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THE ROLE OF URGENCY IN MALADAPTIVE COPING BEHAVIORS

By

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ABSTRACT

Prior work on maladaptive coping behaviors has cited impulsivity as a risk factor. The concept of impulsivity, however, fails to address the potential role of negative affect in such behaviors. The UPPS Impulsive Behavior Scale attempts to address this weakness by dividing impulsivity into four subscales: Urgency, Sensation Seeking, (lack of) Premeditation, and (lack of) Perseverance. I predicted that urgency, defined as the tendency to act rashly in response to the experience of negative affect, would be related to elevations on three maladaptive coping behaviors - excessive reassurance seeking, drinking to cope, and bulimic symptoms as measured by the Eating Disorder Inventory - in both cross-sectional and longitudinal analyses in an undergraduate sample (N=70). Participants were assessed at two time points, three to four weeks apart. Urgency significantly predicted all three outcome variables cross-sectionally at both Time 1 and Time 2. Time 1 urgency significantly predicted Time 2 excessive reassurance seeking. Changes in urgency from Time 1 to Time 2 predicted changes in all three outcome variables. Results indicate a cross-sectional relationship exists between urgency and certain maladaptive coping behaviors. Additionally, some form of longitudinal relationship appears to exist between these variables.

Key Words: Impulsivity, Bulimia Nervosa, Urgency

THE ROLE OF URGENCY IN MALADAPTIVE COPING BEHAVIORS

INTRODUCTION

From an evolutionary viewpoint, emotions serve as alerts intended to direct individuals toward adaptive strategies for navigating their immediate environment (Frijda, 1986). Negative emotions thus provide motivation to alter or abandon an undesirable situation, whereas positive emotions reinforce behaviors capable of benefiting the individuals in question and therefore increase the likelihood that such behaviors will reoccur. Along these lines, people who properly recognize the nature of their current affective states and react in a contextually adaptive manner, will likely enjoy better mental health, interpersonal relationships, and emotional well-being than will individuals who tend to utilize less beneficial approaches (Cicchetti, Ackerman, & Izard, 1995; Cole, Michel, & Teti, 1994). Individuals less capable of accurately assessing and adaptively reacting to affective experiences, on the other hand, would theoretically be at a heightened risk for developing a behavioral pattern that includes the habitual use of maladaptive coping behaviors – behaviors aimed towards immediately reducing the experience of negative affect - which would subsequently place them at greater risk for developing various forms of psychopathology. Unable to properly identify affective cues and accurately assess the degree of danger involved in experiencing such emotions, such individuals might utilize coping behaviors that, while at least moderately effective in the short term, involve harmful long term consequences (e.g. psychopathology).

Habitual use of maladaptive coping behaviors in response to negative affect has been linked to a host of psychological disorders, including depression, eating disorders, and substance abuse disorders (Keel & Mitchell, 1997; Joiner, Metalsky, Katz, & Beach, 1999; Fischer, Anderson, & Smith, 2004; Claes, Vandereycken, & Vertommen, 2005; Bornovalova et al., 2005). While the harmful nature of such behavioral patterns is essentially undisputed, empirical findings regarding the risk factors and motivations behind them have not been quite as consistent. Not every individual who experiences negative affect feels compelled to engage in destructive behaviors in an attempt to manage their emotions, so the question becomes which individuals are likely to display suboptimal coping skills.

The most frequently cited risk factor for these maladaptive coping behaviors has been impulsivity. The problem with this, however, is that impulsivity itself is an extraordinarily broad construct defined differently across different studies (Lynam & Miller, 2004). One problem inherent in the continued existence of conflicting definitions of impulsivity is that such inconsistencies render comparisons across studies that utilize different measures of impulsivity especially problematic. Each definition of impulsivity has a unique relationship with maladaptive coping behaviors that makes intuitive sense, but because the relationships differ from one another, grouping them together limits the degree to which subsequent results are interpretable.

An additional problem with much of the current literature on impulsivity is that the popular definitions of the construct (Gray, 1970; Eysenck & Eysenck, 1977; Patton, Sanford, & Barratt, 1995) fail to address the role of affect in general and negative affect in particular. If impulsivity truly serves as a risk factor for maladaptive coping behaviors, it seems logical to assume that it must, in fact, involve the need or tendency to act in such a way as to alter negative affect.

In response to the lack of clarity in the impulsivity literature, a new conceptualization of the construct has emerged in the work of Whiteside and Lynam (2001), through which they have created the now widely used Urgency, (lack of) Premeditation, (lack of) Perseverance, and Sensation Seeking Impulsive Behavior Scale (UPPS). The UPPS divides impulsivity into four separate categories, each of which the authors operationalize as a personality variable, and the structure of the scale has been confirmed by subsequent factor analysis (Lynam & Miller, 2004).

The urgency subscale measures an individual's tendency to act rashly in the face of negative affect. This subscale thus directly addresses the role of emotion in impulsive behaviors. Although the subscale itself is fairly new, it has been utilized in several studies and linked to a variety of maladaptive behavioral outcomes. These outcomes include early marijuana use in men, tension reduction alcohol consumption motives, bulimic symptoms as measured by the Bulimia Test - Revised (BULIT-R; Thelen, Famer, Wonderlich, & Smith, 1991), binge eating, general eating problems, hostile attributional style in both genders, and aggression (Fischer, Smith & Anderson, 2003; Miller, Flory, Lynam, & Leukefeld, 2003; Fischer, Anderson, & Smith, 2004; Lynam & Miller, 2004).

