirm results found in the first sample.
Results

We examined the changing prevalence of emptiness over time (Figure 1). The total endorsement of emptiness was 10.0% and the average endorsement per semester was 9.9%. No statistically significant change in emptiness over time was detected ($\beta = 0.08, t(21) = 1.63, 95\% \text{ CI} [9.88, 10.08], p = .12$), although the data show a small increase, such that for each subsequent semester there is about a 0.1% increase in chronic feelings of emptiness. This was not true when examining rates of endorsement as a function of self-reported gender identification. Mean emptiness in females was 10.3% whereas mean emptiness in males was 8.9%. There was a significant increase in reported emptiness in those identifying as female, ($\beta = 0.13, t(21) = 2.22, 95\% \text{ CI} [9.91, 10.15], p = .04$), and no significant change in emptiness was detected in those identifying as male ($\beta = -0.04, t(21) = -0.81, 95\% \text{ CI} [9.75, 9.96], p = .43$). Fewer than five individuals reported a gender identity other than male or female per semester and thus we were unable to assess changes in this group.
After examining the rates of endorsement of emptiness, we wanted to examine the reliability of the reports of emptiness as measured by the MSI-BPD. Thus, we examined the test-re-test reliability between participants’ self-report made directly to the measure with their report to an interviewer who delivered the measure. Test-retest reliability was examined in 141 participants who completed the MSI-BPD in a self-report format and later were administered the same items again verbally via telephone. The correlation between the two ratings was $r = .53$, demonstrating a moderate linear association.

In order to explore the construct validity of the emptiness criterion, we examined the correlation between the IPDE-SQ and the MSI-BPD emptiness items, and the pattern of associations of MSI-emptiness with the DASS and specific NEO scales that were administered as part designs from previously administered studies (see Scott et al., 2013). The IPDE-SQ was examined in a subset of the overall sample ($N = 2,732$) and was moderate in strength ($r = .61$), demonstrating adequate convergent validity between items.
As aforementioned it was hypothesized that the DASS and specific facets of the NEO would to be related to BPD. The DASS was administered to a subset of participants (N = 1,110) and was examined at the facet level in connection with chronic emptiness. In a model using emptiness to predict the depression facet score of the DASS, a greater proportion of the variance in emptiness was accounted for \( R^2 = .26 \) than in models predicting either the anxiety \( R^2 = .15 \) or stress \( R^2 = .14 \) facet scores from emptiness (see Appendix Table 1. with zero-order correlations). In a model using all three DASS facets to predict emptiness, depression scores also accounted for the most unique variance \( R^2_{\text{partial}} = .13 \) relative to anxiety \( R^2_{\text{partial}} = .00 \) and stress \( R^2_{\text{partial}} = .00 \) which accounted for virtually no unique variance. Depression was also the only predictor in the model to reach statistical significance \( \beta = 0.02, t(1,109) = 12.58, 95\% \text{ CI } [0.01, 0.02], p < .001 \)

The NEO was administered to a subset of participants (N = 10,506) and was examined at the facet level in connection with chronic emptiness. Results were consistent with findings on the DASS as emptiness was most correlated with NEO depression \( r = .46 \), difference between this correlation and next largest correlation between emptiness and another NEO facet yields \( Z = 14.05 \) relative to other facets (see Appendix Table 2. with zero-order correlations). In models using emptiness to predict NEO facets, we found that depression \( R^2 = .19 \) was best predicted by the emptiness criterion relative to all other facets assessed \( R^2 = .04 - .07 \), although all models did reach statistical significance \( p < .001 \). In a model predicting emptiness from all five NEO facets assessed, depression accounted for the most unique variance \( R^2_{\text{partial}} = .09 \) and was a statistically significant predictor \( \beta = 0.16, t(10,501) = 31.49, 95\% \text{ CI } [0.01, 0.02], p < .001 \); in this model, aside from depression, only the positive emotionality facet reached statistical significance \( \beta = -0.03, t(10,501) = 6.90, 95\% \text{ CI } [-0.04, -0.02], p = <.001 \) and was somewhat
negatively predictive of emptiness \( (r = -0.21) \), but did not account for any unique variance in the model \( (R^2_{\text{partial}} = 0.00) \).

