

# Identity Disturbance and Problems With Emotion Regulation Are Related Constructs Across Diagnoses

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**Objective:** This study examined the relation between identity disturbance and emotion dysregulation in a cross-diagnostic sample. We assessed whether these constructs are related and relevant beyond borderline personality disorder (BPD). **Method:** We recruited 127 participants who completed measures assessing identity disturbance, emotion dysregulation, anxiety, and depression. The sample included primarily depressed adults meeting criteria for multiple diagnoses as well as psychiatrically healthy participants. **Results:** Identity disturbance was significantly higher among psychiatric participants with and without BPD compared to healthy controls. Emotion dysregulation was a significant predictor of identity disturbance, even when controlling for BPD diagnosis, depression, and anxiety. In particular, clarity in emotional situations and problems using emotion regulation strategies were most closely related to identity disturbance. **Conclusion:** The results of this study suggest that future research should examine identity disturbance and its relation with emotion regulation transdiagnostically. © 2014 Wiley Periodicals, Inc. *J. Clin. Psychol.* 71:346–361, 2015.

Keywords: identity disturbance; emotion dysregulation; depression; transdiagnostic

## *Identity Disturbance*

The concept of identity is intuitive, yet it has proven difficult to define or measure (Westen & Heim, 2003). Theorists define identity broadly in terms of how one understands oneself (Baker, 1897) or others (Boodin, 1912) and more specifically by identifying key components of identity, including constructs such as (a) gender and ethnic identity (Schwartz, Zamboanga, Weisskirch, & Rodriguez, 2009), (b) social identity (Smith-Lovin, 2007), (c) ideal versus real and feared identity (Westen, 1985), (d) self-concept, (Markus & Nurius, 1986), (e) identity consolidation and confusion (Erikson, 1968), and (f) identity diffusion (Akhtar, 1984).

The developmental trajectory of one's identity is complex, is influenced by early childhood relationships (Arseth, Kroger, Martinussen, & Marcia, 2009), evolves in adolescence and emerging adulthood, and continues to develop throughout lifetime (Erikson, 1956; Syed & Seiffge-Krenke, 2013). Identity formation does not require an identity crisis; rather, it progresses slowly over time (Meeus, 2011) and is context dependent (Ontorato & Turner, 2004; Kelly & Rodriguez, 2006). Over time, people are believed to alternate between exploration of their identity, which can be stressful and may lead to psychological problems, and sustained commitment to their identity (Brook, Garcia, & Fleming, 2008; Schwartz et al., 2009). Of direct relevance to mental health, the construct of identity includes finding meaning in life and understanding one's fit in the world (Wilkinson-Ryan & Westen, 2000).

Identity disturbance reflects problems with identity that become pathological by creating a “markedly and persistent unstable self-image or sense of self” (American Psychological Association, 2013, p. 664). Kernberg included identity disturbance in his first descriptions of borderline

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personality organization (1975), and the construct was included in the borderline personality disorder (BPD) diagnosis as it was defined in the Diagnostic and Statistical Manual of Mental Disorders Third Edition (DSM-III; APA, 1980), DSM-IV (APA, 1994), and DSM-5 (APA, 2013). Identity disturbance, assessed in criterion three (“identity disturbance”) and seven (“feelings of emptiness”), is a core diagnostic feature of BPD, a severe psychological disorder marked by a pervasive pattern of instability in interpersonal relationships, self-image, affect, and behavior (APA, 2013).

Empirical findings indicate that identity disturbance is a core factor underlying the BPD pathology (Besser & Blatt, 2007; Carlson, Egeland, & Sroufe, 2009; de Bonis, De Boeck, Lida-Pulik, & Feline, 1995; de Bonis, De Boeck, Lida-Pulik, Hourtane, & Feline, 1998; Jørgensen, 2009; Lynum, Wilberg, & Karterud, 2008; Modestin, 1987; Nejad, Kheradmand, & Toofani, 2010; Sanislow, Grilo, & McGlashan, 2000; Westen, Betan, & Defife, 2011; Widiger, Hurt, Frances, Clarkin, & Gilmore, 1984). Furthermore, identity disturbance is positively correlated with psychopathology severity and self-injurious behavior (Levy, Edell, & McGlashan, 2007; Yen et al., 2004) in BPD samples. Therefore, identity disturbance is a serious and life-threatening mental health problem, especially for individuals who meet diagnostic criteria for BPD.

### *Emotion Dysregulation*

Emotion dysregulation has been defined as having difficulties with six aspects of emotional experience: (a) not accepting negative emotions, (b) difficulty pursuing goal-directed behaviors, (c) lack of impulse control in emotional situations, (d) lack of regulation strategies, (e) problems with emotional awareness, and (f) lack of emotional clarity (Gratz & Roemer, 2004). Like identity disturbance, emotion dysregulation was first associated theoretically with a BPD diagnosis (see Linehan, 1993; Livesley, Jang, & Vernon, 1998) and significant empirical evidences has accumulated to support this relationship (Chapman, Leung, & Lynch, 2008; Glenn & Klonsky, 2009; Gratz & Gunderson, 2006; Iverson, Follette, Pistorello, & Fruzzetti, 2012; Kuo & Linehan, 2009; Levine, Marzilli, & Hood, 1997; Rosenthal, Kosson, Cheavens, Lejuez, & Lynch, 2008; Salsman & Linehan, 2012).