In a study involving 146 White female eating disorder patients in an inpatient setting, Claes, Vandereycken, & Vertommen (2005) found that patients with BN exhibited elevated UPPS-Urgency scores relative to restricting anorexia nervosa patients and more similar scores relative to binge-purge anorexia nervosa patients.

Additional work utilizing measures of similar constructs have reported findings that indicate urgency may play a significant role in the use of other problematic behaviors that contribute to the development and maintenance of psychopathology. Brown, Lejuez, Kahler, and Strong (2002) found that a diminished ability to withstand psychological and physical distress predicted quicker relapses in individuals attempting to quit smoking. In this study, those participants who were least able to persist in a computer task were most likely to quickly relapse.

In a later study, Lejuez, Daughters, Hernandez, Kosson, and Lynch (2005) found that Borderline Personality Disorder (BPD) symptoms, as measured by the Borderline Symptom List (Bohus et al., 2001), were negatively related to persistence in a computer task. This finding is particularly important because individuals diagnosed with BPD have been found to exhibit elevated levels of many problematic psychological and behavioral outcomes, including self-injury, substance abuse, and BN (Wonderlich, Swift, Slomik, & Goodman, 1990; Linehan & Heard, 1992; Vollrath, Alnaes, & Torgersen, 1996; Linehan et al., 1999). The potential role for urgency in this process is highlighted by the findings of Whiteside, Lynam, Miller, and Reynolds (2005), who found that UPPS-Urgency is significantly related to BPD features as measured by the Personality Assessment Inventory (PAI; Morey, 1991).

Problematic outcomes precipitated by the drive to reduce negative affect extend into the realm of interpersonal behaviors as well. Coyne's (1976) theory of depression proposed that dysphoric individuals excessively seek reassurance from others in a counter-productive effort to reduce their own negative self-images. Such excessive reassurance seeking has been found to be a potential contributory cause of major depression (Joiner et al., 1999). Here again, a maladaptive behavioral outcome capable of contributing to the development of psychopathology can be linked to a potential role for the drive to immediately reduce negative affect.

The above mentioned behaviors may, at first glance, appear to be fairly disparate in nature; however, a common link binds them together as outcomes of a powerful risk factor: the inability to effectively manage or weather the experience of negative affect. Overwhelmed by negative emotions and desperate to immediately reduce such threatening affective sensations, certain individuals appear at risk to engage in one or several behaviors from this broad list. To test this theory, I developed a study that required individuals to answer a host of questions regarding their methods for managing emotions as well as the degree to which they engage in behaviors and experience symptoms characteristic of various psychological disorders. Participants answered these questions on two separate occasions, separated by three to four weeks.

The primary goal of this study was to examine the relationship between urgency and certain maladaptive behaviors. Due to issues of feasibility, not every maladaptive coping behavior could be assessed in this study; however, I utilized a range of behaviors that have clear phenotypic differences from one another in an effort to demonstrate the generalizability of the hypothesized relationships. Several hypotheses were tested, the most basic of which was that Time 1 urgency would be significantly related to Time 1 levels of drinking to cope, bulimic symptoms as measured by the Eating Disorder Inventory (EDI), and excessive reassurance seeking, even when controlling for Time 1 depressive and anxiety symptoms and the other three subscales of the UPPS Impulsive Behavior Scale. Similarly, I predicted that Time 2 urgency would predict Time 2 levels of drinking to cope, bulimic symptoms as measured by the EDI, and excessive reassurance seeking when controlling for Time 2 scores on the same covariates used in Time 1. The use of depressive symptoms, anxiety symptoms, and the remaining three subscales of the UPPS as covariates served as a stringent test of these hypotheses, allowing us to focus on the unique effects of urgency, separate from the effects of other facets of impulsivity and well known risk factors for maladaptive coping behaviors. Additionally, I believed that Time 1 urgency would predict Time 2 scores for each dependent variable, controlling for Time 1 depressive and anxious symptoms, the three remaining UPPS subscales, and the Time 1 score for the dependent variable. I also predicted that changes in urgency from Time 1 to Time 2 would predict changes in each of the dependent variables, controlling for changes in depressive and anxiety symptoms

and the three other UPPS subscales. Finally, in an effort to point towards the unique contributions of urgency as a predictor variable for maladaptive coping behaviors, I also performed a series of follow-up analyses in which each of the other three subscales of the UPPS- Sensation Seeking, (lack of) Premeditation, and (lack of) Perseverance - served as predictors for the outcome variables. In these analyses, when one subscale served as the predictor, the other three subscales were used as covariates.

METHOD

Participants

Participants in this study were undergraduates enrolled in a general psychology course at a large Southeastern university. Each participant received course credit for his or her participation and signed an informed consent form before participating in the experiment. Subjects were told they would be participating in a study examining emotions and coping that would require them to fill out a packet of questionnaires on two separate occasions separated by three to four weeks. In total, 70 participants (82.9% female) took part in both time points. All subjects who failed to participate in both time points (N=5) were eliminated from the analyses. A one-way ANOVA was performed to test for differences between those who were included in the analyses and those who were excluded. This test revealed no significant differences between these two groups on any of the variables used in the analyses.

