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ORIGINAL ARTICLE

Dysregulated Eating and Distress: Examining the Specific Role of Negative Urgency in a Clinical Sample

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Abstract Many theories exist regarding dysregulated eating behaviors such as bingeing and purging. Recent research has provided consistent and compelling evidence supportive of theories that favor an emotion regulatory model (Smyth et al. J Consult Clin Psychol 75:629–638, 2007). Specifically, these theories posit that individuals engage in dysregulated eating behaviors in a maladaptive attempt to alleviate negative affect. Along these lines, several studies have reported that negative urgency, the tendency to act rashly in an attempt to immediately reduce feelings of negative affect (Whiteside and Lynam Pers Individ Dif 30:669–689, 2001), is a particularly important variable in this process (Anestis et al. Behav Res Ther 45:3018–3029, 2007; Fischer et al. Int J Eat Disord 33:406–411, 2003). In this study, we sought to expand upon prior research by testing the relationship between negative urgency and EDI-Bulimia in a clinical sample ($N = 130$) when controlling for an extensive list of relevant covariates, including additional components of impulsivity. Results supported our hypotheses. These findings indicate that the previously reported relationship between negative urgency and dysregulated eating behaviors remains significant in a clinical setting, even when controlling a more extensive list of impulsivity related variables than has been utilized in prior research. As such, this study has potentially important clinical implications.

Keywords Negative urgency · Bulimia nervosa · Emotion regulation

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Introduction

Theories attempting to explain bingeing and purging behaviors, which are hallmarks of Bulimia nervosa (BN), are varied, and range from carbohydrate craving (Wurtman and Wurtman 1984) to set point theory (Keesey 1986). However, the escape model of bulimic behaviors has garnered consistent support (e.g., Anestis et al. 2007; Wallis and Hetherington 2004). First proposed by Heatherton and Baumeister (1991), the escape model proposes that individuals engage in binge eating and purging in order to make themselves less cognizant of negative affect. In other words, bingeing and purging dull painful feelings and thus are negatively reinforcing. Along these lines, predicting which individuals are prone to utilizing such maladaptive responses in order to reduce negative affect would be useful for clinical interventions and prevention efforts. The aim of the present study was to determine whether negative urgency, the tendency to act rashly in the face of negative affect, significantly and uniquely predicted bulimic symptoms as measured by the Eating Disorder Inventory (Garner et al. 1983) in a clinical sample. We hypothesized that this relationship would remain significant even when controlling for a wide variety of covariates, including an extensive list of additional components traditionally conceptualized as fitting under the construct of "impulsivity."

Historically, impulsivity has been one of the most frequently implicated risk factors for engaging in maladaptive behaviors such as bingeing and purging. Unfortunately, because impulsivity is a rather broad construct, and frequently conceptualized in different ways, it is generally not measured similarly from study to study (for an overview of various definitions for impulsivity, see Lynam and Miller 2004). This heterogeneity makes not only for inconsistent findings, but also encumbers research efforts to pinpoint

the role of specific aspects of impulsivity in various disorders.

In order to disentangle these mixed results, Whiteside and Lynam (2001) developed a now commonly used measure of impulsivity, the Urgency, (lack of) Premeditation, (lack of Perseverance), and Sensation Seeking Impulsive Behavior Scale (UPPS). This scale breaks impulsivity down into four related, but distinct, individual difference variables. Importantly, this scale allows for researchers to tease apart facets of what has traditionally been conceived of as impulsivity that may be more or less strongly associated with particular disorders and maladaptive behaviors.

Most relevant to bingeing and purging are lack of premeditation and negative urgency (Fischer et al. 2003). Lack of premeditation refers to acting without examining the consequences of one's actions. Negative urgency refers to a tendency to act rashly when experiencing negative moods. However, research has found that negative urgency is more strongly associated with bulimic behaviors than is lack of premeditation (e.g., Anestis et al. 2007; Fischer et al. 2004; Fischer et al. 2003). More specifically, Fischer et al. (2003) reported that negative urgency predicted bulimic symptoms and Fischer et al. (2004) reported that expectancies for eating outcomes moderated the relationship between negative urgency and bulimic symptoms. Additionally, Claes et al. (2005) reported that individuals meeting criteria for BN scored higher on negative urgency than did individuals meeting criteria for restrictive anorexia nervosa (AN) and more similarly to individuals with the binge-purge subtype of AN.