Unlike identity disturbance, emotion dysregulation has not been included in any DSM-5 description of psychopathology (APA, 2013); its relevance has been supported transdiagnostically (e.g., Aldao, Nolen-Hoeksema, & Schweizer, 2010; Cisler, Olatunji, Feldner, & Forsyth, 2010; Kring & Werner, 2004; Li et al., 2008; Neacsiu, Bohus, & Linehan, 2013; Werner & Gross, 2010; Thorberg, Young, Sullivan, & Lyvers, 2009) and its independence from BPD has been established (e.g., Neacsiu, Eberle, Kramer, Weismann, & Linehan, 2014).

### *Identity Disturbance and Emotion Dysregulation*

Within the BPD literature, theorists have argued that identity disturbance is an emotion dysregulation problem. Linehan (1993) states that having difficulties with emotion regulation leads to insufficient understanding of emotions and preferences, which may produce a pattern of overreliance on others to solve emotional crises. As a result, adults with BPD have difficulty knowing what to do, what they like, and who they are, which, in essence, means that they have an unstable identity. Furthermore, the tendency to inhibit emotions, a maladaptive emotion regulation strategy, may contribute to identity disturbance by causing numbness, emptiness, and feelings of self-inadequacy (Kernberg, 1975; Linehan, 1993). Adults diagnosed with BPD are also thought to identify fully with the affective state of each moment, leaping from one moment to the next without the continuity of a narrative identity (Fuchs, 2007). Therefore, the emotion of each moment strongly influences the identity of an individual diagnosed with BPD and results in a lack of a continuous sense of identity (Fuchs, 2007; Linehan, 1993).

Empirical support for the connection between identity disturbance and emotion dysregulation in BPD is emerging. For example, Wilkinson-Ryan and Westen (2000) found evidence that distress about identity problems was specifically common among people diagnosed with BPD, who were characterized by emotion dysregulation. Similarly, results from other studies

indicate that identity disturbance is positively correlated with negative affectivity (Lenzenweger, McClough, Clarkin, & Kernberg, 2012), affective instability (Sanislow et al., 2000; Koenigsberg et al., 2001), and emotional problems (Hawes, Heyler, Herlianto, & Willing, 2013) in adults diagnosed with BPD. Therefore, identity disturbance may be an emotion dysregulation problem in BPD, although more research assessing this relationship is needed.

### *Identity Disturbance as a Transdiagnostic Construct*

As is the case for emotion dysregulation, evidence also suggests that identity disturbance may not be a characteristic that is unique to BPD. First, even within BPD samples, identity disturbance is connected to problems that are not specific to BPD. For example, depression severity was a significant predictor for decreased self-esteem (Lynum et al., 2008; Rüsch et al., 2006) and meeting criteria for major depressive disorder (MDD) uniquely predicted identity disturbance (Dammann et al., 2011; Levy et al., 2007) in BPD samples.

Second, identity disturbance has been reported among adults with a range of psychiatric problems. Research suggests that identity disturbance is correlated with a heightened risk for substance use disorders (SUDs; Rao, Vasudevan, & Nammalvar, 1981), problematic use of substances in sexual minorities (Talley, Tomko, Littlefield, Trull, & Sher, 2011), and high anxiety in adolescents (Crocetti, Klimstra, Keijsers, Hale, & Meeus, 2009). Having an unclear sense of self has also been correlated with neuroticism, a marker for depression (Campbell et al., 1996), and has been shown to lead to stronger internalization of maladaptive standards for attractiveness in women, but not in men, which may in turn lead to eating disorders (Vartanian, 2009). In addition, theory has connected identity disturbance with dissociative disorders (Alpher, 1992; Brenner, 1996; Prince, 1906), schizophrenia (Boulanger, Dethier, Gendre, & Blairy, 2013), and almost all types of personality disorders (Lynum et al., 2008; Modestin, Oberson, & Erni, 1998; Westen et al., 2011).

Taken together these findings suggest that problems with identity may be a transdiagnostic factor associated with a wide range of psychiatric problems. Nevertheless, the significance of identity disturbance as a transdiagnostic problem independent from BPD is difficult to ascertain because most studies assessing this construct in psychiatric samples did not control for BPD. Therefore, an examination of identity disturbance alone and of its relationship with emotion dysregulation across mental health disorders, controlling for BPD, is warranted.

### *Current Study*

The aim of the present study was to better understand the relationship between identity disturbance and difficulties with emotion regulation outside of a BPD-specific sample. We tested (a) whether identity disturbance is common in adults with a psychiatric diagnosis who do not meet criteria for BPD, and (b) whether emotion dysregulation is associated with identity disturbance in this sample over and above expected predictors, including gender (Besser & Blatt, 2007), age (Modestin, 1987), education (Lawrence, 1984), ethnicity (Meeus, 2011), depression severity (Levy et al., 2007), anxiety severity (Crocetti et al., 2009), and BPD severity (Jørgensen, 2009). We explored whether particular facets of emotion dysregulation are predictors of identity disturbance, and whether meeting criteria for a DSM disorder or meeting criteria for BPD are moderators of the identity disturbance–emotion dysregulation relationship.

## **Methods**

### *Participants*

We recruited 129 men and women between 18 and 60 years of age as part of a larger study investigating emotion regulation in MDD. Brochures and flyers targeted a community sample interested in participating in a laboratory-based study about emotions. We advertised separately for adults with no psychiatric problems, adults who were depressed, and adults who had attempted suicide. Therefore, the sample targeted both healthy and depressed adults.

Advertisements were conducted in hospital and community inpatient and outpatient clinics and on dedicated websites (e.g., Craigslist). All participants filled out the required self-report measures for this study, although not all qualified for the parent study. We excluded two participants who were actively manic or psychotic during the in-person assessment, leaving a final sample of 127 participants, who were healthy or who met criteria for any DSM disorder except for bipolar I and psychotic disorders.

