

Affective Lability and Impulsivity in a Clinical Sample of Women with Bulimia Nervosa: The Role of Affect in Severely Dysregulated Behavior

Michael D. Anestis, MS¹
 Carol B. Peterson, PhD²
 Anna M. Bardone-Cone, PhD³
 Marjorie H. Klein, PhD⁴
 James E. Mitchell, MD^{5,6}
 Ross D. Crosby, PhD^{5,6}
 Stephen A. Wonderlich, PhD^{5,6}
 Scott J. Crow, MD²
 Daniel le Grange, PhD⁷
 Thomas E. Joiner, PhD^{1*}

ABSTRACT

Objective: The primary aim of this study was to examine the role of affective lability in maladaptive behaviors in a sample of women who meet DSM criteria for current bulimia nervosa (BN).

Method: Participants were administered a semistructured diagnostic interview (SCID-P) and only those who currently met criteria for BN ($N = 134$) were included in the analyses. All other data were collected through the use of self-report questionnaires.

Results: Affective lability significantly predicted the Impulsive Behavior Scale score ($sr = 0.21$, $t = 2.64$, $p < .009$, $f^2 = 0.06$) and excessive reassurance seeking ($sr = 0.21$, t

$= 2.74$, $p < .007$, $f^2 = 0.06$), even when controlling for age, depressive symptoms, state and trait anxiety, and general impulsivity.

Discussion: The degree to which individuals with BN experience labile emotions is associated with several indicators of dysregulated behavior such that higher levels of affective lability predict a more severely dysregulated behavioral profile. © 2008 by Wiley Periodicals, Inc.

Keywords: Bulimia nervosa; affective lability; emotion regulation; impulsivity

(*Int J Eat Disord* 2009; 42:259–266)

Introduction

Bulimia nervosa (BN) is an eating disorder characterized by binge eating and subsequent attempts to counteract the effects of eating binges, as well as an excessive concern with weight and body shape. This general conceptualization of the disorder is well-established; however, heterogeneity in case presentations beyond the DSM subtypes of purging and nonpurging has led researchers to seek empirically viable alternative subcomponents.^{1,2} One such framework that has been the subject of substantial research attention is the concept of dysre-

gulated behavior in women with BN. In other words, researchers have sought to determine whether individuals suffering from BN can be distinguished from one another based upon whether or not they also utilize additional dysregulated behaviors (e.g. self-injury, substance abuse). Similarly, researchers have sought to determine how best to predict who might be vulnerable for such severely dysregulated behavior profiles. In this study, we will examine the relationship between affective lability and dysregulated behavior in BN in an effort to determine how an individual's experience of negative affect may relate to such outcomes.

A significant portion of the prior work in this area has centered on the idea of multi-impulsivity. Lacey and Evans³ were the first to identify multi-impulsivity in BN (MIB), defining it as a subgroup of individuals with BN who also exhibit at least one impulsive behavior in addition to bingeing and purging from a list of behaviors including self-injury, substance abuse, risky sexual behavior, and theft. A multitude of studies has since emerged that links binge eating and purging with other impulsive behaviors. For example, Thompson et al.⁴ found in a nonclinical sample, that women who binge ate and purged are more likely to exhibit aggressive behavior than were women without eating disturbances. Additionally, the authors reported that both behaviors were associated with drug use and

Accepted 23 August 2008

*Correspondence to: T. Joiner, Department of Psychology, Florida State University, 1107 W. Call Street, Tallahassee, FL 32306-4301. E-mail: joiner@psy.fsu.edu

¹ Department of Psychology, Florida State University, Florida

² Department of Psychiatry, University of Minnesota, Minneapolis, Minnesota

³ Department of Psychological Sciences, University of Missouri-Columbia, Columbia, Missouri

⁴ Department of Psychiatry, University of Wisconsin, Madison, Wisconsin

⁵ Department of Neuroscience, University of North Dakota School of Medicine, Fargo, North Dakota

⁶ Neuropsychiatric Research Institute, Fargo, North Dakota

⁷ Department of Psychiatry, University of Chicago, Chicago, Illinois

Published online 24 October 2008 in Wiley InterScience (www.interscience.wiley.com). DOI: 10.1002/eat.20606

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suicide attempts. Similarly, binge eating and purging have been linked to self-injury and impulsive spending.^{5,6} Myers et al.⁷ found empirical support for MIB, reporting that such individuals exhibited significantly greater rates of childhood trauma as well as a unique pattern of comorbid psychopathology relative to non-multi-impulsive individuals with BN, as measured by ecologic momentary assessment. Additionally, Corstorphine et al.⁸ reported that childhood sexual abuse was a particularly strong predictor of later impulsivity in individuals with eating disorder diagnoses. Linking these studies in terms of child trauma and emotional lability, Wonderlich et al.⁹ reported that histories of child abuse were correlated with actual daily variation in mood in an ecologic momentary assessment study of bulimic individuals. The substantial danger involved in the behaviors exhibited in the above-mentioned behavioral profiles renders further research on the matter imperative, as such work could help clarify patterns of comorbidity and develop effective treatments.

