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Do OCPD Symptoms and Intolerance of Uncertainty Predict Emotions?

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Abstract

Intolerance of uncertainty (IU), the intense discomfort or inability to handle uncertain situations, is a transdiagnostic factor across multiple forms of psychopathology. Heightened levels of IU have been found in individuals with obsessive-compulsive personality disorder (OCPD) and have been found to significantly predict OCPD traits, such as emotional difficulties. However, no study to date has looked at the relationship between IU and experienced emotions in OCPD. The proposed study assessed at what level specific emotions occurred in an unselected OCPD sample and if intolerance of uncertainty predicted emotion beyond OCPD. In order to examine this relationship, 119 participants from Amazon's MTurk read and imagined themselves in hypothetical scenarios modeled after OCPD criterion from the DSM-5. Questionnaires following each scenario assessed to what degree the participants experienced specific emotions when imagining themselves in the situation. A series of three hierarchical regressions were conducted to determine the extent to which intolerance of uncertainty predicts experienced emotions (hostility, fear, general positive affect) above and beyond OCPD. It was hypothesized that OCPD would predict measured emotions and that IU would predict emotions beyond OCPD. In partial support of our hypotheses, results revealed that while OCPD significantly predicted fear and hostility, it did not predict general positive affect. Additionally, IU predicted hostility above and beyond OCPD, but IU did not predict fear or general positive affect above and beyond OCPD. The findings suggest that there is a relationship between OCPD symptoms, IU, and experienced emotions. Specifically, IU may be an important component of the expression of anger in OCPD patients and thus may be a crucial piece to treatment. Future studies should utilize a clinical OCPD sample, valid hypothetical scenarios, and a more specific and direct measure of emotions.

Do OCPD Symptoms and Intolerance of Uncertainty Predict Emotions?

Obsessive compulsive personality disorder (OCPD) is a chronic personality disorder characterized as having a fixation with orderliness and details, perfectionism, and control over one's environment (American Psychiatric Association, 2013). OCPD is reported to be one of the most common personality disorders, with a lifetime prevalence rate of 7.8% in the general population (Grant et al., 2012). Diagnostic criteria for OCPD includes symptoms such as excessive devotion to work and inflexibility regarding matters of ethics or morality (American Psychiatric Association, 2013). While individual presentations are heterogeneous, the core features of OCPD are a preoccupation with details, perfectionism, reluctance to delegate, and rigidity and stubbornness (Grant et al., 2020; McGlashan et al., 2005).

The features that make up OCPD are associated with clinically significant distress and functional impairment (Grant et al., 2020; Kyrios et al., 2007). Distress and impairment may present in a variety of ways, including various areas of functioning such as occupational, recreational, and interpersonal relationships. The high standards, difficulty acknowledging other points of view, and uncompromising behavior in those with OCPD often lead to interpersonal conflicts and high internal stress levels (Cain et al., 2015; Pinto et al., 2018; Pollak, 1987). Negative occupational consequences include missing deadlines or spending unreasonable amounts of time on trivial tasks (Grant el al., 2020). OCPD also negatively affects quality of life (Pinto et al., 2018). Despite being a significantly impairing disorder that induces high levels of distress and results in substantial societal costs, OCPD is an understudied disorder and no gold standard treatment for it exists (Soeteman et al., 2008; Pinto et al., 2018).

Emotions and OCPD

Individuals with OCPD have emotional difficulties that affect their level of functioning and distress (Chauhan, 2018). In a study by Steenkamp et al. (2015), it was found that participants with OCPD have a difficult time regulating their emotions, specifically with accepting the emotion, achieving clarity about the emotion and having effective emotional regulation strategies. Individuals with OCPD experience emotional dysregulation, which is the lack of ability to identify emotions, reinterpret potentially distressing thoughts, and modify potentially distressing situations (Weinberg & Klonsky, 2009). Emotional dysregulation is frequently experienced as a result of unrealistic and rigid standards not being met by the self or by others (Ansell et al., 2010). Additionally, those with OCPD struggle due to the intensity of their emotions, negative affect, and poor processing of emotions (Chauhan, 2018). Problems that are associated with emotion difficulties in other personality disorders, such as substance use, anger, child abuse and suicidality, have also been found to be associated with OCPD (Steenkamp et al., 2015).