### Measures

*Structured Clinical Interview for DSM-IV Axis I Disorders Patient Version (SCID-I; First, Spitzer, Gibbon, & Williams, 1995).* The SCID-I is a semistructured interview with high face validity used to make DSM-IV Axis I diagnoses. The interview is divided into six self-contained modules, which were administered in the suggested sequence: mood episodes; psychotic symptoms; psychotic disorders; mood disorders; substance use disorders; and anxiety, adjustment, and other disorders. The language of SCID-I criterion items closely resembles that of DSM-IV criteria. Assessors rate each item as 1 (*absent*), 2 (*subthreshold*), or 3 (*threshold*), and logic patterns embedded in the interview help assessors make accurate diagnoses. The interview has excellent psychometric properties (e.g., inter-rater reliability for 151 interviews across 16 raters ranged from .61 to .83; Lobbetael, Leurgans, & Arntz, 2011).

*Structured Clinical Interview for DSM-IV Personality Disorders (SCID-II; First, Gibbon, Spitzer, Williams, & Benjamin, 1997).* The SCID-II was used to assess DSM-IV-TR personality disorders. Participants first completed the SCID-II Personality Questionnaire (SCID-II-PQ), a 119-item self-report that assesses the presence of specific personality disorder diagnostic symptoms. Items endorsed on the SCID-II-PQ were further evaluated using the standard SCID-II interview. This two-stage assessment process is commonly conducted, with studies suggesting a low false-negative rate for nonendorsed SCID-II-PQ items (Jacobsberg, Perry, & Frances, 1995).

*Borderline Identity Disturbance Self-Report (BIDS; Herr, Hughes, Neacsiu, & Rosenthal, 2014).* The BIDS is a 7-item self-report adaptation of the clinician-rated measure created by Wilkinson-Ryan and Westen (2000). Participants rate their own experiences (e.g., “I feel empty inside”) on a 4-point Likert scale ranging from 1 (*false*) to 4 (*very true*). The total score is computed as the sum of all items. The BIDS has strong psychometric properties. In a sample of undergraduates, the BIDS had good internal consistency (Cronbach's  $\alpha = .82$ ) and excellent test-retest reliability over a 5-week period (Pearson's  $r = .77$ ; Herr et al., 2014).

In the current study, a principal component analysis with a varimax rotation indicated that all BIDS items loaded on one factor that explained 62.32% of the total variance. All items had high loadings onto this factor (ranging from .62 to .87), indicating that none of the items needed to be removed. Cronbach's  $\alpha$  for the BIDS was excellent (.90). Validity was established using the SCID-II identity disturbance and emptiness items (assessed as part of the BPD module). Spearman's rho correlations indicated acceptable convergent validity for the identity disturbance total score,  $\rho = .50$ ;  $\rho = .66$ , respectively,  $ps < .01$ .

*Difficulties in Emotion Regulation Scale (DERS; Gratz & Roemer, 2004).* The DERS is a 36-item self-report measure of individuals' typical levels of emotion dysregulation across six domains. These domains include (a) not accepting negative emotions, (b) difficulty pursuing goal-directed behaviors, (c) lack of impulse control in emotional situations, (d) lack of regulation strategies, (e) problems with emotional awareness, and (f) lack of emotional clarity. Participants respond on a Likert-type scale ranging from 1 (*almost never*) to 5 (*almost always*). A psychometric study of the DERS found high internal consistency (Cronbach's  $\alpha = .93$ ), good test-retest reliability ( $r = .88$ ,  $p < .01$ ), and adequate construct and predictive validity (Gratz & Roemer, 2004). The total score and subscale scores correspond to sums of relevant items. In the present study, Cronbach's  $\alpha$  for the total score was .96.

*Beck Anxiety Inventory (BAI; Beck & Steer, 1990).* The BAI is a 21-item self-report measure that assesses the severity of physical or cognitive symptoms of anxiety experienced in the previous week. Participants rate the severity of each symptom on a 4-point Likert-type scale ranging from 0 (*not at all*) to 3 (*severely, "It bothered me a lot"*). A total score falls within one of four ranges: low (0–9), middle-to-moderate (10–18), moderate-to-severe (19–29), and severe (30–63) anxiety. The BAI has good psychometric properties, including high internal consistency ( $\alpha = .92-.94$ ), good test-retest reliability over 7–11 days ( $r = .75-.67$ ), and good discriminant validity (Beck, Steer, & Carbin, 1988; Fydrich, Dowdall, & Chambless, 1992). In the present study, Cronbach's  $\alpha$  for the total score was .95.

*Beck Depression Inventory (BDI-II; Beck, Steer, & Brown, 1996).* The BDI is a 21-item self-report measure of depression severity, in which participants rate various depression symptoms and attitudes experienced over the past few days on a 0 to 3 scale. The BDI total scores fall within one of five ranges: low (1–10), mild to borderline (11–20), moderate (21–30), severe (31–40), and extreme (41–63) depression. Psychometric evaluations of the BDI-II found high internal consistency among college students (.93) and psychiatric outpatients (.92) and adequate evidence of validity (Beck et al., 1996). In the present study, Cronbach's  $\alpha$  was .96.

### *Procedures*

Participants were recruited from the community in a southeastern urban area using flyers, pamphlets, and online ads within a large medical center setting. The study advertised seeking participants who were emotionally dysregulated, had attempted suicide, and were depressed, or who did not have any current or past psychological problems. Interested participants were first assessed by phone and were excluded if they were younger than 18 or older than 60 years of age, if they were receiving electroconvulsive shock treatment, or if they reported current manic, psychotic, or severe substance dependence symptoms.