As hypothesized, MSI-emptiness and MSI-identity were more correlated with each other than with any other BPD criteria \( (r = 0.53) \), difference between this correlation and next largest correlation between emptiness or identity and any of the remaining criteria yields \( Z = 22.48 \), in line with relevant psychodynamic theory (see Appendix Table 3. with zero-order correlations).

Item-total correlations were calculated in the full sample for all those who had complete data \( (N = 22,192) \). Raw item-total correlations ranged from \( r = 0.49 \) - 0.71, and emptiness was correlated at \( r = 0.63 \) with the sum of endorsed items (see Appendix Table 4. with item-total correlations). The differences in correlations indicate a small effect of emptiness (difference of \( \leq 0.1 \) ) as a better predictor of the total items endorsed over self-harm/suicidality and unstable relationships, and that the effect size is comparable to all other criteria. This difference was consistent when calculating the corrected item-total correlation (including only common variance in the prediction of the outcome) and in the dropped item-total correlation (removing all of the variance associated with the item in the prediction of the outcome).

Because the MSI is scored true-false, or absent-present, tetrachoric correlations (see Appendix Table 5. with correlations for all criteria) were calculated to determine the relative strength of the association between endorsement of a BPD criterion and the outcome of having a likely BPD diagnosis. Chronic emptiness had the highest correlation with BPD in sample two \( (r = 0.86) \) and had the second highest correlation with BPD in sample 1 \( (r = 0.85) \) after affective lability \( (r = 0.86) \).
Discussion

The present report seeks to add to the limited empirical literature on the construct of chronic feelings of emptiness. Although the concept has long been of clinical interest and has a prominent place across a broad array of disorders from borderline personality (Klonsky, 2008) to depression (Levy et al., 2007) and schizophrenia spectrum disorders (Zanderson & Parnas, 2019), there is a relative paucity of data on the concept. In the present study, using data collected as part of a screening process for a number of studies (see Scott et al., 2013, for an example) and collateral measures used in those studies, we were able to examine various properties of the chronic feelings of emptiness criterion of BPD in an archival sample of undergraduate students. We examined the prevalence of self-reported emptiness in the sample, measured reliability of the MSI-BPD emptiness item by testing its relation to another single-item measure and its temporal stability, determined validity of the emptiness item by assessing the association between chronic feelings of emptiness and other BPD criteria as well as other personality traits related to BPD and negative affect, and analyzed the relative importance of the item in predicting a diagnosis of BPD as compared to other BPD criteria.

Chronic emptiness was endorsed by about 10% of the sample. There did not appear to be a significant change in endorsement of emptiness over time in the overall sample, suggesting that these data may accurately reflect the base rate in a predominately non-clinical undergraduate population; however, there was a significant increase in emptiness in women. The data in the current study finds a higher rate of endorsement of emptiness in women relative to men, as has been found previously, but expands upon this to show that the rate is not only higher but is also increasing. As such, emptiness appears to be a fairly common experience that likely occurs in individuals with and without borderline pathology. The chronic emptiness item, as assessed using the MSI-BPD, appears to be moderately reliable with a similar single-item measure within
the IPDE-SQ, and appears to be similarly reliable upon a repeat administration within 3 months of the original test. As predicted, chronic emptiness was consistently more associated with reported trait- and state-level experiences of depression than with other related constructs (e.g. anxiety, stress, impulsivity). Also, as predicted, emptiness and identity disturbance demonstrated a stronger inter-item correlation than did both emptiness with any other BPD criterion and identity disturbance with any other BPD criterion. Finally, chronic emptiness appears to provide relatively high predictive validity in determining an outcome of having a likely BPD diagnosis in this population, yielding the highest correlation between a single criterion and BPD across split samples.