Consistent with this need for research into what distinguishes individuals prone to using multiple dysregulated behaviors, several researchers have identified affective variables that might play a role in such outcomes. For instance, Anestis et al.¹⁰ found that negative urgency—the tendency to act rashly with the explicit intent to reduce feelings of negative affect—Whiteside and Lynam,¹¹ as well as Cyders et al.¹²—predicted bulimic symptoms, excessive reassurance seeking, and drinking alcohol to cope, even when controlling for depressive symptoms, anxiety symptoms, and other components of impulsivity. This finding indicates that the tendency to involve oneself in a variety of maladaptive and impulsive behaviors may be driven primarily by the need to reduce negative affect.

The inclusion of excessive reassurance seeking in conjunction with EDI-Bulimia and drinking alcohol to cope is notable, as this behavior is not typically included in discussions on impulsivity. Excessive reassurance seeking is defined as the tendency for individuals with negative views of themselves to repeatedly seek validation from peers regarding their worth while continuously dismissing any positive feedback as attempts to placate.¹³ Such behavioral patterns ultimately tend to result in social rejection when peers become fed up with the repeated questions and this, in turn, provides the individual with data consistent with their own negative self-view. This particular form of behavior has typically been associated with depressive and anxiety symptoms^{14,15}; however, it appears that the behavior may also stem from poor coping skills applied by individuals highly motivated to avoid negative affect.

One interpretation of the Anestis et al.¹⁰ finding might be that, rather than being defined by solely by impulsivity, such individuals are driven mostly by their attempts to manage affect and that their behavioral profiles include a broader, more extensive list of outcomes than are typically considered in empirical research. If such is the case, studies that include a broader range of behaviors may prove more informative. Additionally, conceptually framing such behaviors together under a single term such as behavioral dysregulation may provide an added element of clarity by highlighting similarities between behaviors with stark phenotypic differences.

Along these lines, it appears reasonable to consider the potential role for other affective variables when examining dysregulated behavior in BN. Affective lability, the tendency to experience emotions that quickly fluctuate both in intensity and valence, is another affective variable that has previously been linked to a host of maladaptive behaviors. Benjamin and Wulfert¹⁶ reported that individuals who report emotional instability are more likely to exhibit a combination of binge eating behaviors and alcohol abuse, whereas individuals with stable emotions were less likely to endorse engaging in more than one impulsive behavior simultaneously. Similarly, Simons and Carey¹⁷ reported that the association between affective lability and problematic drinking was strong in a group of individuals who engaged in both alcohol and marijuana abuse as compared to groups who only endorsed abuse of one substance. Ebner-Priemer et al.¹⁸ reported that individuals with borderline personality disorder (BPD), a disorder characterized by the habitual use of multiple dysregulated behaviors, reported higher levels of affective lability than did individuals in a control group.

When considered together, these findings seem to indicate that individuals who chronically experience rapidly fluctuating emotions exhibit impaired coping skills and are thus more vulnerable to engaging in destructive behaviors when upset. Whereas individuals whose emotions are generally stable are still vulnerable to developing a tendency toward a single dysregulated behavior at any given moment, individuals who report high levels of affective lability appear to be at increased risk for utilizing several dysregulated behaviors indiscriminately in a constant and inefficient battle to regulate affect. Although fairly similar to the construct of neuroticism, Miller and Pilkonis¹⁹ reported evidence that affective lability is, in fact, a distinct entity with its own unique set of correlates.