Eligible participants were invited to an in-person interview, where they completed self-report measures and participated in a comprehensive diagnostic assessment that included the structured clinical interviews. Three bachelor's- and master's-level assessors trained to reliability with the clinic gold standard conducted the assessment. Inter-rater reliability was not assessed. All participants provided written informed consent and were compensated for the assessment (\$50). The Duke University Medical Center Institutional Review Board approved the study protocol.

### *Data Analysis*

To test the hypothesis that participants without BPD who meet criteria for a DSM disorder have significant identity problems, we separated the sample into three groups: participants who (a) met full diagnostic criteria for BPD (including co-occurring disorders), (b) met full diagnostic criteria for any other DSM-IV-TR disorder but did not meet full criteria for BPD (anyDSMnoBPD), and (c) did not meet current or past criteria for any psychiatric disorder (healthy controls). We conducted a one-way multivariate analysis of variance assessing between-group differences in identity disturbance, emotion dysregulation, depression severity, and anxiety severity. We hypothesized that healthy controls would be significantly different in their self-reported identity disturbance than both psychopathology groups. To investigate the relationship between emotion dysregulation and identity disturbance, we conducted a correlation and three linear regression analyses across all participants. Because we planned five primary analyses, we used a Bonferroni correction to account for inflation of Type I error and assessed all results at a significance level of  $.05/5 = .01$  level.

In addition to the primary analyses, we planned to explore moderators of the relationship between emotion dysregulation and identity disturbance. Two variations to the hypothesis 2 linear regressions were included to assess for moderation effects. For these analyses we created two dichotomous grouping variables: anyDSM (healthy controls vs. participants who meet criteria for any DSM disorder) and hasBPD (meets criteria for any DSM disorder with vs. without comorbid BPD) and built interaction terms to add to the original analyses.

Table 1  
Demographics and Clinical Descriptives by Group

	BPD	Any DSM no BPD	Healthy controls
Married	20%	21%	25%
Never married	40%	33.9%	36.4%
< college degree	75%	52.5%	64.4%
Caucasian	85%	41.9%	57.8%
African American	10%	45.2%	31.1%
Asian American	8.1%	8.1%	8.9%
Hispanic American	1.6%	1.6%	2.2%
Earn < \$10,000/year	50%	41.9%	33.3%
Average # of BPD symptoms ( <i>SD</i> )	6.6 (1.19)	1.42 (1.39)	.04 (.21)
Mean age ( <i>SD</i> )	35.4 (11.60)	39.58 (12.72)	30.18 (11.43)
Current disorder			
Depressive disorder <sup>a</sup>	100%	72.6%	
Anxiety disorder	90%	56.5%	
Panic disorder	20%	9.7%	
Agoraphobia	5%	3.2%	
Social phobia	20%	9.7%	
Specific phobia	25%	11.3%	
OCD	40%	6.5%	
PTSD	65%	2.2%	
GAD	70%	27.4%	
Substance use disorder	10%	12.9%	
Body dysmorphic	10%	3.2%	
Eating disorders	25%	6.4%	
Any personality disorder <sup>b</sup>	85%	37.1%	
Lifetime disorder			
Depression	100%	87.1%	
Anxiety	90%	62.9%	
Substance use	85%	46.8%	
Anorexia nervosa	20%	3.2%	
Bulimia and binge eating	25%	8.0%	

Note. DSM = Diagnostic and Statistical Manual of Mental Disorders; BPD = borderline personality disorder; SD = standard deviation; OCD = obsessive-compulsive disorder; PTSD = posttraumatic stress disorder; GAD = generalized anxiety disorder.

<sup>a</sup>Includes major depressive disorder, dysthymic disorder, and bipolar II disorder (current depressive episode).

<sup>b</sup>Except BPD.

## Results

Participants were primarily young (mean [*M*] = 35.59, standard deviation [*SD*] = 12.75), female (63.0%, *N* = 80), Caucasian (54.3%, *N* = 69) or African American (34.6%, *N* = 44), never married (35.4%, *N* = 45); had less than a college degree (54.0%, *N* = 68); and earned less than \$10,000 per year (40.2%, *N* = 51). A total of 47 participants (37.0%) did not meet criteria for any current or past DSM disorder. Across participants, 51.2% (*N* = 65) met criteria for one depressive disorder (MDD, bipolar depression, dysthymia), 41.7% (*N* = 53) met criteria for at least one anxiety disorder (primarily generalized anxiety disorder and posttraumatic stress disorder), and 7.9% (*N* = 10) met criteria for current substance use disorder. Detailed demographic information is presented in Table 1. Table 2 includes descriptive statistics for each measure across the entire sample and within each group. BDI and BPD data were missing from two participants; nevertheless, we opted to include the available data from these participants on all other measures. Each analysis was assessed at a .01 significance level based on the Bonferroni correction accounting for five comparisons.

