Exploring the unique and interactive roles of distress tolerance and negative urgency in obsessions

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Abstract

Recent research has implicated relationships between emotion dysregulation and obsessions. Evidence suggests low distress tolerance and greater tendency to act impulsively in the face of negative affect (or negative urgency) are strongly related to obsessions. The current study sought to examine the unique and interactive roles of distress tolerance and negative urgency in the prediction of obsessions. A large non-clinical sample ($N = 238$) was administered a range of self-report measures. Results revealed that both poor distress tolerance and greater negative urgency were uniquely associated with obsessions but not other obsessive-compulsive symptoms, even when controlling for gender, depression, anxiety, and generalized anxiety disorder symptoms. Additionally, low distress tolerance and high negative urgency interacted with each other in the prediction of greater obsession symptoms. Overall, the findings help clarify the emerging literature linking emotion dysregulation to obsessions.

*Key words:* Obsessive-compulsive disorder, Obsessions, Emotion regulation, Distress tolerance, Negative urgency
1. Introduction

Obsessive-compulsive disorder (OCD) is characterized by heterogeneous symptom presentations. Specific OCD symptoms have been found to differ in their associations with patterns of neural activation (Mataix-Cols et al., 2004), and evidence suggests maintaining factors also vary by symptom type (McKay et al., 2004). Some have argued that efforts to improve treatment outcome in OCD might come through a focus on its distinct subtypes (Sookman, Abramowitz, Calamari, Wilhelm, & McKay, 2005).

Repugnant obsessions, including disturbing thoughts that are aggressive, sexual, or blasphemous in nature, are one symptom presentation of OCD that has attracted significant research attention. Cognitive theories of OCD have argued that dysfunctional beliefs about normally occurring intrusions are the pivotal maintaining factor in obsessions (Rachman, 1997, 1998; Salkovskis, 1999). However, recent research has also implicated emotion regulation deficits associated with this problem.

Cougle and colleagues (2011) examined the potential role of distress tolerance and obsessions in three different studies of non-clinicals. Distress tolerance in their investigation was assessed using the Distress Tolerance Scale (DTS) (Simons & Gaher, 2005), a measure of tolerance for negative emotional states. They found that lower distress tolerance was uniquely and specifically associated with obsessions but not other OC symptom dimensions, even after covarying for depression, anxiety, obsessive beliefs, and anxiety sensitivity. They also found lower distress tolerance to predict increases in obsessions (but not other OC symptoms) one month later after controlling for obsessions, depression, and anxiety at baseline. Lastly, using a sentence neutralization task involving writing out and imagining an OCD-like thought (‘a close friend/loved one will be in a car accident’), they found lower distress tolerance to predict
neutralization and post-neutralization period anxiety. Overall, findings were highly consistent in providing support for an association between poor distress tolerance and obsessions.

Negative urgency, or the tendency to act impulsively in response to negative affect, has also been linked to obsessions in a few studies of non-clinicals. For example, researchers found greater negative urgency to predict obsessions, after controlling for depression and other facets of impulsivity (Zermatten & Van der Linden, 2008). An additional investigation demonstrated strong correlations between negative urgency and obsessions and poor thought control ability (Gay, Schmidt, & Van der Linden, 2011).

Recent understandings of emotion regulation define it as “the ability to monitor, understand, and accept emotions, and to engage in goal-directed behavior when emotionally activated” (Roemer et al., 2009, p. 143). Both distress tolerance and negative urgency fit well within this broader conceptualization of emotion regulation, and could represent different facets of emotion dysregulation. That is, poor distress tolerance represents a non-acceptance of emotion, while high negative urgency reflects the absence of appropriate goal-directed action when experiencing negative emotions.