In an attempt to better understand the relationship between affective lability and behavioral dysregulation in a clinical setting, we examined data collected from a sample of women who either currently met or were in various states of recovery from eating disorders. We restricted our analyses to include only individuals who currently met criteria for a DSM-IV diagnosis of BN ($N = 134$). Building upon the prior findings reported above, we hypothesized that women currently meeting criteria for a BN diagnosis who endorsed higher levels of affective lability would be more likely to report higher levels of a variety of dysregulated behaviors, controlling for age, depressive symptoms, state and trait anxiety, and general impulsivity. As outcome measures, we utilized a variety of behaviors in an effort to test the generalizability of the findings. Included in these variables were excessive reassurance seeking and alcohol and drug use. Additionally, we hypothesized that affective lability would be significantly related to the Impulsive Behavior Scale (IBS; 20), excluding an item that measures purging behavior, even when controlling for the same extensive list of covariates. This is important to consider because the IBS consists of a series of questions that examine the degree to which participants have engaged in a variety of specific impulsive behaviors (e.g., self-injury, impulsive spending, risky sexual behavior), and significant findings would indicate that general impulsivity alone does not account for a tendency to utilize a variety of maladaptive behaviors. Our decision to include our chosen covariates stemmed from prior research that indicates that both impulsive behaviors and excessive reassurance seeking maintain significant relationships with anxiety and depression (e.g., 19, 21–23). If our hypotheses are supported by the data, this would indicate that rapidly shifting emotions play a pivotal role in the use of several additional maladaptive behaviors in a clinical sample of women who currently meet DSM-IV criteria for BN and that, as such, individuals with BN who also report highly labile emotions are at risk for presenting with a severely dysregulated behavioral profile.

Method

Participants

A total of 204 female participants were recruited from eating disorder clinics and communities in five Midwestern cities. One hundred thirty-four of these individuals met criteria for a current DSM-IV diagnosis of BN and

were included in these analyses. Age ranged from 18 to 55 (mean = 25.49, standard deviation = 8.58). The sample was predominantly Caucasian (88.8%, $n = 119$), with the remainder of the sample divided as follows: 5.2% Asian ($n = 7$), 2.2% black American ($n = 3$), 2.2% other ($n = 3$), and 1.5% Hispanic ($n = 2$).

In total, 98.5% ($n = 132$) of the participants met criteria for BN purging type and 1.5% ($n = 2$) met criteria for nonpurging type. Additionally, using SCID severity level criteria, 13.4% ($n = 18$) were best described as exhibiting mild symptoms, 60.4% ($n = 81$) as exhibiting moderate symptoms, and 25.4% ($n = 34$) as exhibiting severe symptoms.

Measures

The Structured Clinical Interview for DSM-IV, Patient Edition (SCID-P). The SCID-P is a semistructured interview that utilizes DSM-IV criteria to determine whether or not an individual meets criteria for an Axis I psychiatric disorder.²⁴ The measure is a widely utilized assessment tool in clinical settings. In this study, the eating disorder module was administered during a phone interview to determine whether or not individuals were eligible for participation.

Predictor Variable

Dimensional Assessment of Personality Pathology—Basic Questionnaire (DAPP-BQ). The DAPP-BQ²⁵ is a self-report questionnaire comprised of 290 items used to assess numerous components of personality. The measure features 18 subscales; however, only the Affective Lability subscale was utilized in these analyses. The alpha coefficient for the Affective Lability subscale in this sample was 0.92.

Covariates

Spielberger State/Trait Anxiety Inventory (SSAI/STAI). The SSAI/STAI²⁶ is a self-report measure utilized to examine the degree to which individuals experience both temperamental and transient symptoms of anxiety. In this study, we utilized both the state and trait subscales. Both subscales consist of 20 self-report items. The alpha coefficient for the State Anxiety subscale was 0.93. The alpha coefficient for the Trait Anxiety subscale was 0.94.

Inventory for Depressive Symptomatology—Self-Report (IDS-SR). The Inventory for Depressive Symptomatology—Self-Report (IDS-SR)²⁷ is a 30-item self-report measure of depressive symptomatology, with higher scores representing a more severe presentation. The alpha coefficient for the IDS-SR in this sample was 0.90.