The consistent endorsement of emptiness over the past decade in this population suggests that this symptom is likely stable and perhaps less prone to change as a result of environment or historical factors. Other criteria in this sample, such as self-harm behavior, have demonstrated higher incidence over time (Rosenstein & Levy, 2019), possibly due to actual increases in these behaviors or due to reduced stigma around reporting of these behaviors; given the steady rate of emptiness found in the current study it is unlikely that actual rates of emptiness have changed nor that there is any significant stigma around reports of feeling empty. Future studies may benefit from a more comprehensive assessment of emptiness to better understand whether or not there may be changes in experiences of certain kinds of empty feelings or if there may be a normative experience of emptiness that is not being captured.

Moderate-strength estimates of test-retest reliability and convergent validity suggest that there is some variability in the response to the MSI-BPD emptiness item; while some participants appear to truly experience and report chronic feelings of emptiness others may be reporting more of an empty state. This may also speak to the vague definition of ‘empty’ that can be interpreted a variety of ways by a respondent; for example, someone experiencing a breakup may be feeling
empty interpersonally, likely a temporary state, whereas someone who is consistently uncertain about their goals and interests may experience a more chronic emptiness related to an unconsolidated identity. The items available do not differentiate between potential antecedents to emptiness, allowing the participant to report any experiences of emptiness regardless of relevance to the construct of BPD. A more comprehensive measure of emptiness would serve to improve the reliability of measurement of this construct and provide greater qualitative information, which may be especially useful in a clinical setting.

The association of emptiness to depression, although anticipated, is important to consider more closely. The literature suggests that emptiness has been previously connected to other feelings that are common in depressed individuals, such as feeling hopeless or lonely. It is currently unclear as to what degree of overlap exists between these constructs and feelings of emptiness, or whether feelings of emptiness may come about as a result of hopelessness or loneliness. For example, feelings of emptiness could be seen as a defense against the distressing feeling of being interpersonally isolated, allowing one to numb themselves and avoid this social pain. Another important construct to differentiate between would be anhedonia. Are anhedonic individuals reporting a lack of pleasure as emptiness? It seems plausible that an inability to derive fun and joyful feelings from activities may lead one to assume that they are empty, devoid of emotion or feeling. Another important consideration is the chronicity of empty feelings in those who experience higher levels of depression. In this group, where episodes of depression are likely as are periods of remission, are feelings of emptiness limited to periods of more intense depression or do they occur outside of episodes as well? The cross-sectional nature of the study does not allow us to examine this directly; however, it may be hypothesized that feelings of emptiness that have been described in those with personality disorders may be fundamentally different from that of those with mood disorders.
In line with relevant psychodynamic theory, chronic emptiness and identity disturbance do demonstrate a stronger relation than do emptiness or identity with other markers of BPD. Individuals with BPD are believed to experience feelings of emptiness in response to the various instabilities present in their lives, to include instability in identity, experience of mood, interpersonal and romantic relationships, and behavior. Difficulties across these domains make it nearly impossible to experience a sense of fulfillment and comfort in one’s daily life; Levy (1984) describes this in greater detail, stating “convictions, enthusiasms, and relatedness to others all seem lost and replaced by feelings of deadness, boredom, and superficiality,” (p. 388), highlighting the experience of the resulting discomfort with these instabilities. It is important to note the correlational nature of these data, and to emphasize that the direction of this relationship is unclear.

Emptiness does appear to provide high predictive validity in determining those more likely to be diagnosed with BPD, although not significantly more so than several other BPD criteria. The data do show across samples a small effect size over that of the unstable relationships criteria, which is likely due to higher endorsement of unstable relationships in this population and in individuals without BPD. Because it does have the highest correlation with an outcome of BPD, the utility of the emptiness criterion for screening purposes should be considered and may be useful in discriminating among other forms of psychopathology.

Primary strengths of the current study include a large sample size that is representative of a typical American college population, long-term data collection permitting the analysis of changes over time in responses to emptiness items, and the capacity to look at important psychometric properties of the item and measure of interest. Findings in this sample are likely to be robust and generalizable across samples of college students, a population likely to seek counseling and psychological services. Results of the current study suggest that clinicians
working with college students reporting feelings of emptiness should consider the differential between a mood disorder and a personality disorder closely, and focus their attention in these diagnostic categories.