Table 2

*Means (SDs) for Study Measures and Differences Between Groups<sup>a</sup>*

	All participants ( <i>N</i> = 127)	BPD ( <i>N</i> = 20)	Any DSM no BPD ( <i>N</i> = 62)	Healthy Controls ( <i>N</i> = 45)	$\Delta_{\text{BPD-AnyDSM}}$ ( <i>SE</i> ), <i>p</i>	$\Delta_{\text{BPD-HC}}$ ( <i>SE</i> ), <i>p</i>	$\Delta_{\text{AnyDSM-HC}}$ ( <i>SE</i> ), <i>p</i>
BIDS <sup>b</sup>	11.58 (5.13)	16.70 (5.51)	12.40 (4.76)	8.18 (2.45)	0.30 (0.08) <sup>‡</sup>	0.70 (0.09) <sup>§</sup>	0.40 (0.06) <sup>§</sup>
DERs	84.43 (28.13)	114.05 (26.73)	92.06 (23.55)	60.74 (11.60)	21.57 (6.69) <sup>‡</sup>	53.83 (6.21) <sup>§</sup>	32.26 (3.45) <sup>§</sup>
BDI <sup>c,d</sup>	11.84 (12.50)	24.71 (12.53)	15.53 (10.59)	0.86 (2.17)	2.42 (0.78) <sup>‡</sup>	7.68 (0.70) <sup>§</sup>	5.26 (0.43) <sup>§</sup>
BAI <sup>e</sup>	10.67 (10.98)	21.20 (12.13)	12.91 (10.48)	2.91 (3.23)	1.08 (0.43)	2.98 (0.41) <sup>§</sup>	1.90 (0.27) <sup>§</sup>

*Note.* DSM = Diagnostic and Statistical Manual of Mental Disorders; BPD = borderline personality disorder; SD = standard deviation; SE = standard error; OCD = obsessive-compulsive disorder; PTSD = posttraumatic stress disorder; GAD = generalized anxiety disorder; BIDS = Borderline Identity Disturbance Self-Report; DERs = Difficulties in Emotion Regulation Scale; BDI = Beck Depression Inventory; BAI = Beck Anxiety Inventory.

<sup>a</sup>The second half of the table contains the results of the Tamhane T2 corrected post hoc tests from a multivariate analysis of variance between the three sub groups (BPD, anyDSMnoBPD, HC), which showed significant between-group results for all measures included in the study ( $F_{\text{DERs}}(2, 122) = 55.38$ ;  $F_{\text{SQRT(BAI)}}(2, 122) = 34.42$ ;  $F_{\text{LN(IDS)}}(2, 122) = 38.67$ ;  $F_{\text{BDI}^{2/3}}(2, 122) = 81.19$ ;  $ps < .00025$ ).

<sup>b</sup>First half of the table contains raw scores; the total score in the second half of the table was transformed with a natural logarithmic function because it violated the normality assumption.

<sup>c</sup>First half of the table contains raw scores; the total score in the second half of the table was transformed to meet the normality assumption by raising it to the 2/3 power.

<sup>d</sup>Data from two participants are missing.

<sup>e</sup>First half of the table contains raw scores; the data in the second half of the table transformed using the square root function to preserve the normality assumption.

<sup>§</sup> $p < .0025$ . <sup>‡</sup> $p < .05$ .

Table 3

*Correlation Analyses Between Primary Variables (*n* = 127)*

	DERs total	BAI	BDI <sup>a</sup>	BPD severity <sup>a</sup>
BIDS	.76*	.61*	.76*	.56*
BPD severity <sup>a</sup>	.60*	.57*	.61*	
BDI <sup>a</sup>	.77*	.65*		
BAI	.68*			

*Note.* DERs = Difficulties in Emotion Regulation Scale; BAI = Beck Anxiety Inventory; BDI = Beck Depression Inventory; BPD = borderline personality disorder; BIDS = Borderline Identity Disturbance Self-Report; BPD severity = number of BPD criteria (excluding the identity disturbance criterion) that were rated above threshold on the Structured Clinical Interview for DSM-IV-TR Axis II Disorders.

<sup>a</sup>Data are missing from two participants.

\* $p < .01$ .

An initial bivariate correlation (see Tables 3 and 4) indicated that identity disturbance and emotion dysregulation are correlated. Conducting the correlation analysis between these two variables within each group, we found a correlation coefficient of .75 in the BPD group, of .58 in the anyDSMnoBPD group, and of .50 in the healthy controls group. Using the Fisher's *r* to *Z* transformation (<http://vassarstats.net/rdiff.html>), we found no significant difference in the strength of the correlation between the BPD and the anyDSMnoBPD groups,  $Z = 1.13$ ,

**Table 4**  
*Correlation Analyses Between Primary Variables and DERS Subscales ( $n = 127$ )*

DERS Subscale	BAI	BIDS	BDI <sup>a</sup>	BPD severity <sup>a</sup>
Problems with goal-directed behavior	.56*	.59*	.57*	.45*
Problems with use of strategies	.68*	.74*	.78*	.58*
Problems with emotional awareness	.19 <sup>†</sup>	.25*	.31*	.18 <sup>†</sup>
Problems with clarity	.55*	.62*	.56*	.49*
Problems with nonacceptance	.52*	.60*	.63*	.46*
Problems with impulsive behaviors	.64*	.70*	.69*	.62*

*Note.* DERS = Difficulties in Emotion Regulation Scale; BAI = Beck Anxiety Inventory; BDI = Beck Depression Inventory; BPD = borderline personality disorder; BIDS = Borderline Identity Disturbance Self-Report; BPD severity = number of BPD criteria (excluding the identity disturbance criterion) that were rated above threshold on the SCID-II.

<sup>a</sup>Data are missing from two participants.

<sup>†</sup> $p < .05$ . \* $p < .01$ . \*\* $p < .001$ . \*\*\* $p < .0001$ .

$p = .26$ . These analyses indicate that identity disturbance and emotion dysregulation are connected independent of a BPD diagnosis.

Shapiro-Wilk normality tests indicated that identity disturbance, anxiety severity, and depression severity total scores violated the normality assumption. Therefore, the BAI total score was transformed using the square root function. The BDI total score was closest to normality when being raised to the 2/3 power, and the BIDS total score was closest to normality when transformed using the natural log function. Subsequent analyses use transformed variables to meet normality assumptions.