Emerging findings linking distress tolerance and negative urgency to obsessions raise questions regarding the potential overlap between these two facets of emotion regulation and the incremental role of each in predicting obsessions. It is possible that the associations between poor distress tolerance and obsessions are better accounted for by negative urgency and vice versa. High negative urgency may also be a consequence of high distress tolerance. Relatedly, researchers found poor distress tolerance to predict greater negative urgency in non-clinical and clinical samples (Weitzman, McHugh, & Otto, in press).
Distress tolerance and negative urgency may also interact in the prediction of obsessions, such that levels of obsessions are elevated among individuals with low distress tolerance and high negative urgency. Specifically, the intolerance of negative emotional states combined with the tendency to act impulsively when experiencing negative emotions may leave individuals particularly vulnerable to obsessions. Evidence for interactive relationships between distress tolerance and negative urgency comes from one study, in particular, that found low distress tolerance and high negative urgency to interact in the prediction of greater bulimic symptoms (Anestis, Selby, Fink, & Joiner, 2007).

How might distress tolerance and negative urgency contribute to the development of obsessions? It is possible that poor distress tolerance leads to more prolonged distress reactions to intrusive thoughts and both poor distress tolerance and high negative urgency lead individuals to use maladaptive thought control strategies, including suppression and neutralization, which may increase intrusive thought duration and frequency. These aspects of emotion dysregulation may also lead to increased efforts towards the monitoring and control of negative emotion, which results in the depletion of cognitive resources that are necessary to dismiss intrusive thoughts. Alternatively, both poor distress tolerance and high negative urgency may reflect underlying problems in cognitive control that inhibit both the dismissal of negative thoughts (including obsessions) and emotions.

A few gaps remain in studies linking distress tolerance and negative urgency to obsessions. First, the unique contribution of each form of emotion dysregulation to obsessions has not been examined. The associations revealed between each variable and obsessions may be better accounted for by their associations with each other. Further, given that emotion regulation deficits have also been implicated in generalized anxiety disorder (GAD) (Mennin, Heimberg,
Turk, & Fresco, 2005), it is not known whether the associations between these emotion regulation processes and obsessions may be better accounted for by common associations with GAD symptoms. Indeed, both distress tolerance (Keough, Riccardi, Timpano, Mitchell, & Schmidt, 2010) and negative urgency (Gay et al., 2011) have been shown to correlate with GAD symptoms. Additionally, though Cougle et al. (2011) demonstrated specific associations between distress tolerance and obsessions among OC symptom clusters, the specific associations between negative urgency and OC symptoms have not yet been fully explored. Lastly, the potential interaction between distress tolerance and negative urgency in the prediction of obsessions has not been tested. Such an interaction would help delineate the unique facets of emotion dysregulation underlying the development of obsessions.

The current study sought to explore the relations between distress tolerance, negative urgency, and obsessions using a large non-clinical undergraduate sample. We thought the use of this sample was appropriate given the high sample size ($N = 238$) and natural range of symptoms required to adequately test our hypotheses. We made the following predictions:

1) lower distress tolerance and higher negative urgency would predict unique variance in two different measures of obsessions, after controlling for symptoms of depression, anxiety, worry, and gender;

2) among OCD symptoms, obsessions would be specifically associated with distress tolerance and negative urgency; and

3) a two-way interaction between distress tolerance and negative urgency would emerge such that elevated obsession symptoms would be found among individuals with low distress tolerance and high negative urgency.

2. Method
2.1. Subjects

Two-hundred and thirty-eight participants were recruited through introductory psychology courses at a large southeastern university. Students were required to participate in studies conducted by different laboratories in the psychology department as partial fulfillment of their course requirements. As an alternative to study participation, students could write a brief research paper. Participants were told that they would be participating in a study examining everyday behaviors and emotions where they were to complete a series of questionnaires. All participants provided written informed consent for participating in the experiment. The sample was 77.7% female and ranged in age from 18 to 28 years ($M =19.50$, $SD = 5.4$). The sample consisted of diverse ethnic groups: 65.1% were White (not Hispanic), 10.9% were Black (not Hispanic), 14.7% were Hispanic, 4.2% were Asian, and 5.0% reported ‘other’ ethnicity.