Two distinct OCPD subgroups have been identified based off of behavioral, cognitive, affective and interpersonal profiles (Grant et al., 2020). The hostile-dominant subgroup is verbally hostile, perfectionistic toward the self and others, has difficulty with emotional regulation strategies and acceptance of emotion, and experiences frequent interpersonal conflicts (Grant et al., 2020). The anxious or “pleasing” subgroup is self-critical, prone to worry and low mood, and more anxious and submissive (Grant et al., 2020). High subtype homogeneity has been identified, differing greatly from the substantial heterogeneity that exists within the OCPD population as a whole (Grant et al., 2020; Solomonov et al., 2020).

Intolerance of Uncertainty and OCPD

Intolerance of uncertainty (IU) is defined as the "intolerance of the notion that negative events may occur and there is no definitive way of predicting such events" (Carleton et al., 2007). It is the tendency to interpret and respond to uncertain situations in maladaptive ways (Wheaton & Ward, 2020). Individuals who are high in IU attempt to avoid uncertainty and interpret ambiguous situations as more negative and threatening than certain situations (Buhr & Dugas, 2002; Carleton et al., 2012). IU is a transdiagnostic factor across multiple forms of psychopathology and has been predominately associated with anxiety and related disorders, specifically generalized anxiety disorder (GAD) and obsessive-compulsive disorder (OCD) (Boswell et al., 2013; Carleton et al., 2007). Recent literature has linked IU to broader disorders, including eating disorders, borderline personality disorder, and OCPD (Bottesi et al., 2018; Brown et al., 2017; Wheaton & Ward, 2020).

There are many factors that suggest that there may be a relationship between IU and OCPD. Wheaton and Ward (2020) found that individuals with self-identified OCPD had heightened IU and that IU significantly predicted OCPD traits. OCPD has been closely linked with OCD, suggesting that the factors involved in OCD may be involved in OCPD (Diaferia et al., 1997; Wheaton & Pinto, 2019). Difficulty facing uncertain situations (a key feature in IU) may cause individuals with OCPD to attempt to excessively control their environment, whether that be through a reluctance to delegate tasks to others or excessive perfectionism. Those with OCPD have emotional difficulties when responding to changes in their environment, so it seems that having a difficult time with uncertain or unpredictable events could be a central construct to OCPD (Pinto et al., 2018; Wheaton & Ward, 2020). Additionally, change in IU has been shown to mediate improvement in anger and anxiety (Bomyea et al., 2015; Laposa & Fracalanza, 2019).

These two factors map onto the hostile and anxious subgroups of OCPD, further suggesting IU may play a role in OCPD.

Anger and OCPD

OCPD is the second most common personality disorder seen in high anger patients (DiGiuseppe et al., 2012). Individuals with OCPD experience anger (directed at the self or others) when they or others fail to meet their rigid standards and high expectations (DiGiuseppe et al., 2012). It has been suggested that one of the core pathologies of OCPD is aggression and its association with perfectionism (Hummelen et al., 2008). Additionally, one of the behavioral features associated with OCPD includes outbursts of anger when sense of control is threatened. Due to this need for control of both the physical and social environment, the disorder has been found to be associated with anger outbursts and hostile behavior in both the work and home environment (Kyrios et al., 2007). These outbursts may be due to lack of trust or communication issues, a cardinal feature of OCPD (Grant et al., 2020).

Anger is one of the most extensively studied emotional aspects of OPCD, with multiple studies reporting that anger is one of the most common symptoms in OCPD patients (Ansell et al., 2010; DiGiuseppe et al., 2012, Hummelen et al., 2008; Pulay et al., 2008; Villemarette-Pittman et al., 2004). Hostility, a negative temperament, and verbal hostility are all traits that make up the hostile-dominant type of OCPD (Grant et al., 2020). Similarly, Ansell et al. (2010) identified an angrier and more aggressive “rigid” type OCPD individual. These more hostile and angry individuals may have difficulty controlling their anger in stressful situations where they lack control, resulting in explosive and uncontrolled behavior (Grant et al., 2020; Villemarette-Pittman et al., 2004).

Anxiety and OCPD

Due to the rigid perfectionism that characterizes the disorder, OCPD has been found to be associated with compulsive overworking and burn-out, leading to chronic stress and anxiety (Atroszko et al., 2020). Additionally, when those with OCPD fail to meet their own high standards, they experience anxiety (DiGiuseppe et al., 2012). The unrealistic standards of OCPD sufferers causes relentless anxiety about not doing tasks perfectly. This leads to procrastination and difficulty with timely completion of tasks, which in turn causes further anxiety. It is speculated that this dysfunctional philosophy held by those with OCPD – the unyielding belief that their way is correct – is what leads to anxiety (Phillipson, 2007).