For the first hypothesis, we conducted a multivariate analysis of variance (MANOVA). Box's test,  $M = 87.29$ ;  $F(20, 13519.14) = 4.09$ ,  $p < .001$ , indicated that the covariance matrices of the dependent variables were significantly different across levels of the independent variable, which increases the probability of a Type I error. To reduce this probability, we narrowed the significance level used to assess outcomes for this MANOVA to .001. Using this correction, a significant multivariate main effect for group was found,  $F(8, 238) = 17.62$ ,  $p < .0001$ ; Wilk's  $\lambda = 0.39$ , partial  $\eta^2 = .37$ .

Given the significance of the overall test, univariate main effects were examined. Because the alpha protection provided by the overall omnibus  $F$  test does not extend to the univariate tests, we applied an additional Bonferroni correction within the univariate tests that were part of this MANOVA analysis, testing for significance at a  $.001/4 = .0025$  level. Significant univariate main effects were obtained for identity disturbance,  $F_{\text{BIDS}}(2, 122) = 39.12$ ,  $p < .00025$ , partial  $\eta^2 = .39$ . Levene's Test showed that error variance of the dependent variables was not equal across groups ( $ps < .05$ ). Tamhane corrected post hoc tests revealed that identity disturbance reported by both the BPD group and the anyDSMnoBPD group was significantly higher than the identity disturbance reported by the healthy controls,  $p < .00025$ . There was a nonsignificant trend using the Bonferroni corrected alpha for the BPD group to score higher than the anyDSMnoBPD group on identity disturbance,  $p = .01$  (Table 2). These results support our hypothesis that identity disturbance not only is a problem for those who meet criteria for BPD but also is a transdiagnostic problem in clinical samples that exclude BPD.

For the second hypothesis, we utilized two linear regression models aimed to identify significant confounds and the predictors of identity disturbance (Table 5). These analyses used the transformed BIDS total score and the raw (nontransformed) BDI and BAI data in line with regression analyses assumptions. The first regression model included relevant demographic factors (age, gender, race, and education), depression severity (BDI), anxiety severity (BAI), and BPD severity as potential predictors of identity disturbance. BPD severity was defined as the number of criteria (excluding identity disturbance) that were rated above threshold on the SCID-II BPD. The analysis indicated that depression severity and anxiety severity were significant predictors of



Table 5

Summary of Regression Analyses Predicting Identity Disturbance<sup>a</sup>

Models	Independent(s)	$\beta^b$	t	p	Adjusted $R^2$	$F(df1,df2)$
Model 1: establishing relevant demographic and clinical predictors	Age	-.08	-1.49	.14	.65	$F(7, 114) = 33.60^{***}$
	Gender	.08	1.50	.14		
	Ethnicity	-.03	-0.60	.55		
	Education	-.14	-2.38	.02		
	Depression severity	.54	6.85	***		
	Anxiety severity	.29	3.85	***		
	BPD severity <sup>c</sup>	.04	0.56	.58		
Model 2: Assessing emotion dysregulation as a predictor above and beyond other significant predictors	Step 1:				.63	$F(2, 122) = 107.8^{***}$
	Depression severity	.61	8.49	***		
	Anxiety severity	.26	3.57	**		
	Step 2:				.69	$F(3, 121) = 91.15^{***}$
	Depression severity	.39	4.74	***		
	Anxiety severity	.14	1.90	.06		
	Emotion dysregulation	.39	4.65	***		
Model 3: Significant facets of emotion dysregulation as predictors	Depression severity	.41	5.00	***	.69	$F(3, 121) = 90.52^{***}$
	Problems with emotion Regulation strategies	.36	4.02	***		
	Emotional clarity	.15	2.27	$\tau$		

Note. BPD = borderline personality disorder; df = degrees of freedom.

<sup>a</sup>Borderline Identity Disturbance Self-Report total score was transformed using a natural logarithm function.

<sup>b</sup>Represents the standardized coefficient value.

<sup>c</sup>BPD severity = number of BPD criteria (excluding the identity disturbance criterion) that were rated above threshold on the SCID-II.

$\tau p < .05$ . \* $p < .01$ . \*\* $p < .001$ . \*\*\* $p < .0001$ .

identity disturbance scores ( $ps < .0001$ ). There was a trend for education to also be a significant predictor ( $p = .02$ ). Age, gender, ethnicity, and BPD severity were not significant predictors of identity disturbance ( $ps > .01$ ). The overall model accounted for 65% of the BIDS variance.

In a second regression model, we added depression severity and anxiety severity in the first step of the model. When emotion dysregulation was added in the second step of the regression model, anxiety severity was no longer a significant predictor ( $p = .06$ ). Nevertheless, depression severity ( $\beta = 0.39$ ) and total difficulties with emotion regulation ( $\beta = 0.39$ ) were significant predictors of identity disturbance,  $ps < .0001$ . The addition of emotion dysregulation led to a significant increase in the prediction power of the model,  $F_{R^2 \text{ change}}(1, 121) = 21.58$ ,  $p < .0001$ ,  $R^2 \text{ change} = .06$ . The model accounted for 69% of the variance in identity disturbance. These results support our hypothesis that identity disturbance is an emotion dysregulation problem.