The relationship between negative urgency and bulimic behaviors is consistent with the escape model of bingeing and purging, which holds that bingeing and purging serve to abate negative affect (Heatherton and Baumeister 1991). In fact, a recent study has shown that engaging in bulimic behaviors not only serves to temporarily reduce negative affect, stress, and anger, but also to produce short-term increases in positive affect (Smyth et al. 2007). This study offered notable contributions to literature on dysregulated eating behaviors. First, ecological momentary assessment (EMA) was used to assess mood and stress, thereby providing a more accurate account of fluctuations in these domains. Second, of studies investigating mood before and after a binge or purge, this study utilized the largest sample of bulimic women to date. The findings from this study provide evidence for both negative and positive reinforcement of bingeing and purging when faced with emotions that are difficult to handle.

Thus it seems that negative urgency is likely to play an important role in the decision to engage in bingeing and purging as negative urgency specifically refers to the tendency to act rashly in the face of negative affect. Moreover, not only is the role of negative urgency consistent with theory, but it appears to be uniquely related to bulimic behaviors as well. Anestis et al. (2007) found that after controlling for the other three factors of the UPPS [i.e., (lack of) Premeditation, (lack of) Perseverance, Sensation Seeking], as well as depression and anxiety, negative urgency significantly predicted bulimic symptoms as measured by the EDI in a non-clinical sample of undergraduates. Furthermore, residual changes in negative urgency across two time points approximately one month apart predicted residual changes in bulimic symptoms as measured by the EDI, indicating that some form of longitudinal relationship may exist between negative urgency and EDI-Bulimia.

The aim of the current paper was to extend previous findings by determining whether negative urgency specifically and significantly predicted bulimic behavior as measured by the EDI in a clinical sample. Previous studies have utilized clinical samples, but have not controlled for other aspects of impulsivity. Additionally, prior studies have controlled for other components of impulsivity, but have utilized undergraduate samples with less severe symptomatology. As highlighted by the recent Smyth et al. (2007) article, there is a dearth of research on large clinical samples, and thus this study provides an important contribution to the literature on the role of negative urgency in a sample with elevated clinical symptomatology. Moreover, devised to be a stringent test of the hypothesis that negative urgency plays a unique role in dysregulated eating behaviors as measured by the EDI, this study utilized a regression framework to determine whether the relationship would remain significant even after controlling for a more extensive list of covariates than has been utilized in prior research. Specifically, we hypothesized that after controlling for the other three subscales of the UPPS, scores from the Impulsive Behavior Scale (IBS; Rosotto et al. 1998), depression symptoms, anxiety symptoms, anxiety sensitivity, positive and negative affect, biological sex, age, suicidal ideation, ethnicity, education level, and global assessment of functioning (GAF), negative urgency would still significantly predict bulimic behavior as measured by the EDI. The use of the IBS as a covariate in addition to the other components of the UPPS is important, as significant findings would indicate that the relationship is specific to negative urgency and, as such, the importance of affect as a precipitating factor would be highlighted. In other words, by controlling for a disparate set of measures that each fit under the general construct of impulsivity, we hope to emphasize that the tendency to act rashly specifically in response to negative affect is a more robust predictor of dysregulated eating behaviors than a general tendency to act without planning or a simple history of engaging in maladaptive behaviors.

Method

Participants

One hundred thirty men and women seeking psychological services at a university sponsored mental health clinic were enrolled in the current study. All participants included in the study signed a consent form detailing their participation for research purposes. Participants were then interviewed by advanced therapists in a doctoral training program, and completed all measures at intake, prior to the beginning of therapy. All procedures were approved by the university's Institutional Review Board. Of the one hundred thirty participants, 57.7% were female, and 42.3% were male. The age of participants ranged from 18 to 60 ($M = 25.96$, $SD = 9.26$). The ethnic composition of the sample was 74.6% Caucasian, 9.8% Hispanic, 9% African American, 3.3% Asian/Pacific Islander, and 3.3% American Indian/Alaskan Native. The majority of subjects had an Axis I psychiatric disorder: 48 depressive disorders, 40 anxiety disorders, 39 substance use disorders, 8 eating disorders, and 22 learning disorders. Additionally, there were eight cases of personality disorders. Comorbidity was the norm in this sample, as is typically the case in clinical settings and, as such, the number of disorders and the number of participants are not equivalent. Additionally, self-report data for the participants were gathered during a screening interview whereas diagnoses were determined during a later intake session. Many participants did not return after the screening and, as such, no diagnostic information was gathered for them. Some individuals presented to the clinic seeking assessment services and did not meet criteria for any mental disorder; however, lost data due to a failure to return for intake likely mean that the number of mental disorders in this sample is a substantial underestimate.