2.2. Measures

2.2.1. Depression Anxiety Stress Scale-21 (DASS-21)

The DASS-21 (Lovibond & Lovibond, 1995) is a shortened version of the 42-item DASS scale that was designed to assess depression, anxiety, and stress in adults. The 21-item version has demonstrated excellent psychometric properties (Antony, Bieling, Cox, Enns, & Swinson, 1998). For the current study, we used the depression ($\alpha = .88$) and anxious arousal ($\alpha = .69$) subscales to covary for negative affect.

2.2.2. Vancouver Obsessive–Compulsive Inventory (VOCI)

The VOCI (Thordarson et al., 2004) is a 55-item self-report instrument measuring obsessions, compulsions, avoidance behavior, and personality characteristics related to OCD. The VOCI has been found to have excellent test–retest reliability and good internal consistency for the total scale and its subscales (Thordarson et al., 2004). For the purposes of the current
study, we used the 12-item contamination (α = .86) (e.g., I am excessively concerned about germs and disease), 12-item obsessions (α = .86) (e.g., I find that almost every day I am upset by unpleasant thoughts that come into my mind against my will) and 6-item checking (α = .89) (e.g., I repeatedly check and recheck things like taps and switches after turning them off) subscales.

2.2.3. Symmetry Ordering Arranging Questionnaire (SOAQ)

The SOAQ (Radomsky & Rachman, 2004) is a 20-item self-report scale used to assess ordering, arranging, and need for symmetry and exactness in the placement of objects. In a large, non-clinical sample, the measure demonstrated excellent internal consistency, strong test-retest reliability, and good convergent and divergent validity (Radomsky & Rachman, 2004). This measure, which showed good internal consistency in our sample (α = .96), was included because the VOCI does not include any subscale to assess ordering and arranging behavior.

2.2.4. The Obsessive Compulsive Inventory-Revised (OCI-R)

The OCI-R is an 18-item self-report measure with sound psychometric properties (Foa et al., 2002). The current study used the 3-item obsessions subscale (e.g., I am upset by unpleasant thoughts that come into my mind against my will) in analyses to assess for the consistency of findings across OC symptom measures (α = .82).

2.2.5. Penn State Worry Questionnaire (PSWQ)

The PSWQ (Meyer, Miller, Metzger, & Borkovec, 1990) is a self-report measure comprised of 16 items that assess an individual’s general tendency to engage in excessive worry (Meyer et al., 1990). Individuals indicate the extent to which each statement is applicable to them on a five-point Likert scale from 1 (“not at all typical of me”) to 5 (“very typical of me”). In a non-clinical sample, the PSWQ demonstrated good internal consistency and test-retest reliability
(Meyer et al., 1990). This measure was used to control for symptoms of excessive worry ($\alpha = .94$ in the present sample).

2.2.6. Distress Tolerance Scale (DTS)

The DTS (Simons & Gaher, 2005) is a 15-item self-report measure of one’s ability to tolerate psychological distress. The measure contains four subscales: (1) perceived ability to tolerate emotional distress (e.g., I can’t handle feeling distressed or upset), (2) attention being absorbed by negative emotions (e.g., When I feel distressed or upset, I cannot help but concentrate on how bad the distress actually feels), (3) subjective appraisal of distress (e.g., My feelings of distress or being upset are not acceptable), and (4) regulation efforts to alleviate distress (e.g., When I feel distressed or upset I must do something about it immediately). The scale has been found to demonstrate good internal consistency ($\alpha = .92$ in the present sample), good test-retest reliability, and discriminant validity with measures of negative affect (Simon & Gaher, 2005). Lower scores on this measure indicate poorer distress tolerance.