To assess whether having a DSM diagnosis or meeting criteria for BPD moderated this result, we created two dichotomous grouping variables: anyDSM (healthy controls vs. participants who meet criteria for any DSM disorder) and hasBPD (meets criteria for any DSM disorder with vs. without comorbid BPD). Then we computed four interaction terms (group-by-emotion dysregulation and group-by-depression severity) using both grouping variables and the significant predictors for identity disturbance (DERS and BDI). Next, we conducted two moderation regression analyses, testing the presence of (a) DSM diagnosis or (b) BPD diagnosis as a moderator of the relationship between depression severity, difficulties in emotion regulation, and identity disturbance. The BPD moderation analysis excluded healthy controls.

In the first moderation model (having a DSM diagnosis as moderator), DERS, BDI, anyDSM, anyDSM by DERS, and anyDSM by BDI were used as predictors of identity disturbance. The addition of the interaction effects led to a model that explained 68% of the variance in identity

disturbance. There was a trend for emotion dysregulation ( $\beta_{\text{DERS}} = 0.50, p = .03$ ) and depression severity ( $\beta_{\text{BDI}} = 1.03, p = .04$ ) to significantly predict identity disturbance. Neither the grouping variable nor the interaction terms significantly predicted identity disturbance,  $\beta_{\text{anyDSM}} = .09$ ,  $\beta_{\text{anyDSMXBDI}} = -0.63$ ,  $\beta_{\text{anyDSMXDERS}} = -0.10, ps > .05$ .

In the second moderation model (hasBPD as moderator), DERS, BDI, hasBPD, hasBPD by DERS, and hasBPD by BDI were included as predictors of identity disturbance for the clinical sample only ( $N = 81$ ). The addition of the interaction effects led to a model that explained 56% of the variance in identity disturbance. Only emotion dysregulation significantly predicted identity disturbance,  $\beta_{\text{DERS}} = 0.66, p < .001$ . Depression severity, BPD diagnosis, and the interaction terms were not significant predictors ( $\beta_{\text{BDI}} = 0.13$ ,  $\beta_{\text{hasBPD}} = 0.25$ ,  $\beta_{\text{hasBPDxBDI}} = 0.38$ ,  $\beta_{\text{hasBPDxDERS}} = -0.60, ps > .05$ ). Taken together, these analyses suggest that the relationship between identity disturbance and emotion dysregulation is not moderated by meeting criteria for BPD or by having a mental health disorder.

An exploratory regression analysis using depression severity and the subscales of the DERS was also conducted to investigate the extent to which specific difficulties with emotion regulation account for the variance associated with identity disturbance. The analysis revealed nonsignificant trends for difficulty using emotion regulation strategies and difficulties with emotional clarity when upset to predict variance in BIDS,  $\beta = 0.21, t(117) = 1.89, p = .06$ ;  $\beta = 0.20, t(117) = 2.33, p = .02$ ; respectively. BDI total score continued to be a significant predictor,  $\beta = 0.41, t(117) = 4.91, p < .0001$ . Difficulties with awareness, impulsivity, goal-directed behavior, and nonacceptance were not significant predictors,  $ps > .10$ . When only BDI, DERS<sub>Strategies</sub>, and DERS<sub>Clarity</sub> were included, both BDI and DERS<sub>Strategies</sub> were significant predictors,  $ps < .0001$ ; there was a nonsignificant trend for having difficulties with clarity to predict identity disturbance,  $p = .03$ . The model (Table 5) explained 68% of the variance in BIDS, with problems accessing emotion regulation strategies being the most potent predictor of identity disturbance ( $\beta_{\text{BDI}} = 0.41$ ,  $\beta_{\text{strategies}} = 0.36$ ;  $\beta_{\text{clarity}} = 0.15$ ).

## Discussion

In this study we assessed differences in identity disturbance across adults who meet criteria for psychiatric disorders (primarily anxiety and depression) with or without BPD and nonpsychiatric controls. Further, we investigated the relationship between identity disturbance and difficulties with emotion regulation across these groups. Although previous research has found identity disturbance to be associated with higher negative affect (Lenzenweger et al., 2012) and affective lability in BPD samples (Sanislow et al., 2000), no study to date has assessed the relationship between identity disturbance and emotion dysregulation across adults with anxiety and depression while accounting for BPD.

The present study has four key findings. First, participants who met criteria for any DSM-IV-TR psychological disorder reported significantly higher identity disturbance than healthy controls. This suggests that identity disturbance is not specific to BPD, and it may be an underlying problem across psychopathology (especially in anxiety and depression). Second, there was a significant positive correlation between identity disturbance and difficulties with emotion regulation across the entire sample and within each group. Third, emotion dysregulation was a significant predictor of identity disturbance. Thus, the relationship between these variables was not diagnosis specific. Fourth, problems using emotion regulation strategies and emotional clarity were the two specific difficulties with emotion regulation that were significant predictors of identity disturbance. Given our small, primarily depressed and anxious sample and cross-sectional design, our results should be interpreted as preliminary until larger studies using a wider range of psychiatric disorders are conducted.

To our knowledge, this is the first study examining identity disturbance and emotion regulation difficulties in a sample with participants meeting diagnostic criteria for multiple diagnoses, including BPD. Although many of our participants were depressed or healthy, our sample also included participants with substance dependence, anxiety disorders, and other mood and personality disorders. As expected, healthy controls scored very low on our identity disturbance measure, whereas participants diagnosed with BPD and MDD scored the highest. In addition,

meeting full criteria for the diagnosis of BPD was not a significant predictor of identity disturbance, which further strengthens the preliminary conclusion that identity disturbance is a problem across psychiatric diagnoses, and is not specific to BPD.