The ethnic composition of the sample was 77.1% white or Caucasian, 10.0% Hispanic or Latino, 5.7% African American, 2.9% Asian American, and 2.8% other. One participant chose not to indicate membership in an ethnic or racial group. The age range for the sample was 17-53 (mean = 19.31, standard deviation = 4.23).

Measures

Predictor Variable: The Urgency, (lack of) Premeditation, (lack of) Perseverance, and Sensation Seeking Impulsive Behavior Scale (UPPS; Whiteside & Lynam, 2001) is a 45-item self-response scale that features four subcategories: Urgency, Sensation Seeking, (lack of) Premeditation, and (lack of) Perseverance. The Urgency subscale consists of twelve items measuring the degree to which individuals act rashly in the face of negative affect (e.g., "I often make matters worse because I act without thinking when I am

upset.”), each of which uses a Likert type scale ranging from 1 “Not true of me” to 5 “Very true of me.” The coefficient alpha for the Urgency subscale was .91 for Time 1 and .89 for Time 2. The coefficient alpha for the Sensation Seeking subscale was .91 for Time 1 and .90 for Time 2. The coefficient alpha for the (lack of) Premeditation subscale was .81 for Time 1 and .84 for Time 2. The coefficient alpha for the (lack of) Perseverance subscale was .87 for Time 1 and .84 for Time 2.

Dependent Variables: The Drinking Motives Questionnaire (DMQ; Cooper et al. 1992) is a self-report measure that consists of three dimensions – coping motives, enhancement motives, and social motives - each of which measures a particular motivation for consuming alcohol. Each dimension is measured with five questions and the individual test items utilize a Likert style format ranging from 1 (almost never/never) to 4 (almost always). This questionnaire has been used frequently in studies measuring reasons for drinking. The alpha coefficient for the DMQ-Coping scale was .87 for Time 1 and .86 for Time 2.

The Eating Disorder Inventory (EDI; Garner, Olmstead, & Polivy 1983) is a self-report measure that consists of 64 items used to assess pathological eating behaviors and cognitions. The measure has eight subscales: Drive for Thinness, Bulimia, Interpersonal Distrust, Interoceptive Awareness, Perfectionism, Maturity Fears, Body Dissatisfaction, and Ineffectiveness. Individual items use a Likert scale (1=strongly agree 5=strongly disagree) and the internal validity of the measure has been widely reported. Additionally, discriminant validity for Bulimia Nervosa and Anorexia Nervosa diagnoses has been reported (Garner et al., 1983). The alpha coefficient for the EDI-Bulimia scale was .81 for Time 1 and .87 for Time 2.

The Depressive Interpersonal Relationships Inventory – Reassurance Seeking subscale (DIRI-RS; Joiner, Alfano, & Metalsky, 1992) is a four item scale that measures the degree to which individuals seek reassurance from others in a manner consistent with Coyne’s (1976) interpersonal theory of depression. The alpha coefficient for the DIRI-RS was .87 for Time 1 and .91 for Time 2.

Control Variables: The Beck Depression Inventory II (BDI-II; Beck, Steer, & Garbin, 1988) is a self-report measure that consists of 21 items used to assess depressive symptoms. Participants use a Likert type scale (0-3) to report the degree to which the different items describe their affective state over the course of the past two weeks. This measure consists of 21 items measuring symptoms of MDD. The reliability and stability of the BDI have been reviewed extensively (Beck, Steer, & Garbin, 1988; Beck et al., 1996). The total range of scores is 0-63, with scores <10 indicating no presence of the disorder, scores 10-18 indicating mild symptomatology, and scores >18 indicating moderate to severe symptomatology. The coefficient alpha for the BDI-II was .85 for Time 1 and .89 for Time 2.

The Beck Anxiety Inventory, (BAI; Beck, Epstein, Brown, & Steer, 1988) is a self-report measure that consists of 21 items. Each item uses a Likert Scale (0-3) with which the participant indicates to what degree particular symptoms of anxiety have applied to them over the course of the past two weeks. The measure shows impressive test-retest reliability and extensive information regarding the validity of the measure has been published by the authors. The coefficient alpha for the BAI was .92 for Time 1 and .91 for Time 2.

Data Analytic Procedure

A series of linear regressions were used to test the various hypotheses. Each behavioral outcome variable was subject to the same series of regressions, with each regression testing one of the four hypotheses.

RESULTS

Means and standard deviations for Time 1 predictors, dependent variables, and covariates as well as their intercorrelations can be found in Table 1 below. Means and standard deviations for Time 2 predictors, dependent variables, and covariates as well as their intercorrelations can be found in Table 2 below. Intercorrelations for Time 1 and Time 2 variables can be found in Table 3 below.

Time 1 Urgency predicting Time 1 scores on EDI-Bulimia, DMQ-Cope, and DIRI-RS.

Regression analyses were used to predict Time 1 scores on EDI-Bulimia, DMQ-Cope, and DIRI-RS from Time 1 UPPS-Urgency scores, controlling for Time 1 BDI, BAI, UPPS-(lack of) Premeditation, UPPS-(lack of) Perseverance, and UPPS-Sensation Seeking. EDI-Bulimia, DMQ-Cope, and DIRI-RS served as dependent variables in separate analyses. For each analysis, the following procedure was utilized: Step 1: Time 1 scores on BDI, BAI, UPPS-(lack of) Premeditation, UPPS-(lack of) Perseverance, and UPPS-Sensation Seeking were entered as covariates. Step 2: UPPS-Urgency was entered as the independent variable. Time 1 UPPS-Urgency significantly predicted Time 1 EDI-Bulimia ($\beta=.32$, $t=3.15$, $p<.01$, $f^2=.36$; see Table 4), DMQ-Cope ($\beta=.39$, $t=3.75$, $p<.01$, $f^2=.41$), and DIRI-RS ($\beta=.34$, $t=3.17$, $p<.01$, $f^2=.37$)¹.