Barratt Impulsivity Scale. The Barratt Impulsivity Scale (BIS-11)²⁸ is a 30-item scale measuring various components of trait impulsivity. The measure includes three

TABLE 1. Means, standard deviations, and intercorrelations for variables used in the above analyses

	1	2	3	4	5	6	7	8
1. Affective lability	1							
2. Barratt impulsivity	0.369**	1						
3. Spielberger state anxiety	0.480**	0.378**	1					
4. Spielberger trait anxiety	0.591**	0.330**	0.765**	1				
5. Depressive symptoms	0.574**	0.435**	0.735**	0.779**	1			
6. Excessive reassurance seeking	0.446**	0.189*	0.231**	0.425**	0.388**	1		
7. Impulsive behavior scale	0.343**	0.321**	0.178*	0.198*	0.316**	0.050	1	
8. MAST-AD	0.127	0.185*	0.049	-0.006	0.097	-0.009	0.559**	1
Means	51.29	72.27	47.67	55.25	30.52	14.22	55.33	9.56
Standard deviations	14.22	11.51	13.38	12.61	12.90	6.91	15.76	10.61

subscales—attentional, motor, and non-planning—and also yields a total score interpreted as general impulsivity. In this study, we utilized the total score. The alpha for the BIS-11 in this sample was 0.85.

Dependent Variables

Impulsive Behavior Scale. The Impulsive Behavior Scale (IBS)²⁰ is a 25-item self-report questionnaire that measures the degree to which individuals have engaged in a variety of maladaptive behaviors over the course of their lifetime. In this study, one question assessing the use of purging behaviors was eliminated due to the fact that all members of the sample met criteria for a current diagnosis of BN, with all but two individuals meeting criteria for the purging subtype. The alpha coefficient for the IBS in this study was 0.87.

Michigan Assessment Screening Test/Alcohol Drug. The Michigan Assessment Screening Test/Alcohol Drug (MAST-AD)²⁹ is a 25-item self-report questionnaire assessing the presence and severity of problems related to both alcohol and drug use. The alpha coefficient for the MAST-AD in this sample was 0.85.

Depressive Interpersonal Relationships Inventory—Reassurance Seeking subscale (DIRI-RS). The DIRI-RS¹³ is a four-item scale that measures the degree to which individuals seek reassurance from others in a manner consistent with³⁰ interpersonal theory of depression (e.g., “In general, do you find yourself often asking the people you feel close to how they *truly* feel about you?”). The alpha coefficient for the DIRI-RS in this sample was 0.92.

Results

Means, standard deviations, and intercorrelations for the variables used in these analyses can be found in **Table 1**.

Affective Lability Predicting Excessive Reassurance Seeking

A least-squares linear regression equation was constructed to predict excessive reassurance seeking scores from affective lability scores, controlling for age and scores on the BIS-11, IDS-SR, SSAI, and STAI. In Step 1, the covariates were entered into block one. In step two, affective lability was entered into block two. Results indicated that affective lability significantly predicted excessive reassurance seeking even when controlling for the effects of the covariates (part correlation (sr) = 0.21, t = 2.74, p < .007, effect size (f^2) = 0.06). These results can be found in **Table 2**.

Affective Lability Predicting Impulsive Behavior Scale

A least-squares linear regression equation was constructed to predict scores on the IBS from affective lability scores, controlling for age and scores on the BIS-11, IDS-SR, SSAI, and STAI. In Step 1, the covariates were entered into block one. In step two, affective lability was entered into block two. Results indicated that affective lability significantly predicted scores on the IBS even when controlling for the effects of the covariates (sr = 0.21, t = 2.64, p < .009, f^2 = 0.06). These results can be found in **Table 3**.

Affective Lability Predicting Problematic Alcohol and Drug Use

A least-squares linear regression equation was constructed to predict scores on the MAST-AD from affective lability scores, controlling for age and scores on the BIS-11, IDS-SR, SSAI, and STAI. In Step 1, the covariates were entered into block one. In step two, affective lability was entered into block two. Results indicated that affective lability did not significantly predict scores on the MAST-AD when controlling for the effects of the covariates (sr = 0.13, t = 1.51, p = ns). These results can be found in **Table 4**.

TABLE 2. Affective lability predicting excessive reassurance seeking, controlling for age, state anxiety, trait anxiety, depressive symptoms, and general impulsivity

		R-Squared	T	p-Value	Zero-Order	Partial	Part
1	(Constant)	0.239	1.007	0.316			
	Age		-1.392	0.166	-0.141	-0.122	-0.107
	Barratt impulsivity		0.625	0.533	0.189	0.055	0.048
	Spielberger state anxiety		-2.646	0.009	0.231	-0.228	-0.204
	Spielberger trait anxiety		3.304	0.001	0.425	0.280	0.255
	Depressive symptoms		1.849	0.067	0.388	0.161	0.143
2	(Constant)	0.281	0.659	0.511			
	Age		-1.090	0.278	-0.141	-0.096	-0.082
	Barratt impulsivity		0.138	0.890	0.189	0.012	0.010
	Spielberger state anxiety		-2.544	0.012	0.231	-0.220	-0.191
	Spielberger trait anxiety		2.521	0.013	0.425	0.218	0.190
	Depressive symptoms		1.358	0.177	0.388	0.120	0.102
	Affective lability		2.737	0.007	0.446	0.236	0.206

Note: Change in R-squared for this analysis = 0.042.
Dependent variable = Excessive reassurance seeking.