Measures

Diagnostic Tools

The Structured Clinical Interview for DSM-IV, Patient Edition (SCID-P) The SCID-P is a semi-structured diagnostic interview that utilizes DSM-IV criteria to determine whether or not the interviewee meets criteria for an Axis I psychiatric disorder (First et al. 1995). This particular interview is commonly utilized in clinical settings and draws upon DSM-IV criteria. Participants were administered modules from this interview at intake to determine diagnostic status. Individuals who did not return to the clinic for intake after the initial screening process did not take part in the interview.

The Structured Clinical Interview for DSM-IV Personality Disorders (SCID-II) The SCID-II is a semi-structured diagnostic interview utilized to assess whether or not an individual meets DSM-IV criteria for an Axis II personality disorder (First et al. 1997). Participants were administered modules from this interview at intake to determine diagnostic status. Individuals who did not return to the clinic for intake after the initial screening process did not take part in the interview.

Predictor Variable

UPPS Impulsive Behavior Scale

The UPPS (Whiteside and Lynam 2001) is a 45-item self report measure designed to assess various facets of impulsivity. The UPPS yields four subscales: negative urgency, (lack of) premeditation, (lack of) perseverance, and sensation-seeking. The negative urgency subscale is designed to measure an individual's tendency to act quickly, giving little thought to consequences, specifically when faced with negative affect. The (lack of) premeditation scale is designed to assess an individual's tendency to act without much attention to planning. The (lack of) perseverance scale measures respondents' inability to follow through with tasks. Finally, the sensation-seeking scale is designed to measure an individual's tendency to seek out and take part in novel experiences. The UPPS is a widely used measure that has been found to have adequate reliability and validity (Claes et al. 2005), and includes items such as "I have trouble resisting my cravings" (from the Negative Urgency scale), "I don't like to start a project until I know exactly how to proceed" (from the Premeditation scale), "I generally seek new and exciting experiences and sensations" (from the Sensation-Seeking scale), and "I generally like to see things through to the end" (from the Perseverance scale). The alpha coefficients for each scale in the current sample were as follows: negative urgency (.92), lack of premeditation (.88), sensation-seeking (.88), lack of perseverance (.88).

Dependent Variable

Eating Disorder Inventory

The Eating Disorder Inventory (EDI; Garner et al. 1983) is a 64-item questionnaire regarding eating attitudes and behaviors. Participants are asked to rate symptoms on a 6-point scale ranging from 1 (never) to 6 (always). The EDI includes items such as "I stuff myself with food," and is made up of eight subscales: Drive for Thinness, Perfectionism, Body Dissatisfaction, Ineffectiveness, Interoceptive Awareness, Maturity Fears, Bulimia, and Interpersonal Distrust. For the present study, we utilized the Bulimia subscale, which had an alpha coefficient of .90.

Control Variables

In the interest of conducting a stringent, specific test of the utility of negative urgency in predicting bulimic symptoms, we chose to include a host of control variables, described below. These variables range in scope from depression, to clinician-rated reports of patient functioning. Utilizing a wide array of variables provides specificity not afforded by a data analytic strategy that excludes such breadth of measures. These covariates were chosen due to previous research indicating that they might play an important role in the etiology and/or maintenance of bulimic symptoms. For instance, prior work has indicated the general construct of impulsivity is predictive of bingeing and purging (Sullivan et al. 1998; Fahy and Eisler 1993). Additionally, prior studies have implicated anxiety sensitivity (Anestis et al. 2008) and other mood related variables (Arnow et al. 1995; Wegner et al. 2002). In an effort to emphasize the incremental validity of negative urgency as an important variable in dysregulated eating behaviors, we thus decided that it was pivotal to include a wide variety of psychological and demographic controls.

Anxiety Sensitivity Index

The Anxiety Sensitivity Index (ASI; Reiss et al. 1986) is a 16-item self-report measure designed to assess an individual's sensitivity to anxiety. Responses are given on a five-point scale that ranges from 0 (very little) to 4 (very much). The ASI includes statements such as "It scares me when I am nervous." The ASI has been found to be a reliable and valid measure of anxiety sensitivity (Peterson and Plehn 1999), and the coefficient alpha in the current sample is .89.