A lifetime diagnosis of OCPD is moderately common in patients with a 12-month diagnosis of an anxiety disorder (e.g. panic disorder, generalized anxiety disorder, social phobia, specific phobias) (Diedrich & Voderholzer, 2015). Similarly, it was found that OCPD is more common in individuals with OCD and panic disorder than their healthy counterparts (Albert, et al., 2004). Individuals with OCPD experience their behavior as ego-syntonic, consistent with their self-view. Their self-report of symptoms focuses on affective and psychological concerns such as anxiety, rather than the core cognitive features, perfectionism and rigidity (Thamby & Khanna, 2019; McGlashan et al., 2005). Individuals within the anxious OCPD subgroup are likely to report somatic symptoms (e.g. irritable bowel syndrome), sleep disturbance and social avoidance (Grant et al., 2020).

Current Study

Although research has shown emotional difficulties affect functioning in OCPD, little has been done to identify the specific emotions that those with OCPD experience in response to potentially distressing situations and the degree to which they experience them. Additionally, the relationship between emotional reactions, OCPD symptoms, and IU has not been studied. Anger

and anxiety have both been shown to be strongly associated with IU (Bomyea et al., 2015; Laposa & Fracalanza, 2019) and these emotions are common for people with OCPD to experience (DiGiuseppe et al., 2012). These findings make it plausible that IU may predict emotions experienced by those with OCPD.

The current study sought to examine the relationship between IU and experienced emotions in OCPD. To do so, we developed hypothetical scenarios based off of OCPD diagnostic criteria and traits that were designed to disrupt routine and rigidity and elicit feelings of anger and anxiety It was hypothesized that OCPD would predict emotional reactions of fear, hostility and general positive affect. Specifically, those that fell higher on the OCPD continuum would report higher levels of fear and hostility and lower levels of positive affect after reading the hypothetical scenarios. Additionally, we hypothesized that IU would predict fear, hostility and general positive affect beyond OCPD.

Methods

Participants

A total of 119 individuals completed the survey on Amazon's MTurk. The survey took approximately 30 minutes to complete, and participants were compensated $4 for their time. The sample had a mean age of 38.24 (*SD* = 10.96, range = 25 – 67) and 67.2% were male and 31.9% were female. The most common race was White (78.2%), followed by Black (13.4%), Asian (2.5%), and lastly other (.8%). See Table 1 for demographic information.

Materials

Demographic Questionnaire. General demographic information was collected, including age, household income, gender, race and ethnicity.

Pathological Obsessive-Compulsive Personality Scale. The Pathological Obsessive-Compulsive Personality Scale (POPS; Pinto, Ansell & Wright, 2011) is a 49-item self-report questionnaire that measures maladaptive obsessive-compulsive personality traits and their severity. Items are ranked on a Likert scale ranging from 1 (strongly disagree) to 6 (strongly agree), with higher scores indicating more severe presentation of traits. The scale has a bifactor structure and includes five specific trait factors: rigidity, emotional overcontrol, maladaptive perfectionism, reluctance to delegate and difficulty with change. An overall factor, or total score, represents obsessive-compulsive personality pathology on a continuum, with higher scores indicating more dysfunction and severity. This measure has demonstrated good internal consistency reliability, as well as convergent and discriminant validity (Pinto, Ansell & Wright, 2011). The POPS was used to assess participants OCPD symptom severity on a continuous range. See Appendix A.

Depression Anxiety Stress Scale Short Form. The Depression Anxiety Stress Scale Short Form (DASS-21; Lovibond & Lovibond, 1995a) is a 21-item questionnaire that measures common symptoms of depression, anxiety and stress experienced within the past week. Items are ranked on a Likert-type scale ranging from 0 (did not apply to me at all) to 4 (applied to me very much, or most of the time), with higher scores indicating greater symptom severity. This measure has demonstrated high internal consistency, test-retest reliability, and convergent and discriminative validity (Lovibond & Lovibond, 1995b). The DASS-21 was used to determine current levels of depression, anxiety and stress in order to characterize the sample. See Appendix B.

Intolerance of Uncertainty Scale – Short Form. The Intolerance of Uncertainty Scale – Short Form (IUS-12; Carleton et al., 2007) is a 12-item questionnaire that measures responses to

uncertainty, ambiguity and the future. The IUS-12 is the short form of the original Intolerance of Uncertainty Scale (IUS; Buhr & Dugas, 2002). Items are ranked on a Likert scale ranging from 1 (not at all characteristic of me) to 5 (entirely characteristic of me), with higher scores indicating higher IU. This measure has demonstrated internal consistency and construct validity (Carleton et al., 2007; Hale et al., 2016). The IUS-12 was used to assess the participants level of IU. See Appendix C.