Difficulties with emotion regulation and depression severity explained 69% of the variance in identity disturbance. Specifically, lacking emotional clarity when upset and being uncertain about what regulation strategies will work in emotional moments were the two facets of emotion dysregulation that contributed significantly to a fragmented sense of identity. The diagnostic profile of participants did not moderate the relationship between identity disturbance and emotion dysregulation; rather, emotion dysregulation predicted problems with identity in both healthy and clinical samples. Future studies should attempt to assess whether the 31% of unexplained variance reflects a unique transdiagnostic construct that should be explored further. In addition, future studies are needed to investigate whether interventions targeting emotion regulation can improve identity disturbance.

Despite limited research on the effects of psychological treatments on identity disturbance (see Hull, Clarkin, & Kakuma, 1993 for an exception), several psychotherapies indirectly address problems with identity. Treatment strategies, such as identifying and working towards values in acceptance and commitment therapy (Hayes, Stroschal, & Wilson, 2012) or self-systems therapy (Strauman et al., 2006), exploring views of the self in cognitive therapy (Beck, 1979) or mentalization-based therapy (Allen & Fonagy, 2006), and learning awareness and acceptance of the self in every moment in dialectical behavioral therapy (Linehan, 1993) or mindfulness-based stress reduction (Shapiro, Schwartz, & Bonner, 1998), are likely to reduce identity disturbance. Evidence suggests that many of these therapies also affect emotion dysregulation (Goldin & Gross, 2010; Neacsu et al., 2014; Ochsner, Bunge, Gross, & Gabrieli, 2002). Therefore, our findings highlight the need to characterize with more precision and specificity identity and emotion problems from a treatment perspective to provide recommendations for how to optimally target in therapy identity disturbance as it relates to emotion dysregulation.

Future studies are also needed to better examine the causal relationship between these constructs over time. Our dataset restricted us to examining constructs cross-sectionally, precluding any tests for causality. Some (Linehan, 1993) have hypothesized that problems with identity disturbance are the result of difficulties with emotion regulation. On the other hand, others have suggested the opposite: identity problems lead to the experience of negative emotions that are difficult to regulate (Cassel, 1990; Talley et al., 2011; Schwartz et al., 2009). According to Fuchs (2007), because of distressing experiences, people might form disturbed representations of themselves and others (called identity diffusion), which can result in lack of empathy and subsequent difficulties with controlling affect. Jørgensen (2006) also highlighted that in psychoanalytic theory a stable sense of identity is a prerequisite for the flexibility required in cognitive and affective regulation. In his description, identity provides the individual with tools to navigate each moment successfully.

Mixed findings offer some indirect support for identity disturbance as a contributing factor to emotion dysregulation. One study found that substance use is a maladaptive emotion regulation strategy that sexual minority individuals use to regulate stressors related to their identity problems (Talley et al., 2011). However, a different study indicated that there were no differences in identity disturbance between adults diagnosed with BPD and comorbid SUD and adults with BPD and no SUD (Nejad et al., 2010). Identity disturbance coupled with depression was found to result in self-criticism, which in turn lead to use of maladaptive emotion regulation strategies, such as self-harm (Levy et al., 2007). In a different study, identity disturbance was found to be a unique predictor of suicidal behaviors in a 2-year prospective study, above and beyond major depression and the other BPD criteria (Yen et al., 2004). Contrary to this finding, having a disturbed identity did not predict suicidality in a different study (Modestin et al., 1998).

Therefore, having a disturbed identity may create negative affect that is difficult to regulate, emotion dysregulation may create a disturbed identity, or a third variable may be responsible for both disturbances (e.g., shame; Crowe, 2004). Thus, future research assessing additional predictors as well as the direction of this relationship longitudinally is warranted to better explain how these constructs interact across psychopathology and how to best intervene. Also,

measurement development is sorely needed to fully capture the elusive constructs of normative and disturbed identity in a multitrait–multimethod fashion.

It is interesting to note that depression severity was a significant and independent predictor of identity disturbance even in the presence of emotion dysregulation, while anxiety severity was not. Viewing the self in a negative light, as suggested by Levy et al. (2007), seems to contribute uniquely to a fragmented sense of self. At the same time, the relation between identity disturbance and anxiety severity was explained by emotion dysregulation, suggesting a fundamental difference between the way anxiety and depression contribute to identity problems. It is also important to highlight that diagnostic profile did not moderate the relationship between depression severity and identity disturbance.

### *Limitations*

This study has several primary limitations. First, our sample was cross-sectional and predominantly depressed or healthy; therefore, it remains unclear if and how our results would generalize longitudinally to a more heterogeneous transdiagnostic sample. Nevertheless, given that this is the first attempt to assess these constructs and their relationship across psychopathology our findings offer an important preliminary step. Second, everyone in the BPD group met criteria for current depression, which limits the applicability to nondepressed BPD samples. Although this is a limitation of the study, depression is a common comorbidity for BPD with up to 87% of people diagnosed with BPD meeting criteria for MDD (see Harned et al., 2008 for a review). Third, we asked participants to evaluate their own problems with identity, which may be a difficult task for people with limited psychological mindedness. Future studies should test these hypotheses using multiple methods of assessment. Fourth, inter-rater reliability for the diagnostic interviews was not assessed, although all assessors were trained to reliability with the clinic gold standard prior to beginning to administer diagnostic assessments.

### *Conclusion*

In summary, the present study begins to address an important gap in the literature by exploring the relationship between emotion dysregulation and identity disturbance in a transdiagnostic (primarily depressed and anxious) sample. Results suggest that the two constructs of interest are strongly related and found across psychiatric disorders. Further research is warranted to understand identity disturbance transdiagnostically and to disentangle the best approaches to treating this problem across psychopathology.

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