2.2.7. Urgency, Premeditation, Perseverance, and Sensation Seeking Impulsive Behavior Scale – Negative Urgency subscale (UPPS-P)

The UPPS-P (Lynam, Smith, Whiteside, & Cyders, 2006) is a 59-item self-report measure consisting of 5 subscales: (negative) Urgency, (positive) Urgency, Sensation Seeking, (lack of) Premeditation, and (lack of) Perseverance. The current scale is a revised version of the UPPS Impulsive Behavior Scale (Whiteside & Lynam, 2001); the prior version did not include an assessment of positive urgency. The current study used the Negative Urgency subscale ($\alpha = .89$), which contains 12 items that assess an individual’s tendency to give into impulses, specifically while experiencing negative affect (e.g., When I am upset I often act without thinking). Items are rated on a Likert-type scale ranging from 1 “Agree Strongly” to 4 “Disagree
“Strongly.” Higher scores on this measure indicate more impulsive behaviors in the face of negative affect.

3. Results

Descriptives and intercorrelations for the main study measures are presented in Table 1. Lower DTS and greater negative urgency showed strong and highly similar associations with greater obsession symptoms, as measured by both the VOCI and OCI-R obsessions subscales. Lower DT was also moderately correlated with greater negative urgency ($r = -.39$, $p < .001$).

3.1. Analyses of distress tolerance and negative urgency as incremental predictors of obsessions

We first conducted a series of linear regression analyses testing the unique relations between distress tolerance, negative urgency and obsessions; two separate measures of obsessions were used to test for consistency in associations. Findings are presented in Table 2. In the first analysis, the VOCI obsessions subscale was used as the dependent variable. In Step 1, DASS anxiety and depression scores, along with gender and PSWQ scores were entered. In the second step, both DTS and negative urgency scores were entered simultaneously. The results of this analysis indicated that both DTS and negative urgency scores predicted unique variance in obsessions scores, with lower DTS and greater negative urgency associated with greater obsessions.

The second regression was identical to the first, with the exception that the OCI-R obsessions subscale was used as the dependent variable. The findings were highly similar to the first analysis. Both DTS and negative urgency predicted unique variance in obsession scores in the expected directions.
3.2. Analyses of the specificity of distress tolerance and negative urgency in predicting obsessions

Next, we conducted separate regression analyses testing the specificity of distress tolerance and negative urgency in predicting obsession symptoms. For the initial analysis, DTS scores were used as the dependent variable, and DASS-anxiety, DASS-depression, gender, and PSWQ scores were entered into Step 1. In Step 2, we entered VOCI-obsessions, contamination, and checking subscales, along with SOAQ scores. The findings revealed that among OCD symptoms, only obsessions scores were significantly associated with lower DTS scores in the final model ($\beta = -0.19, t = -3.21, p < .002$), though VOCI-contamination scores were marginally associated with DTS scores ($p = .052$). Greater PSWQ scores were also associated with lower DTS in the final model ($\beta = -0.26, t = -4.31, p < .001$).

An identical regression analysis was conducted with the exception that negative urgency was used as the dependent variable. Among OCD symptoms, only VOCI-obsessions were uniquely associated with negative urgency ($\beta = 0.29, t = 4.23, p < .001$). Interestingly, PSWQ scores were only marginally associated with negative urgency in the final model ($p = .07$). Overall, these findings implicate strong specificity for the associations between negative urgency and obsessions, though lower distress tolerance was associated with obsessions as well as pathological worry.

3.3. Test of the interaction between distress tolerance and negative urgency in predicting obsessions

We also examined whether DTS and negative urgency would interact in their prediction of obsession symptoms, after controlling for DASS-depression, DASS-anxiety, gender, and PSWQ scores. For this analysis, we first centered DTS and negative urgency scores before
calculating their interaction. The VOCI-obsessions subscale was used as the dependent variable. In Step 1, we entered the above mentioned covariates. In Step 2, we entered centered DTS and negative urgency scores, and in Step 3, the interaction between DTS and negative urgency was entered. The findings of this analysis revealed a strong two-way interaction between DTS and negative urgency in predicting obsessions scores ($\beta = -.24$, $t = -4.49$, $p < .001$).