PANAS-X Scales. The Positive and Negative Affect Schedule (PANAS; Watson & Clark, 1999) is a 60-item scale that measures the extent to which different feelings and emotions have been felt within the past few weeks. Items are ranked on a Likert-type scale ranging from 1 (very slightly or not at all) to 5 (extremely), with higher scores indicating more frequently experienced feelings and emotions. This measure has demonstrated adequate internal consistency reliability, convergent and discriminant validity, and test-retest reliability (Watson et al., 1998; Watson & Clark, 1994). The PANAS-X hostility, fear and general positive affect scales were used to measure the extent to which participants experienced these emotions following each scenario. See Appendix D.

Hypothetical Scenarios. Five scenarios modeled after OCPD diagnostic criteria and specific trait factors were created for this study. Each scenario presents a situation based off a subscale from the POPS for the participant to imagine themselves in. The intention of each scenario is to elicit emotions such as anger and anxiety. Following each of the imagined scenarios, participants rated their experience of various emotions. See Appendix E.

Procedure

Following online informed consent, participants from an unselected, online sample completed a series of demographic questions on Qualtrics. Participants were recruited from

Amazon's Mechanical Turk (MTurk; an Internet-based platform that aids researchers in crowdsourcing). Participants then completed the POPS, DASS-21, and IUS-12, in that order. Following completion of the questionnaires, participants read and imagined themselves in the five hypothetical scenarios described above and then responded to the questionnaires about emotion. Three attention check questions in which participants were prompted to select a random letter were included throughout the survey to detect bots and to assess participant engagement with the survey. In order to be retained for data analysis, participants needed to correctly answer two of the three attention checks. Finally, participants were debriefed and compensated for their time.

Results

Prior to conducting statistical analyses, six participants were deleted because they did not complete the study. No participants were removed for failing the attention checks. Data was then checked for missingness and normality. Missingness was minimal (i.e. 1-2 items, at most, were missing from the measures) and was corrected for using expectation maximization (EM). All outcomes measures were normally distributed, and no outliers were detected.

Correlations

Pearson correlations coefficients were conducted to examine the relationship between the POPS, the IUS-12, the PANAS hostility, the PANAS fear, and the PANAS general positive affect scales (see table 2). There was no significant correlation between IU and general positive affect (r = .12, p = .19) or between OCPD and general positive affect (r = .04, p = .68).

As expected, OCPD was significantly correlated with hostility (r = .74, p = .000) and fear (r = .71, p = .000). IU was also significantly correlated with both hostility (r = .58, p = .000) and fear (r = .56, p = .000). See Table 3 for correlations.

Primary analysis

A series of three hierarchical regressions were conducted to determine the extent to which intolerance of uncertainty (IUS-12) predicted emotion (hostility, fear, general positive affect) above and beyond what OCPD (POPS) predicted. A mean score for each PANAS-X subscale (i.e. hostility, fear, general positive affect) was computed across the five scenarios. For each regression, experienced emotion measured by one of three PANAS-X subscales (PANAS hostility, PANAS fear, PANAS general positive affect) was entered as the dependent variable, and the POPS was entered into the first block of the regression. The POPS and IUS-12 scores were then entered into the second block of the regression.

When the POPS and the IUS-12 were entered as predictor variables into the regression for general positive affect, results demonstrated that the final regression model accounted for about 2% of the variance in general positive affect and was not statistically significant, ($F_{(2,116)}$ = 1.05, p = .354). Neither the POPS (β = .12, t = 1.31, p = .194) nor the IUS-12 (β = .17, t = 1.39, p = .168) uniquely predicted general positive affect.

When the POPS and the IUS-12 were entered as predictor variables into the regression for hostility, results demonstrated that the final regression model accounted for about 57% of the variance in hostility and was statistically significant, ($F_{(2,116)}$ = 75.94, p = .000). Both the POPS (β = .74, t = 12.01, p = .000) and the IUS-12 (β = .16, t = 1.99, p = .049) uniquely predicted hostility.

When the POPS and the IUS-12 were entered as predictor variables into the regression for fear, results demonstrated that the final regression model accounted for about 52% of the variance in fear and was statistically significant, ($F_{(2,116)}$ = 62.24, p = .000). The POPS uniquely predicted fear (β = .71, t = 10.88, p = .000) while the IUS-12 (β = .16, t = 1.87, p = .064) did not.