Time 2 Urgency predicting Time 2 scores on EDI-Bulimia, DMQ-Cope, and DIRI-RS. In a second series of analyses, an identical set of linear regressions was utilized, with Time 2 variables replacing Time 1 variables. Time 2 UPPS-Urgency significantly predicted Time 2 EDI-Bulimia ($\beta=.47$, $t=4.65$, $p<.01$, $f^2=.49$; see Table 5), DMQ-Cope ($\beta=.47$, $t=4.84$, $p<.01$, $f^2=.51$), and DIRI-RS ($\beta=.31$, $t=2.96$, $p<.01$, $f^2=.34$)².

Time 1 Urgency predicting Time 2 scores on EDI-Bulimia, DMQ-Cope, and DIRI-RS. A series of regressions were used to predict Time 2 scores on EDI-Bulimia, DMQ-Cope, and DIRI-RS using Time 1 UPPS-Urgency, controlling for Time 1 BDI, BAI, UPPS-(lack of) Premeditation, UPPS-(lack of) Perseverance, UPPS-Sensation Seeking, and Time 1 scores on the dependent variable. The covariates were entered in Step 1 of the regression and the independent variable was entered in Step 2. Time 1 UPPS-Urgency significantly predicted Time 2 DIRI-RS ($\beta=.19$, $t=2.31$, $p<.03$, $f^2=.27$; see Table 6), however, it did not significantly predict Time 2 EDI-Bulimia ($\beta=.10$, $t=1.28$, $p=ns$) or Time 2 DMQ-Cope ($\beta= -.03$, $t= -.46$, $p=ns$).

Residual change in Urgency predicting residual change in EDI-Bulimia, DMQ-Cope, and DIRI-RS. A series of regressions identical to those used in the analysis using Time 1 UPPS-Urgency to predict scores on the Time 1 dependent variables was used in this follow-up analysis, with residual change variables taking the place of Time 1 variables. Unstandardized residuals were calculated by using Time 1 variables to predict scores on their corresponding Time 2 counterparts in a linear regression and saving the unstandardized residuals. Residual change in UPPS-Urgency significantly predicted

residual change in EDI-Bulimia ($\underline{sr}=.36$, $\underline{t}=2.97$, $p<.01$, $f^2=.35$; see Table 7), DMQ-Cope ($\underline{sr}=.27$, $\underline{t}=2.59$, $p<.01$, $f^2=.30$), and DIRI-RS ($\underline{sr}=.27$, $\underline{t}=2.22$, $p<.03$, $f^2=.27$)³, controlling for residual change in BDI, BAI, UPPS-(lack of) Premeditation, UPPS-(lack of) Perseverance, and UPPS-Sensation Seeking.^{4,5}

DISCUSSION

The primary goal of this study was to examine the nature of the relationship between urgency and a selection of maladaptive coping behaviors in both cross-sectional and longitudinal analyses. At both Time 1 and Time 2, urgency significantly predicted drinking to cope, excessive reassurance seeking, and bulimic symptomatology as measured by the EDI, even when controlling for depressive symptoms, anxiety symptoms, and the other three subscales on the UPPS Impulsive Behavior Scale. In other words, the tendency to act rashly in the face of negative affect accounted for a statistically significant degree of the variance in participants' scores on measures of maladaptive coping behaviors, even when controlling for a host of covariates. These results indicate that urgency may play a role in the process of maladaptive coping that extends above and beyond that which is explained by other components of what has traditionally been conceptualized as impulsivity. As such, the role of negative affect and one's ability to resist acting rashly in search of immediate relief might be a key consideration for clinicians and researchers seeking to determine who is and is not at risk for engaging in the destructive behavioral patterns capable of contributing to the development and maintenance of psychopathology.

The fact that UPPS-Urgency predicted all three behavioral variables when controlling for the other three subscales of the UPPS Impulsive Behavior Scale is an important consideration. Whereas previous literature has focused on the general role of impulsivity in various outcomes, this style of analysis allows for a more precise understanding of the specific facets of impulsivity that are particularly relevant to certain outcomes, which thus allows, in turn, for a more thorough understanding of the behaviors themselves and of the outcomes for which those behaviors serve as risk factors. In a sense, the use of a measure capable of discerning between the different variations that have fallen under the general heading of impulsivity allows researchers to focus their

view of these relationships, expanding and clarifying their understanding of the specifics that previously existed under a less distinct category.

The cross-sectional analyses revealed that the tendency to act rashly in the face of negative affect is predictive of the use of alcohol to reduce negative affect, of bulimic symptoms as measured by the EDI, and of excessive reassurance seeking. In light of these findings, the tendency to act quickly with an aim towards the immediate relief of an affective experience appears to be related to the use of destructive behavioral practices. While these individuals will almost certainly engage in more adaptive coping approaches from time to time as well, this potentially increased risk of developing maladaptive behavioral patterns could theoretically place them at risk for the subsequent development of various forms of psychopathology.