Beck Anxiety Inventory

The Beck Anxiety Inventory (BAI; Beck and Steer 1993) is a 21-item self-report measure asking participants to rate their levels of anxiety-related symptoms. Participants indicate to what degree they have experienced symptoms of anxiety (e.g., shaky) in the past 2 weeks, ranging from 0 (not at all) to 3 (severely). The alpha coefficient for the current sample was .91.

Beck Depression Inventory-Second Version

The Beck Depression Inventory-II (BDI-II; Beck 1998a) is a 21-item self-report questionnaire used to assess current symptoms and severity of depression. Individuals are asked to pick one of four statements describing a symptom of depression that best explains their current depression level; items are scored from 0 to 3. An example of a response that would be scored zero is "I do not feel sad," while an example of a response that would be scored three is "I am so sad or unhappy that I can't stand it." The BDI-II has been shown to be a reliable and valid measure of depressive symptoms (Beck et al. 1998a, b). The coefficient alpha in the current sample was .93.

Impulsive Behaviors Scale

The Impulsive Behaviors Scale (IBS; Rosotto et al. 1998) is a 25-item self-report measure in which respondents are asked to indicate how frequently they take part in a variety of impulsive behaviors (e.g., shoplifting, promiscuous sex) on a 5-point Likert-type scale ranging from 1 (never) to 5 (regularly). The alpha coefficient for the current sample was .89.

Global Assessment of Functioning

The Global Assessment of Functioning Scale (GAF; APA 2000) is used to assess an individual's psychological, social, and occupational functioning. The GAF is based on clinician report, and ranges from 0 (very low functioning across domains) to 100 (superior functioning in a wide range of activities), with higher scores indicative of better functioning. The GAF has been shown to be a reliable correlate of psychiatric symptoms, clinical diagnoses, and various other clinical outcomes (Friis et al. 1993; Moos et al. 2000). Additionally, the GAF has displayed reliability and concurrent validity in the current study's setting (Reardon et al. 2002).

Positive and Negative Affect Schedule

The Positive and Negative Affect Schedule (PANAS; Watson et al. 1998) is a 20-item self-report measure designed to assess respondents' levels of various emotions. Ten items are regarded as positive emotions (e.g., inspired) while the other ten are regarded as negative emotions (e.g., irritable). Responses are given on a five-point Likert-type scale that ranges from 1 (very slightly or not at all) to 5 (extremely). The coefficient alpha for the current sample was .90 for the positive affect scale, and .89 for the negative affect scale.

Beck Scale for Suicide Ideation

The Beck Scale for Suicide Ideation (BSS; Beck et al. 1988) is a 21-item self-report measure used to determine various facets of risk for suicidal behavior. Respondents rate their current level of symptoms on a three-point scale, ranging from 0 to 2, with higher scores indicative of greater

risk. Items are aimed at rating symptoms such as suicidal ideation and plans and preparation. The alpha coefficient for the current sample was .87.

Results

Means, standard deviations, and intercorrelations are presented in Table 1.

Negative Urgency predicting EDI-Bulimia A least squares linear regression model was used to determine whether urgency (as measured by the UPPS) significantly predicted bulimic symptoms (as measured by the Bulimia subscale of the EDI). To conduct a stringent test, we controlled for a host of covariates in the analyses. Variables that were controlled for include: lack of perseverance, lack of premeditation, and sensation-seeking (as measured by the UPPS), ASI, BAI, BDI, IBS, PANAS, suicidal ideation, age, biological sex, ethnicity, level of education, and GAF. In step 1, the covariates were added to the equation. In step 2, negative urgency was added as the independent variable. The results indicated that negative urgency significantly predicted bulimic symptoms as measured by the Bulimia subscale of the EDI, even when controlling for lack of perseverance, lack of premeditation, sensation seeking, ASI, BAI, BDI, IBS, PANAS, BSS, age, biological sex, ethnicity, level of education, and GAF ($t = 3.01$, $P < .01$, $f^2 = .113$). Negative urgency was the only variable that maintained a significant relationship with the dependent variable when all other variables were controlled. A detailed description of this analysis can be found in Table 2.

Discussion

This study aimed to follow-up on prior work examining the role of negative urgency in maladaptive behaviors. Specifically, we sought to test whether negative urgency would predict EDI-Bulimia in a clinical sample, even when controlling for the other three subscales of the UPPS, the Impulsive Behavior Scale, depressive symptoms, anxiety symptoms, anxiety sensitivity, positive and negative affect, suicidal ideation, GAF, and a variety of demographic variables. Results indicated that this relationship was, in fact, significant, and that the effect size was moderate. Additionally, in the analysis, negative urgency was the only variable to remain a significant predictor of bulimic symptoms once all other variables were controlled. In light of previous findings that link the covariates to the dependent variable, this indicates that the reported relationship involving negative urgency is exceptionally resilient.