There are several limitations to the current study. First are the single item measures of emptiness, which are somewhat vague in nature. It is unclear whether participant responses reflect presence of both the experience feelings of emptiness and a chronic experience of such feelings, or if instead they may be referring to a more temporary empty state at the time of completing the survey. Second, the participants are from a non-clinical sample. Although the sample size is large enough to capture many individuals who are likely to experience a range of BPD symptoms and other forms of psychopathology, a study of a clinical sample with a larger age-range would likely provide greater external validity and be more relevant to the study of a symptom believed to occur primarily in the context of a personality disorder. Finally, the study relies on self-report measures. Although certain validity checks were in place to ensure honest and effortful reporting, participants may have misunderstood the items of interest and may have systematically over- or under-reported symptoms. Trained interviewers would likely improve reliability and validity of reporting on these items in future studies.

Future studies would benefit from a focus on qualitative experiences of chronic emptiness in individuals with BPD. The current items used to measure emptiness are narrow in scope and can be difficult for a respondent to grasp. Creation of a measure that would capture greater variance in feelings of emptiness would provide greater clinical utility and better distinguish between diagnostic groups. Future studies would also benefit from a prospective design that is meant to track symptoms of emptiness over time. Studies using ecological momentary assessment may be able to better connect antecedent events to subsequent feelings of more acute
emptiness. Recruitment of groups with personality disorders and with mood disorders would also provide greater information about how feelings of emptiness may differ between samples.
References


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https://doi.org/10.1037/a0012532


Appendix

Table 1. Pearson Correlations Between MSI-BPD Emptiness and DASS Facet and Total Scores

<table>
<thead>
<tr>
<th>Variable</th>
<th>1.</th>
<th>2.</th>
<th>3.</th>
<th>4.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. MSI-BPD Emptiness</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. DASS Depression</td>
<td>.51</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. DASS Anxiety</td>
<td>.38</td>
<td>.73</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>4. DASS Stress</td>
<td>.38</td>
<td>.76</td>
<td>.82</td>
<td>1</td>
</tr>
<tr>
<td>5. DASS Total</td>
<td>.46</td>
<td>.91</td>
<td>.92</td>
<td>.94</td>
</tr>
</tbody>
</table>

*Note. All ps < .001. N = 1110.*
Table 2.

Pearson Correlations Between MSI-BPD Emptiness and NEO Facets

<table>
<thead>
<tr>
<th>Variable</th>
<th>1.</th>
<th>2.</th>
<th>3.</th>
<th>4.</th>
<th>5.</th>
</tr>
</thead>
<tbody>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. NEO-DEPa</td>
<td>.43</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. NEO-ANXa</td>
<td>.26</td>
<td>.62</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. NEO-ANGa</td>
<td>.25</td>
<td>.52</td>
<td>.46</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>5. NEO-IMPa</td>
<td>.21</td>
<td>.47</td>
<td>.41</td>
<td>.45</td>
<td>1</td>
</tr>
<tr>
<td>6. NEO-POSa</td>
<td>-.21</td>
<td>-.35</td>
<td>-.16</td>
<td>-.32</td>
<td>-.06</td>
</tr>
</tbody>
</table>

*Note.* DEP = depression, ANX = anxiousness, ANG = anger, IMP = impulsivity, POS = positive emotionality. All *ps* < .001.

*Pa* N = 10,506.
Table 3.