Although our initial longitudinal analyses - Time 1 urgency predicting Time 2 dependent variables, controlling for Time 1 scores on the BDI, BAI, other three UPPS subscales, and the dependent variable - were only significant for excessive reassurance seeking, additional analyses, in which change in the independent variables was used to predict change in the dependent variables, produced significant results for all three of the dependent variables. One interpretation of these findings is that the use of only two time points and the nonclinical status of the participants did not allow for enough change in drinking to cope and bulimic symptoms as measured by the EDI for any independent variable to account for a significant amount of variance above and beyond that which was accounted for by the Time 1 score on the dependent variable as well as the other covariates. In other words, with only one snapshot of change for the behavior patterns investigated in this study, the shifts in scores demonstrated here did not accurately reflect the degree to which the variables change across time and relate to one another. Additional time points over an extended period of time would provide more information and, as such, would likely present a fuller picture of the longitudinal fluctuations of these variables. The significant findings in our change analyses emphasize that this is a possibility, especially in light of the relatively large semi-partial correlations and effect sizes reported in each of those regressions.

An interesting note is that Time 2 excessive reassurance seeking was significantly predicted by Time 1 urgency, indicating that the relationship between predictor and

outcome in this particular instance is strong enough to overcome any difficulties of measuring change in a nonclinical sample with only two time points. This result may indicate excessive reassurance seeking is a behavior more readily engaged in by nonclinical samples than are more overtly destructive behaviors such as bingeing and purging and drinking to cope and that the longitudinal relationship between this variable and urgency can be more accurately assessed in a nonclinical sample. As such, the level of psychopathology within the sample may play a role in determining which behaviors are and are not influenced over time by the presence of elevated UPPS-Urgency scores or at least which behaviors can be sufficiently measured over particular time spans. Regardless, this particular finding indicates that a longitudinal relationship does exist between UPPS-Urgency and excessive reassurance seeking and, as such, an individual's ability to resist acting rashly in the face of negative affect needs to be considered a potential precursor to the development of an excessive pattern of reassurance seeking, which in turn could place that individual at risk for the development of depressive symptoms and major depression (Joiner et al., 1999)

The statistically significant findings on all three of the analyses examining the ability of changes in urgency to predict changes in the maladaptive coping strategies indicate that, although the initial longitudinal analyses were in large part not significant, some form of longitudinal relationship may exist between these variables. Residual change scores measure the degree to which scores on Time 2 measures differ from what would be predicted based upon scores on Time 1 measures. Because residual change in depressive symptoms, anxiety symptoms, and the other three subscales of the UPPS were covaried in the regression analyses, the significant effects are unique to changes in urgency, which provides a degree of rationale for further exploration into the potential longitudinal relationship between urgency and various maladaptive coping mechanisms.

An additional important consideration in light of the results from the change analyses is the current conceptualization of UPPS subscales as trait variables. Because change in urgency was predictive of change in the degree to which participants engaged in maladaptive coping behaviors, it appears urgency may in fact also involve state characteristics. If such is the case, the UPPS variables may still be less labile than actual state characteristics, but labile enough that they can serve as potential targets for therapy.

In my follow-up analyses, which served to examine the degree to which the significant relationships between urgency and maladaptive coping behaviors are unique to this particular aspect of what has been traditionally conceptualized as impulsivity, very few cross sectional and no longitudinal relationships proved significant. These analyses thus serve as evidence supportive of the fact that urgency – the drive to immediately reduce negative affect through behavioral means – is the most significant facet of impulsivity relative to maladaptive coping behaviors and therefore requires a significant degree of research and clinical attention from those seeking to elucidate the causes of problematic behavioral patterns.

Future research that utilizes a larger sample of data points over an extended period of time could serve to further clarify the nature of the longitudinal relationship between urgency and maladaptive coping behaviors. Also, the small sample in this study reduced statistical power and may have thus increased my rate of Type II error by limiting my ability to detect significant effects. If such is the case, my longitudinal findings may actually understate the role of urgency in maladaptive coping behaviors. While these findings are consistent with previous literature, future work will need to test whether these findings hold true in a larger sample. Similar studies could also benefit from altering the time intervals specifically examined in the instructions of all of the measures. In this case, the BDI-II and BAI both inquire about the previous two weeks; however, the other measures are geared towards more general tendencies and, as such, may not have been entirely sensitive to longitudinal change, particularly over such a short time frame. Additionally, while the use of residual change scores served to provide insight into potential longitudinal relationships between the variables of interest, directionality is always open to questioning in such analyses, so some consideration must be given towards this point when conceptualizing my results. The reviewed literature appears to support my contentions; however my analyses do not confirm this with complete certainty. Finally, a study that includes a measure of psychological distress tolerance would enable researchers to differentiate between the ability to withstand negative affect and the tendency to act quickly in its presence. This distinction would grant further insight into why some individuals are capable of weathering perceived affective crises whereas others feel compelled to act in such a way as to alter what they

perceive as unbearable. Also, in order to determine whether or not the role of urgency in the hypothesized chain of developments – elevated urgency leading to maladaptive coping style leading to psychopathology – is clinically significant, future research should include a clinical sample with a systematic approach towards diagnosis. Until such research is conducted, the current data, which illustrated a statistically significant relationship between urgency and problematic behavioral outcomes capable of assisting in the development or maintenance of psychopathology in both cross-sectional and longitudinal analyses, should be considered as evidence supportive of the need to consider an individual's ability to properly understand negative affect and resist acting rashly in its presence when assessing his or her overall clinical presentation.