To understand the nature of this interaction, we inserted ratings of DTS (one SD above and below the mean DTS score) and negative urgency (one SD above and below the mean negative urgency score) into the regression equation for the analysis described above. As shown in Figure 1, it was those individuals with low DT and high negative urgency scores that endorsed the highest levels of obsession symptoms. Next we conducted an analysis of the simple slopes. Results revealed that at low levels of distress tolerance, as negative urgency increases, so do obsessions ($t = -5.95$, $p < .001$). In contrast, when levels of distress tolerance were high, an increase in negative urgency was not associated with an increase in obsessions ($t = -0.04$, $p = .97$). Overall, these findings indicate that distress tolerance and negative urgency are highly interactive in their prediction of obsessions, with elevated obsession symptoms only found among those with both low distress tolerance and high negative urgency.

We also sought to demonstrate the consistency of the interaction between DTS and negative urgency in predicting obsessions by substituting OCI-R obsessing scores as the dependent variable in analyses identical to those described above. DTS and negative urgency scores also significantly interacted in predicting obsession scores with this additional measure ($\beta = -.15$, $t = -2.73$, $p < .01$). Follow-up analyses indicated that this interaction was in the expected direction, with low DTS and high negative urgency scores associated with the greatest levels of obsession symptoms.
Finally, we tested the *specificity* of the interaction between DTS and negative urgency in predicting obsessions by conducting four separate regression analyses similar to those described above, but substituting VOCI-contamination, VOCI-checking, SOAQ, and PSWQ scores as the dependent variables. Depression, anxiety, and gender were entered into Step 1 of each analysis, centered DTS and negative urgency scores were entered into Step 2, and the DTS and negative urgency interaction term was entered into Step 3. DTS and negative urgency scores did not interact to significantly predict scores on any of these measures.

4. Discussion

The findings from this study were consistent with our main hypotheses. Both lower distress tolerance and higher negative urgency predicted unique variance in obsessions. Additionally, both were specifically predictive of obsessions but not the other types of OC symptoms considered in our analyses. These findings therefore underscore the unique and important role each construct plays in contributing to obsessions. Lastly, we found that distress tolerance moderated the relationship between obsessions and negative urgency, such that those low in distress tolerance and high in negative urgency endorsed the highest elevations in obsession symptoms.

Importantly, the main study findings emerged after controlling for depression, anxiety, gender, and GAD symptoms. The inclusion of a measure of GAD symptoms in our analyses was an important design consideration, given that emotion dysregulation has also been implicated in GAD (Mennin et al., 2005) and associations between GAD symptoms and distress tolerance (Keough et al., 2010) and negative urgency (Gay et al., 2011) have been previously noted. Though pathological worry is conceptually distinct from obsessions, there is some degree of
overlap between the two, insofar that they both involve frequent, uncontrollable, distressing thoughts. The fact that our hypothesized findings emerged after controlling for this impressive list of covariates attests to the importance of distress tolerance and negative urgency in obsessions. The use of two different measures of obsessions and the consistency in findings with both measures gives us further confidence in the meaningfulness of these associations.