TABLE 3. Affective lability predicting impulsive behavior scale (without item 9), controlling for age, state anxiety, trait anxiety, depressive symptoms, and general impulsivity

		R-Squared	T	p-Value	Zero-Order	Partial	Part
1	(Constant)	0.166	2.094	0.038			
	Age		1.469	0.144	0.110	0.129	0.119
	Barratt impulsivity		2.593	0.011	0.321	0.223	0.209
	Spielberger state anxiety		-0.742	0.459	0.178	-0.065	-0.060
	Spielberger trait anxiety		-0.285	0.776	0.198	-0.025	-0.023
	Depressive symptoms		2.319	0.022	0.316	0.201	0.187
2	(Constant)	0.210	1.771	0.079			
	Age		1.807	0.073	0.110	0.158	0.143
	Barratt impulsivity		2.136	0.035	0.321	0.186	0.168
	Spielberger state anxiety		-0.600	0.549	0.178	-0.053	-0.047
	Spielberger trait anxiety		-0.994	0.322	0.198	-0.088	-0.078
	Depressive symptoms		1.845	0.067	0.316	0.162	0.146
	Affective lability		2.641	0.009	0.343	0.228	0.208

Note: Change in R-squared for this analysis = 0.044.
Dependent variable = impulsive behavior scale – w/o Item 9.

TABLE 4. Affective lability predicting drug and alcohol use, controlling for age, state anxiety, trait anxiety, depressive symptoms, and general impulsivity

		R-Squared	T	p-Value	Zero-Order	Partial	Part
1	(Constant)	0.087	-0.649	0.517			
	Age		2.244	0.027	0.194	0.195	0.190
	Barratt impulsivity		1.818	0.071	0.185	0.159	0.154
	Spielberger state anxiety		0.397	0.692	0.049	0.035	0.034
	Spielberger trait anxiety		-1.224	0.223	-0.006	-0.108	-0.103
	Depressive symptoms		0.939	0.349	0.097	0.083	0.079
2	(Constant)	0.103	-0.848	0.398			
	Age		2.420	0.017	0.194	0.210	0.203
	Barratt impulsivity		1.526	0.130	0.185	0.134	0.128
	Spielberger state anxiety		0.488	0.626	0.049	0.043	0.041
	Spielberger trait anxiety		-1.592	0.114	-0.006	-0.140	-0.134
	Depressive symptoms		0.650	0.517	0.097	0.058	0.055
	Affective lability		1.509	0.134	0.127	0.133	0.127

Note: Change in R-squared for this analysis = 0.016.
Dependent variable = MAST-AD.

Discussion

The purpose of this study was to examine the relationship between affective lability and a variety of impulsive behaviors in a sample of women who met criteria for a current DSM-IV diagnosis of BN,

even when controlling for several covariates. By controlling for other potentially significant variables, our aim was to emphasize the robust relationship between affect and dysregulated behaviors and reduce the risk of spurious findings. By and large, our hypotheses were supported, as affective

lability significantly predicted both excessive reassurance seeking and the IBS.

With respect to the excessive reassurance seeking findings, the significant relationship with affective lability is important, as depressive symptoms have traditionally been conceptualized as a primary predictor.¹⁴ Very little research has been done on excessive reassurance seeking outside the realm of depression; however, this finding is consistent with other research that has proposed excessive reassurance seeking as a form of behavioral dysregulation prompted by ineffective management of affect. Specifically, this finding was consistent with the findings of Joiner et al.¹⁵ who reported that anxiety and self-esteem mediated the relationship between negative life events and excessive reassurance seeking and that, whereas depressive symptoms are related to excessive reassurance seeking, the initial onset of the behavior is prompted by the need to diminish negative affect and cognitions. Similarly, the findings in our study mirror those of Anestis et al.,¹⁰ who found that urgency—the tendency to act without planning in an effort to reduce negative affect—predicted excessive reassurance seeking both cross-sectionally and longitudinally, when controlling for depressive symptoms, anxiety symptoms, and other components of impulsivity. In other words, the link reported here between affective lability and excessive reassurance seeking in a sample of women currently meeting criteria for a DSM-IV diagnosis of BN mirrors prior research that indicates excessive reassurance seeking is an important behavioral outcome to consider in clients with severely dysregulated behavioral profiles and emotionally driven impulsive tendencies.