Table 1

Means, standard deviations, and intercorrelations for all Time 1 variables are presented below. Correlations significant at the 0.01 level (2-tailed) are delineated with a (**). Correlations significant at the 0.05 level (2-tailed) are delineated with a (*).

	BDI	BAI	Urg	DMQ	EDI	DIRI	Prem	SS	Pers
BDI	1								
BAI	.495**	1							
Urg	.278*	.351**	1						
DMQ	.123	.329**	.531**	1					
EDI	.417**	.326**	.517**	.351**	1				
DIRI	.320**	.278*	.363**	.121	.115	1			
Prem	-.167	-.077	-.306**	-.187	-.125	.102	1		
SS	-.186	-.026	.191	.204	.179	.069	-.088	1	
Pers	-.442**	-.169	-.335**	-.124	-.365**	.080	.535**	.070	1
Means	9.14	15.13	30.70	10.62	16.30	10.98	36.66	38.13	31.79
SD	6.90	11.57	9.36	4.62	6.50	5.73	7.69	11.13	6.64

Note. Urg: The UPPS Impulsive Behavior Scale – Urgency Subscale (Whiteside & Lynam, 2001); higher scores indicate greater levels of urgency. BDI: Beck Depression Inventory – Second Version (Beck, Steer, & Garbin, 1998); higher scores indicate greater levels of depressive severity. BAI: Beck Anxiety Inventory (Beck & Steer, 1993); higher scores indicate greater levels of anxiety. Prem: UPPS-(lack of) Premeditation subscale (Whiteside & Lynam, 2001); higher scores indicate greater tendency to think before acting. Pers: UPPS-(lack of) Perseverance subscale (Whiteside & Lynam, 2001); higher scores indicate a greater ability to persist in the face of boredom and/or difficulty. SS: UPPS-Sensation Seeking subscale (Whiteside & Lynam, 2001); higher scores indicate greater levels of sensation seeking. EDI: EDI-Bul: a subscale on the Eating Disorder Inventory, Bulimia (Garner, 1983); higher scores indicate higher levels of bulimic symptomatology. DMQ: DMQ-Cope: Drinking Motives Questionnaire, Coping subscale (Cooper et al, 1992); higher scores indicate increased coping motivated drinking. DIRI: DIRI-RS: Depressive Interpersonal Relationships Inventory – Reassurance Seeking subscale (Joiner, Alfano, & Metalsky, 1992); higher scores indicate increase reassurance seeking.

Table 2

Means, standard deviations, and intercorrelations for all Time 2 variables are presented below. Correlations significant at the 0.01 level (2-tailed) are delineated with a (**). Correlations significant at the 0.05 level (2-tailed) are delineated with a (*).

	T2 BDI	T2 BAI	T2 Urg	T2 DMQ	T2 EDI	T2 DIRI	T2 Prem	T2 SS	T2 Pers
T2BDI	1								
T2BAI	.639**	1							
T2Urg	.227	.318**	1						
T2DMQ	.028	.108	.587**	1					
T2EDI	.273*	.237*	.547**	.358**	1				
T2DIRI	.333**	.240*	.379**	.101	.191	1			
T2Prem	-.089	-.072	-.324**	-.275*	-.247*	.003	1		
T2SS	-.222	-.202	.164	.302*	.120	-.159	-.160	1	
T2Pers	-.289*	-.201	-.135	-.256*	-.203	.141	.419**	.089	1
Means	7.30	11.44	30.23	11.17	15.27	10.03	36.62	39.53	32.06
SD	6.62	10.10	9.26	4.55	7.03	5.50	11.27	11.27	7.58

Note. Urg: The UPPS Impulsive Behavior Scale – Urgency Subscale (Whiteside & Lynam, 2001); higher scores indicate greater levels of urgency. BDI: Beck Depression Inventory – Second Version (Beck, Steer, & Garbin, 1998); higher scores indicate greater levels of depressive severity. BAI: Beck Anxiety Inventory (Beck & Steer, 1993); higher scores indicate greater levels of anxiety. Prem: UPPS-(lack of) Premeditation subscale (Whiteside & Lynam, 2001); higher scores indicate greater tendency to think before acting. Pers: UPPS-(lack of) Perseverance subscale (Whiteside & Lynam, 2001); higher scores indicate a greater ability to persist in the face of boredom and/or difficulty. SS: UPPS-Sensation Seeking subscale (Whiteside & Lynam, 2001); higher scores indicate greater levels of sensation seeking. EDI: EDI-Bul: a subscale on the Eating Disorder Inventory, Bulimia (Garner, 1983); higher scores indicate higher levels of bulimic symptomatology. DMQ: DMQ-Cope: Drinking Motives Questionnaire, Coping subscale (Cooper et al, 1992); higher scores indicate increased coping motivated drinking. DIRI: DIRI-RS: Depressive Interpersonal Relationships Inventory – Reassurance Seeking subscale (Joiner, Alfano, & Metalsky, 1992); higher scores indicate increase reassurance seeking.