There is little research evidence that speaks to the specificity of the relationships between obsessions and distress tolerance and negative urgency. It would be conceivable that these aspects of emotion regulation may also contribute to washing, checking, and ordering compulsions; however, our data indicate that this is not the case. Increasingly, research is pointing to the distinctiveness of obsessions from other types of OCD symptoms. For example, meaningful differences between autogenous (i.e., sexual, aggressive, and immoral thoughts or impulses) and reactive (i.e., contamination, mistakes, accidents, asymmetry, and loss) subtypes of OCD (Lee & Kwon, 2003) continue to emerge (e.g., Lee & Telch, 2010). Given that obsessions are more central to the autogenous subtype, while primary washing, checking, and ordering compulsions are represented by the reactive subtype, the findings of this study may simply support an additional difference between the two. It is noteworthy that cognitive control deficits have been found in the autogenous but not the reactive subtype (Lee & Telch, 2010). It may be the presence of such difficulties that are key to poor emotion regulation and difficulties dismissing negative thoughts and emotions. Additional research using clinical OCD samples of diverse subtypes would help clarify the role of emotion regulation in all presentations of OCD.

It is significant that current psychotherapy protocols for OCD do not explicitly incorporate a focus on emotion regulation processes, though Acceptance and Commitment Therapy for OCD arguably includes components intended to increase tolerance for distress
(Twohig, Hayes, & Masuda, 2006). The findings of this study suggest that such a focus would not necessarily be useful for all OC symptom profiles, as neither distress tolerance nor negative urgency were uniquely predictive of checking, contamination, or ordering and straightening symptoms. However, treatments targeting skill deficits in distress tolerance and negative urgency may show special benefit for obsessions. Consistent with this suggestion is a recent clinical trial that demonstrated efficacy of stress management training for obsessions (Whittal, Woody, McLean, Rachman, & Robichaud, 2010). As we have argued elsewhere (Cougle et al., 2011), this intervention may have led to improvements in emotion regulation that resulted in obsession symptom decline.

Certain limitations of the present study are worth mentioning. The use of a non-clinical sample limits the generalizability of our findings to some extent; however, a large non-clinical sample helped provide adequate power to test our hypotheses in a way that smaller clinical samples would not. Additionally, there are limitations to using mixed symptom OCD samples consisting of individuals who may or may not experience repugnant obsessions. Although there is evidence that non-clinical samples are suitable to examine the association between OCD symptoms and cognitions (Gibbs, 1996) and a recent taxometric study found that OCD symptoms and related cognitions are dimensional of a continuous spectrum (Olatunji, Williams, Haslam, Abramowitz, & Tolin, 2008), future research on the relationships between emotion dysregulation and obsessions should consider clinical samples. This study also suffers from third variable and directionality of associations issues inherent in correlational investigations. That is, poor distress tolerance and high negative urgency may be a consequence rather than a cause of obsessions, or all three variables may simply reflect certain underlying deficits in cognitive control or emotion regulation processes not considered in our analyses.
The current study’s findings add to the expanding literature linking emotion regulation problems to obsessions. Future research may wish to evaluate processes related to emotion regulation using behavioral assessments. The incorporation of comprehensive assessments of emotion regulation in treatment studies may help elucidate key processes associated with symptom reduction in the treatment of obsessions. Intervention strategies focused on emotion regulation are also worth exploring with this population.
References


Table 1. Descriptive statistics and correlational analyses of self-report questionnaires (N = 238).