With respect to the finding linking affective lability to the IBS, again the use of several powerful covariates is an important consideration. The IBS measures the degree to which individuals engage in a variety of specific impulsive behaviors. The BIS-11, on the other hand, measures a general tendency to act without planning and deliberation. By controlling for this general impulsive tendency, we were able to emphasize the importance of affect in severely dysregulated behavior, above and beyond a personality characterized by simply failing to plan ahead. Ultimately, this finding indicates that individuals who binge eat and purge at a clinically significant level while also engaging in a variety of other maladaptive and impulsive behaviors are likely to exhibit elevations on measures of affective lability, and that the relationship between these variables is not better accounted for by other variables often considered in such behaviors, such as depression, anxiety, and general impulsivity.

The nonsignificant relationship between affective lability and alcohol and drug use was surprising and not consistent with our hypotheses. A variety of interpretations of this finding are possible. First, it might be that labile emotions simply do not have a significant relationship with substance use, at least in women who currently meet DSM criteria for BN. If this is the case, controlling emotions would not be as useful a therapeutic target for these individuals as would learning new skills to manage negative affective states when they arise. Another interpretation of this finding is that the measures we used in the analyses were not suitable, as they do not directly address motives for alcohol use. In other words, a subgroup of individuals who abuse illicit substances and also binge eat and purge may do so for affective regulatory purposes, but this may not accurately describe individuals with this profile in general. As such, a measure of substance use that does not allow for the delineation of motives might obscure findings and render interpretations difficult.

Overall, these findings present a cohesive and compelling case that women with BN who also engage in other impulsive behaviors exhibit highly labile emotions. Faced with chronically shifting affective states, these individuals could potentially be less adept at coping and forced to do so more frequently than are individuals whose emotions are more stable. Given the highly problematic outcomes associated with such behavioral profiles, it is important to consider predictors of severe behavioral dysregulation, and it appears that affective lability is, in fact, important in this regard.

One possible explanation for these findings might be that women with BN who also engage other dysregulated behaviors either meet criteria for borderline personality disorder (BPD) or at least exhibit symptoms of the disorder. BPD is often characterized by the indiscriminant use of multiple dysregulated behaviors for the purpose of regulating affect. Future research that is able to control for the effects of BPD and other Axis II psychopathology would serve to provide further insight into the degree to which severely dysregulated behavioral profiles exist in the absence of personality disorders.

There were some notable limitations in this study. First, other than the semistructured diagnostic interviews, all data were acquired through the use of questionnaires. Similarly, all data, including the diagnostic interview, relied upon retrospective self-report. This, thus, leaves our findings open to criticisms that are typically levied against such analyses, particularly the reliance upon the insight

and honesty of participants. Additionally, the use of a single time point precludes any conclusions about directionality and causality in our analyses. In other words, it remains possible that the habitual use of dysregulated behaviors actually influences an individual's degree of affective lability. Alternatively, the relationships could potentially be better explained by a mediating variable not measured in our analyses. Although our findings are consistent with prior research, longitudinal data are nonetheless required to make definitive statements on such matters. Also, because participants in this study were all women with an eating disorder diagnosis, the generalizability of the findings is unknown. It remains possible that individuals with BN who engage in a variety of impulsive behaviors differ from individuals without BN who utilize those same behaviors with respect to a variety of variables, including the functions of the behaviors and the underlying vulnerabilities.

Future studies that utilize nonclinical samples would serve to provide more insight into the process by which individuals develop severely dysregulated behavioral profiles. Additionally, studies that utilize ecologic momentary assessment and psychophysiologic measures of affect might serve to provide additional useful information regarding the mechanisms behind these relationships and the degree to which self-report measures reflect reality.

Clinically, these findings can be used as evidence that clients with BN who exhibit highly labile emotions are more likely to also engage in a variety of other impulsive behaviors. As such, these individuals might benefit from treatment that prioritizes the management and understanding of affect in addition to traditional cognitive behavioral approaches. Although individuals with BN and stable emotions are by no means immune to utilizing other impulsive behaviors, it appears that affective lability is an informative variable that should be considered when clinicians are determining the course of treatment for clients with BN.

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