Table 3

Intercorrelations for all Time 1 and Time 2 variables. Correlations significant at the 0.01 level (2-tailed) are delineated with a (**). Correlations significant at the 0.05 level (2-tailed) are delineated with a (*).

	T2 BDI	T2 BAI	T2 Urg	T2 DMQ	T2 EDI	T2 DIRI	T2 Prem	T2 SS	T2 Pers
BDI	.691**	.487**	.377**	.197	.300*	.241*	-.162	-.203	-.411**
BAI	.370**	.587**	.268*	.272*	.277*	.150	-.141	-.141	-.132
Urg	.224	.234	.727**	.414**	.498**	.363**	-.406**	.108	-.143
DMQ	.082	.103	.502**	.731**	.343**	.176	-.168	.172	-.142
EDI	.334**	.234	.445**	.356**	.808**	.104	-.173	.172	-.190
DIRI	.301*	.179	.221	-.028	.145	.754**	-.115	-.091	.209
Prem	-.046	-.029	-.315**	-.460**	-.156	.170	.726**	-.214	.463**
SS	-.201	-.157	.110	.161	.115	-.084	-.146	.856**	.113
Pers	-.320**	-.111	-.235*	-.233	-.290*	.111	.394**	.055	.635**

Note. Urg: The UPPS Impulsive Behavior Scale – Urgency Subscale (Whiteside & Lynam, 2001); higher scores indicate greater levels of urgency. BDI: Beck Depression Inventory – Second Version (Beck, Steer, & Garbin, 1998); higher scores indicate greater levels of depressive severity. BAI: Beck Anxiety Inventory (Beck & Steer, 1993); higher scores indicate greater levels of anxiety. Prem: UPPS-(lack of) Premeditation subscale (Whiteside & Lynam, 2001); higher scores indicate greater tendency to think before acting. Pers: UPPS-(lack of) Perseverance subscale (Whiteside & Lynam, 2001); higher scores indicate a greater ability to persist in the face of boredom and/or difficulty. SS: UPPS-Sensation Seeking subscale (Whiteside & Lynam, 2001); higher scores indicate greater levels of sensation seeking. EDI: EDI-Bul: a subscale on the Eating Disorder Inventory, Bulimia (Garner, 1983); higher scores indicate higher levels of bulimic symptomatology. DMQ: DMQ-Cope: Drinking Motives Questionnaire, Coping subscale (Cooper et al, 1992); higher scores indicate increased coping motivated drinking. DIRI: DIRI-RS: Depressive Interpersonal Relationships Inventory – Reassurance Seeking subscale (Joiner, Alfano, & Metalsky, 1992); higher scores indicate increase reassurance seeking.

Table 4

Time 1 Urgency predicting T1 EDI-Bulimia, controlling for Time 1 BDI-II, BAI, (lack of) Premeditation, (lack of) Perseverance, and Sensation Seeking.

		Correlations				
		F for set	t	Sig.	Zero-order	Part
1	(Constant)	5.268	2.217	.030		
	BDI-II		1.958	.055	.417	.211
	BAI		1.230	.224	.326	.132
	Premeditation		1.008	.318	-.125	.108
	Sensation Seeking		2.374	.021	.179	.256
	Perseverance		-2.137	.037	-.365	-.230
2	(Constant)	6.701	.505	.616		
	BDI-II		1.959	.055	.417	.197
	BAI		.415	.680	.326	.042
	Premeditation		1.519	.134	-.125	.152
	Sensation Seeking		1.670	.100	.179	.168
	Perseverance		-1.634	.108	-.365	-.164
	Urgency		3.153	.003	.517	.317

Dependent Variable: EDI-Bulimia

Table 5
 Time 2 Urgency predicting Time 2 EDI-Bulimia, controlling for BDI-II, BAI, (lack of) Premeditation, (lack of) Perseverance, and Sensation Seeking.

		Correlations				
		F for Set	t	Sig.	Zero-order	Part
1	(Constant)	2.393	2.657	.010		
	T2BDI-II		1.244	.218	.273	.144
	T2Perseverance		-.533	.596	-.205	-.062
	T2Sensation Seeking		1.403	.166	.121	.162
	T2Premeditation		-1.251	.215	-.247	-.145
	T2BAI		.844	.402	.243	.098
2	(Constant)	6.241	.589	.558		
	T2BDI-II		1.019	.312	.273	.102
	T2Perseverance		-.889	.378	-.205	-.089
	T2Sensation Seeking		.660	.512	.121	.066
	T2Premeditation		-.084	.934	-.247	-.008
	T2BAI		-.074	.942	.243	-.007
	T2Urgency		4.645	.001	.586	.466

Dependent Variable: T2EDI-Bulimia

Table 6

Time 1 Urgency predicting Time 2 DIRI-RS, controlling for Time 1 BDI-II, BAI, (lack of) Premeditation, (lack of) Perseverance, Sensation Seeking, and DIRI-RS.