<table>
<thead>
<tr>
<th></th>
<th>M (SD)</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>UPPS-P - Negative Urgency</td>
<td>24.70 (7.27)</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td>DTS Total</td>
<td>3.67 (.82)</td>
<td>-.39***</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td>OCI-R-Obsessions</td>
<td>1.70 (2.23)</td>
<td>.44***</td>
<td>-.44***</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.</td>
<td>VOCI–Obsessions</td>
<td>2.48 (4.47)</td>
<td>.45***</td>
<td>-.45***</td>
<td>.78***</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5.</td>
<td>VOCI–Contamination</td>
<td>3.79 (5.38)</td>
<td>.15*</td>
<td>-.35***</td>
<td>.31***</td>
<td>.24***</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6.</td>
<td>VOCI–Checking</td>
<td>1.08 (2.59)</td>
<td>.11</td>
<td>-.17**</td>
<td>.14*</td>
<td>.16*</td>
<td>.35***</td>
<td>-</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7.</td>
<td>SOAQ Total</td>
<td>12.10 (13.33)</td>
<td>.14*</td>
<td>-.25***</td>
<td>.16*</td>
<td>.21***</td>
<td>.44***</td>
<td>.41***</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>8.</td>
<td>PSWQ Total</td>
<td>44.83 (14.12)</td>
<td>.32***</td>
<td>-.51***</td>
<td>.31***</td>
<td>.33***</td>
<td>.33***</td>
<td>.14*</td>
<td>.30***</td>
<td>-</td>
</tr>
<tr>
<td>9.</td>
<td>DASS-Anxiety</td>
<td>2.42 (2.62)</td>
<td>.35***</td>
<td>-.44***</td>
<td>.42***</td>
<td>.40***</td>
<td>.22***</td>
<td>.05</td>
<td>.10</td>
<td>.35***</td>
</tr>
<tr>
<td>10.</td>
<td>DASS-Depression</td>
<td>2.59 (3.12)</td>
<td>.39***</td>
<td>-.45***</td>
<td>.44***</td>
<td>.47***</td>
<td>.18**</td>
<td>.06</td>
<td>.09</td>
<td>.42***</td>
</tr>
</tbody>
</table>

Note: UPPS-P = Urgency, Premeditation, Perseverance, and Sensation Seeking Impulsive Behavior Scale; DTS = Distress Tolerance Scale; OCI-R = Obsessive-Compulsive Inventory-Revised; VOCI = Vancouver Obsessive-Compulsive Inventory; SOAQ = Symmetry Ordering Arranging Questionnaire; PSWQ = Penn State Worry Questionnaire; DASS = Depression Anxiety Stress Scale-21, Depression and Anxiety subscales.

* p < .05, ** p < .01, ***p < .001
Table 2. Regression analyses examining distress tolerance and negative urgency as unique predictors of obsessions.

<table>
<thead>
<tr>
<th>Predictors&lt;sup&gt;a&lt;/sup&gt;</th>
<th>Predicting VOCI-obsessions</th>
<th>Predicting OCI-R-obsessions</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Δ(R^2)</td>
<td>(F^b)</td>
</tr>
<tr>
<td>Step 1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>DASS-Depression</td>
<td>0.27</td>
<td>21.97***</td>
</tr>
<tr>
<td>DASS-Anxiety</td>
<td>0.18</td>
<td>2.75**</td>
</tr>
<tr>
<td>Gender</td>
<td>-0.09</td>
<td>-1.68</td>
</tr>
<tr>
<td>PSWQ Total</td>
<td>0.16</td>
<td>2.41*</td>
</tr>
<tr>
<td>Step 2</td>
<td>0.08</td>
<td>14.61***</td>
</tr>
<tr>
<td>DTS Total</td>
<td>-0.21</td>
<td>-3.04**</td>
</tr>
<tr>
<td>UPPS-P – Negative urgency</td>
<td>0.23</td>
<td>3.84***</td>
</tr>
</tbody>
</table>

<sup>a</sup> VOCI = Vancouver Obsessive-Compulsive Inventory; OCI-R = Obsessive-Compulsive Inventory-Revised; DASS = Depression Anxiety Stress Scale – 21, Depression and Anxiety subscales; PSWQ = Penn State Worry Questionnaire; DTS = Distress Tolerance Scale; UPPS-P = Urgency, Premeditation, Perseverance, and Sensation Seeking Impulsive Behavior Scale.

<sup>b</sup> F-test on R-squared change.

* \( p < .05 \), ** \( p < .01 \), *** \( p < .001 \)
Figure 1. Interaction of distress tolerance and negative urgency predicting obsessions as measured by the Vancouver Obsessive Compulsive Inventory.
High Low
Distress Tolerance

VOCI obsessions

High Urgency
Low Urgency

Distress Tolerance

0 1 2 3 4 5 6 7 8

High Low