Table 1 Means, standard deviations, and intercorrelations for the variables used in the analyses

	1	2	3	4	5	6	7	8	9	10	11	12
1. BDI-II	1											
2. BAI	.756**	1										
3. ASI	.592**	.713**	1									
4. Urg	.556**	.443**	.396**	1O								
5. Prem	−.211*	−.032*	−.060	−.492	1							
6. SS	−.240**	−.225*	−.318**	.055	−.016	1						
7. Pers	−.352**	−.137	−.182*	−.444**	.540**	.115	1					
8. PANAS PA	−.604**	−.369**	−.343**	.384**	.308**	.306**	.500**	1				
9. PANAS PA	.767**	.754**	.703**	.537**	−.167	−.239**	−.218*	−.398**	1			
10. BSS	.407**	.423**	.197*	.388**	−.075	.019	−.207*	−.314**	.336**	1		
11. EDI-B	.390**	.343**	.330**	.482**	−.268	−.004	−.163	−.243**	.420**	.189*	1	
12. IBS	.316**	.298**	.120**	.414**	−.281**	.351**	−.248**	−.100	.282**	.328**	.239**	1
Mean	14.36	12.60	20.85	35.41	37.10	36.24	32.24	29.23	23.95	1.88	13.02	45.34
SD	11.33	10.75	12.01	11.62	8.37	10.95	8.16	8.19	8.96	4.01	7.03	14.83

* Significant at the .05 level; ** Significant at the .01 level

Table 2 Negative urgency predicting EDI-Bulimia when controlling for IBS, premeditation, sensation-seeking, perseverance, PANAS-Pa, PANAS-Na, BDI, BAI, ASI, biological sex, age, suicide risk, ethnicity, education level, GAF

		F for set	*T*-value	*P*-value	Correlations	
					Zero-order	Part
1	Constant	1.986	0.990	0.324		
	Impulsive behavior scale		0.934	0.353	0.253	0.084
	Premeditation		−0.572	0.569	−0.137	−0.051
	Sensation seeking		1.128	0.262	0.012	0.101
	Perseverance		0.204	0.839	−0.136	0.018
	Positive affect		−0.547	0.586	−0.242	−0.049
	Negative affect		1.378	0.171	0.388	0.124
	Depression		0.015	0.988	0.377	0.001
	Anxiety		0.215	0.830	0.342	0.019
	Anxiety sensitivity		0.073	0.942	0.297	0.007
	Biological sex		−2.294	0.024	−0.304	−0.206
	Age		0.500	0.619	0.073	0.045
	Suicidal ideation		0.065	0.948	0.197	0.006
	Ethnicity		0.294	0.770	0.042	0.026
	Educational level		−0.281	0.780	0.060	−0.025
	GAF		−0.015	0.988	−0.276	−0.001
	Constant	2.711	−0.249	0.804		
	Impulsive behavior scale		0.644	0.521	0.253	0.055
	Premeditation		0.997	0.321	−0.137	0.085
	Sensation seeking		0.564	0.574	0.012	0.048
	Perseverance		0.039	0.969	−0.136	0.003
	Positive affect		−0.718	0.474	−0.242	−0.061
	Negative affect		0.442	0.659	0.388	0.038
	Depression		−0.344	0.732	0.377	−0.029
	Anxiety		0.784	0.435	0.342	0.067
	Anxiety sensitivity		−0.512	0.610	0.297	−0.044
	Biological sex		−1.529	0.130	−0.304	−0.131
	Age		0.669	0.505	0.073	0.057
	Suicidal ideation		−0.536	0.593	0.197	−0.046
	Ethnicity		0.732	0.466	0.042	0.063
	Educational level		−0.375	0.708	0.060	−0.032
	GAF		−0.018	0.986	−0.276	−0.002
	Negative urgency		3.250	0.002	0.497	0.278

Dependent variable: EDI-Bulimia

Our results thus support the idea that individuals who show a specific tendency to act rashly in the face of negative affect are at increased risk for exhibiting bulimic symptoms as measured by the EDI, which is consistent with the findings of prior studies on this topic (Anestis et al. 2007; Fischer et al. 2004; Fischer et al. 2003). Additionally, our findings indicate that these tendencies are not better accounted for by the broader construct of impulsivity. Individuals high in negative urgency may demonstrate more control over their behaviors in the absence of negative affect, but may require the acquisition of more adaptive problem solving skills to help them manage their emotions more effectively when experiencing negative emotions.