		Correlations				
		F for Set	t	Sig.	Zero-order	Part
1	(Constant)	14.029	.869	.388		
	BDI-II		.128	.899	.223	.011
	BAI		-.906	.369	.129	-.076
	Premeditation		.177	.860	.128	.015
	Sensation Seeking		-1.213	.230	-.054	-.101
	Perseverance		.237	.814	.099	.020
	DIRI-RS		8.316	.001	.754	.695
2	(Constant)	13.663	-.506	.615		
	BDI-II		.337	.737	.223	.027
	BAI		-1.470	.147	.129	-.119
	Premeditation		.599	.551	.128	.048
	Sensation Seeking		-1.726	.090	-.054	-.139
	Perseverance		.878	.383	.099	.071
	DIRI-RS		7.086	.001	.754	.572
	Urgency		2.305	.025	.363	.186

Dependent Variable: T2DIRI-RS

Table 7

Change in Urgency predicting Change in EDI-Bulimia, controlling for Change in BDI-II, BAI, (lack of) Premeditation, (lack of) Perseverance, and Sensation Seeking.

		Correlations				
		F for Set	t	Sig,	Zero-order	Part
1	(Constant)	.527	-.033	.973		
	Change BDI-II		.217	.829	.072	.028
	Change BAI		.527	.600	.113	.067
	Change Prem		-.999	.322	-.151	-.127
	Change SS		.172	.864	-.005	.022
	Change Pers		-.695	.489	-.128	-.089
2	(Constant)		.171	.865		
	Change BDI-II	1.968	1.061	.293	.072	.127
	Change BAI		-.567	.573	.113	-.068
	Change Prem		-1.013	.315	-.151	-.121
	Change SS		-.802	.426	-.005	-.096
	Change Pers		-.807	.423	-.128	-.097
	Change Urg		2.971	.004	.331	.356

Dependent Variable: Change in EDI-Bulimia

APPENDIX A FOOTNOTES

Footnotes

¹ Regressions for the other Time 1 regressions were nearly identical to those presented in Table 4 (Time 1 Urgency predicting Time 1 EDI-Bulimia). Due to space considerations, these were not included as additional tables.

² Regressions for the other Time 2 regressions were nearly identical to those presented in Table 5 (Time 2 Urgency predicting Time 2 EDI-Bulimia). Due to space considerations, these were not included as additional tables.

³ Regressions for the other change regressions were nearly identical to those presented in Table 7 (Changes in urgency predicting changes in EDI-Bulimia). Due to space considerations, these were not included as additional tables.

⁴ Due to concern regarding the gender breakdown of my sample (82.9% female) obscuring my results, I also tested for gender effects. First, a one-way ANOVA was used to test for significant differences across gender on each of the variables used in the analyses. Only two variables demonstrated significant differences: Time 2 BDI-II and changes in DMQ-Cope. To further examine the potential role of gender effects in these analyses, gender was added as a covariate in each of the linear regressions reported above. The results of these altered regressions mirrored those reported above for all regressions. As such, I feel that the gender distribution of the sample did not significantly affect our results.

⁵ To test the degree to which these findings are unique to urgency, a series of linear regressions similar in structure to those utilizing Time 1 urgency to predict Time 1 dependent variables was used to examine the relationships between other UPPS subscales and the same behavioral outcome variables. Whenever one of the three subscales was used as a predictor, the other three scales were used as covariates. In these analyses, Time 1 sensation seeking did not significantly predict Time 1 EDI-Bulimia ($sr=.17$, $t=1.67$, $p=ns$), DMQ-Cope ($sr=.09$, $t=.88$, $p=ns$) or DIRI-RS ($sr=.04$, $t=.32$, $p=ns$). Similarly, Time 1 (lack of) premeditation did not significantly predict Time 1 EDI-Bulimia ($sr=.15$, $t=1.52$, $p=ns$), DMQ-Cope ($sr= -.06$, $t= -.53$, $p=ns$), or DIRI-RS ($sr=.11$, $t=1.04$, $p=ns$). Finally, Time 1 (lack of) perseverance did significantly predict Time 1

DIRI-RS ($sr=.24$, $t=2.23$, $p<.03$); however, it did not significantly predict Time 1 EDI-Bulimia ($sr=-.16$, $t=-1.63$, $p=ns$) or DMQ-Cope ($sr=.05$, $t=.44$, $p=ns$).

In a series of linear regressions similar to those utilizing Time 2 urgency to predict Time 2 dependent variables, Time 2 sensation seeking significantly predicted Time 2 DMQ-Cope ($sr=.20$, $t=2.07$, $p<.04$), but did not significantly predict Time 2 EDI-Bulimia ($sr=.07$, $t=.66$, $p=ns$) or DIRI-RS ($sr= -.18$, $t= -1.71$, $p=ns$). Time 2 (lack of) premeditation did not significantly predict Time 2 EDI-Bulimia ($sr= -.01$, $t= -.08$, $p=ns$), DMQ-Cope ($sr=.02$, $t=.22$, $p=ns$), or DIRI-RS ($sr= -.01$, $t= -.13$, $p=ns$). Finally, Time 2 (lack of) perseverance significantly predicted Time 2 DMQ-Cope ($sr= -.22$, $t= -2.22$, $p<.03$) and DIRI-RS ($sr= .27$, $t=2.51$, $p<.02$), but did not significantly predict Time 2 EDI-Bulimia ($sr= -.09$, $t= -.89$, $p=ns$).

To further clarify the follow-up analysis on the relationship between (lack of) perseverance and DIRI-RS, two final linear regressions were utilized. The first used Time 1 (lack of) perseverance to predict Time 2 DIRI-RS. This regression was not significant ($sr=.07$, $t=.88$, $p=ns$). The final analysis used change in (lack of) perseverance to predict change in DIRI-RS. This regression was not significant ($sr=.01$, $t=.04$, $p=ns$).

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