Pearson Correlations Between MSI-BPD Items

<table>
<thead>
<tr>
<th>Variable</th>
<th>1.</th>
<th>2.</th>
<th>3.</th>
<th>4.</th>
<th>5.</th>
<th>6.</th>
<th>7.</th>
<th>8.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Emptiness</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Identity disturbance</td>
<td>0.53</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Unstable relationships</td>
<td>0.19</td>
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<td></td>
<td></td>
<td></td>
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<tr>
<td>4. Self-harm/suicidality</td>
<td>0.33</td>
<td>0.30</td>
<td>0.17</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>5. Impulsivity</td>
<td>0.28</td>
<td>0.28</td>
<td>0.24</td>
<td>0.29</td>
<td>1</td>
<td></td>
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<td></td>
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<tr>
<td>6. Affective lability</td>
<td>0.36</td>
<td>0.34</td>
<td>0.27</td>
<td>0.28</td>
<td>0.43</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Anger</td>
<td>0.32</td>
<td>0.31</td>
<td>0.26</td>
<td>0.26</td>
<td>0.41</td>
<td>0.51</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>8. Dissociation/paranoia</td>
<td>0.36</td>
<td>0.36</td>
<td>0.26</td>
<td>0.27</td>
<td>0.36</td>
<td>0.39</td>
<td>0.43</td>
<td>1</td>
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<tr>
<td>9. Abandonment</td>
<td>0.38</td>
<td>0.35</td>
<td>0.27</td>
<td>0.31</td>
<td>0.35</td>
<td>0.38</td>
<td>0.33</td>
<td>0.35</td>
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</table>

Note. All *p* < .001. *N* = 22,217.
Table 4.

Item Total Correlations Between MSI-BPD Items

<table>
<thead>
<tr>
<th>Variable</th>
<th>Raw</th>
<th>Corrected</th>
<th>Drop</th>
<th>Mean</th>
<th>SD</th>
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<tbody>
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<td>.43</td>
<td>.14</td>
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<td>2. Self-harm/suicidality</td>
<td>.53</td>
<td>.48</td>
<td>.48</td>
<td>.08</td>
<td>.27</td>
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<tr>
<td>3. Impulsivity</td>
<td>.67</td>
<td>.59</td>
<td>.61</td>
<td>.27</td>
<td>.44</td>
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<td>4. Affective lability</td>
<td>.71</td>
<td>.66</td>
<td>.66</td>
<td>.18</td>
<td>.39</td>
</tr>
<tr>
<td>5. Anger</td>
<td>.69</td>
<td>.63</td>
<td>.64</td>
<td>.22</td>
<td>.41</td>
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<tr>
<td>6. Dissociation/paranoia</td>
<td>.68</td>
<td>.61</td>
<td>.62</td>
<td>.25</td>
<td>.43</td>
</tr>
<tr>
<td>7. Emptiness</td>
<td>.63</td>
<td>.61</td>
<td>.58</td>
<td>.10</td>
<td>.30</td>
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<td>8. Identity disturbance</td>
<td>.62</td>
<td>.59</td>
<td>.57</td>
<td>.12</td>
<td>.32</td>
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<tr>
<td>9. Abandonment</td>
<td>.65</td>
<td>.60</td>
<td>.59</td>
<td>.15</td>
<td>.36</td>
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<tr>
<td>10. Total</td>
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<td>--</td>
<td>--</td>
<td>1.50</td>
<td>2.08</td>
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Note. N = 22,192. Raw item-total correlation indicates uncorrected correlation between item and total score. Corrected item-total correlation indicates correlation between item and total score in which only communal variance shared by the item with others is retained. Drop item-total correlation indicates correlation between item and total score in which all variance from the item, including shared variance, is removed.
Table 5.

Tetrachoric Correlations Between MSI-BPD Items and Likely BPD Diagnosis

<table>
<thead>
<tr>
<th>BPD Item</th>
<th>Sample 1</th>
<th>Sample 2</th>
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<tbody>
<tr>
<td>1. Unstable relationships</td>
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<tr>
<td>2. Self-harm/suicidality</td>
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<tr>
<td>3. Impulsivity</td>
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<td>4. Affective lability</td>
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<td>.84</td>
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<tr>
<td>5. Anger</td>
<td>.84</td>
<td>.83</td>
</tr>
<tr>
<td>6. Dissociation/paranoia</td>
<td>.82</td>
<td>.82</td>
</tr>
<tr>
<td>7. Emptiness</td>
<td>.85</td>
<td>.86</td>
</tr>
<tr>
<td>8. Identity disturbance</td>
<td>.83</td>
<td>.84</td>
</tr>
<tr>
<td>9. Abandonment</td>
<td>.82</td>
<td>.84</td>
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</tbody>
</table>