These findings represent an extension and advancement of prior work (Anestis et al. 2007; Fischer et al. 2004; Fischer et al. 2003) in that they combined the strengths of other studies into a single sample. The extensive list of covariates, particularly with respect to impulsivity, served to emphasize the specificity of the relationship between negative urgency and EDI-Bulimia above and beyond the effect of general impulsive tendencies. Also, the use of the IBS in addition to the UPPS served to control for any difficulties individuals may have in reporting the rationale

for their own impulsive tendencies by asking participants to simply report the regularity with which they engage in specific behaviors. By controlling for so many other components of impulsivity, these results highlight the importance of negative affect as opposed to a general tendency not to consider consequences before acting. Additionally, due to some conceptual overlap between the IBS and negative urgency, this serves as a stringent test of the specific role of negative urgency relative to other aspects of impulsivity.

Also, the use of a clinical sample, albeit not a sample comprised only of eating disorder patients, allowed for a test of this hypothesis in a sample that features heightened levels of psychopathology. Research on undergraduates certainly has significant value; however, it is unclear at times the degree to which studies based solely upon non-clinical participants maintain external validity. These findings appear to indicate that prior studies were, in fact, measuring a phenomenon that extends outside of the laboratory and into community clinics. As such, these results represent significant evidence that clinicians may need to thoroughly assess and attempt to reshape a client's tendency to exhibit behaviors that are motivated primarily by the desire to alleviate negative affect.

These findings are not meant to indicate that dysregulated eating behaviors occur only in the context of maladaptive attempts to regulate negative emotions; however, they are consistent with what is now a fairly substantial amount of evidence that, in many cases, the drive to reduce negative affect is in fact a primary consideration for individuals exhibiting such behaviors. Further research focusing on the degree to which various clinical interventions are capable of diminishing this tendency would serve to increase the clinical utility of these findings. Although Anestis et al. (2007) did report evidence supportive of longitudinal fluctuations in levels of negative urgency, the reported changes were not generally substantial and, as such, more work is needed in order to sufficiently demonstrate that negative urgency is a feasible target in therapy.

Another consideration worth noting when interpreting these findings is the recent revision of the UPPS to include positive urgency (UPPS-P; Cyders et al. 2007; Cyders and Smith 2007). Positive urgency refers to the tendency to act rashly, specifically in the face of positive affect. This represents a distinct but parallel construct to negative urgency as defined in the original UPPS. The revised version of the UPPS was not yet available when our data were collected and, as such, only negative urgency was considered in these analyses; however, future research investigating both constructs with respect to dysregulated eating behaviors would likely offer useful information.

This study did involve some limitations. First, although the sample was gathered from a community outpatient clinic, the participants were not limited to patients diagnosed with eating disorders. This type of sample experiences elevations in general levels of symptomatology and, as such, increases the external validity of the findings; however, a true eating disorder sample would offer more pertinent information. Additionally, all data other than demographics and GAF were acquired through self-report and, as such, must be interpreted with caution. The means on our dependent variables were not substantially elevated, which serves as a legitimate concern; however, the means on our independent variable and covariates were significantly elevated. Also, the cross-sectional design of our study precludes any conclusions about directionality or causality. In order to fully test this theory, a priori hypotheses must be accompanied by prospective, controlled measurement of the variables of interest, allowing for the analysis of change and more direct measurement of causality.

The points presented in this study are important to consider for a variety of reasons. First, they indicate that the drive to reduce negative affect is a particularly important variable to consider in dysregulated eating behaviors. As such, this tendency becomes an important clinical consideration consistent with the ideals of several therapeutic interventions, particularly dialectical behavior therapy. Also, these findings are important to consider because, more than any other study before it, it highlights the specific role of negative urgency relative to other facets of impulsivity in these behaviors. By controlling for the other three subscales of the UPPS as well as the IBS, which asks participants to indicate how often they engage in a range of impulsive behaviors, this study managed to truly highlight that dysregulated behaviors tend to be driven by affect-relevant impulsivity rather than a general tendency not to think before acting or an inclination towards thrill seeking. Finally, these results are important to consider because they provide further rationale for considering the various components of impulsivity rather than simply analyzing the broad construct as a whole. By demonstrating that different components correlate with different behavioral outcomes, this study emphasized that elevations on different impulsivity-related variables might predict different behavioral outcomes.

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