Discussion

The current study aimed to assess the extent to which OCPD predicted emotional reactions to hypothetical scenarios in which routine and rigidity were disrupted. The study also explored the extent to which IU predicted emotional reactions to the scenarios above and beyond what OCPD predicted. Participants were presented with hypothetical scenarios modeled after OCPD diagnostic criteria and trait factors, and their emotional reactions to each scenario were measured. We hypothesized that when presented with the hypothetical scenarios, OCPD symptom severity would predict fear, hostility and general positive affect. Specifically, we hypothesized that those with higher OCPD symptomology would report higher levels of fear and hostility and lower levels of positive affect after reading the scenarios. Additionally, we hypothesized that IU would predict fear, hostility and general positive affect beyond OCPD symptoms. In partial support of our hypotheses, the results of this study revealed that while OCPD significantly predicted fear and hostility, it did not predict general positive affect. Additionally, IU predicted hostility above and beyond OCPD, but IU did not predict fear or general positive affect above and beyond OCPD.

OCPD and Experienced Emotions

In support of our hypotheses, OCPD predicted reactions of fear and hostility in response to the provided hypothetical scenarios. This supports previous research findings that connect OCPD with emotional difficulties—specifically anger and anxiety—that negatively impact levels of functioning and increases distress (Chauhan, 2018). Research indicates that OCPD is associated with feelings of anger, anxiety, and other hostile behaviors when individuals are in situations that disrupt the rigidity and perfectionistic habits that characterize the disorder (Kyrios et al., 2007; Phillipson, 2007). The results of this study further support that those with OCPD

may be more likely to experience feelings of anger and anxiety in situations that disrupt routine and rigidity, while those with less severe symptoms of OCPD may not.

Although the POPS significantly predicted both fear and hostility, it did not predict general positive affect. This suggests that OCPD may not impact the expression of positive emotions (i.e. attentive, determined, excited), but instead amplifies the expression of negative emotions (i.e. angry, irritable, nervous). Similar to our findings, Steenkamp et al. (2015) study results found that participants with OCPD did not significantly differ from healthy controls on PANAS positive affectivity but did express more trait anger. Future research should assess whether the POPS predicts different negative or positive emotions, such as sadness or happiness, to test how OCPD impacts the expression of emotion.

IU and Experienced Emotions

The results from this study indicate that IU predicts hostility beyond OCPD symptoms. Additionally, in the current study IU was correlated with total OCPD severity and each of the five OCPD trait subscales within the POPS. Our results are in line with previous research that found a relationship between IU and anger (Laposa & Fracalanza, 2019) and provide important new information on the relationship between OCPD and IU. Additionally, the expression of hostility may be accounted for by IU due to the controlling nature of OCPD. An individual with this disorder may have a difficult time dealing with uncertain situations due to their rigid nature, thus expressing feelings of anger in response to situations with uncertainty. By determining the relationship between IU and emotions, treatment options may be modified to include strategies on combatting IU and the feelings of anger that follow.

IU did not predict fear or general positive affect beyond OCPD. The PANAS-X fear subscale included the following emotion descriptors: afraid, scarred, frightened, nervous, jittery,

and shaky. Although this subscale was used to measure the anxious reactions of patients, these emotional descriptors do not necessarily capture anxiety as the descriptors are more specific to fear. The subscale may have not provided participants with applicable enough emotions related to anxiety (e.g. faint, unsteady, unable to relax), as our findings contradict much of the literature within the field on the relationship between IU and anxiety. IU is a transdiagnostic risk factor across many forms of psychopathology but is particularly associated with anxiety. It may be possible that our sample included participants who would be categorized into the hostile-dominant subgroup of OCPD as opposed to the anxious subgroup. This differentiation could explain why participants reported stronger feelings of hostility or anger in response to the scenarios but lesser feelings of fear or anxiety.

Contributions to Literature

This study adds to the literature between OCPD and IU, as it is the first study to look at how participants react to situations designed to disrupt the routine and rigidity seen in OCPD and measure the emotional responses. Additionally, it is the first study to look at the relationship between OCPD, IU, and experienced emotions. Based off of the findings, it would be clinically important to start targeting IU when treating OCPD as change in IU may mediate the improvement of OCPD symptoms. Additionally, this study supports previous literature that has found anger to be one of the core pathologies of OCPD. Thus, when teaching OCPD patients emotional regulation strategies, there should be an emphasis on regulating anger/hostility.

Limitations

When interpreting the study and its findings, several limitations must be considered. First, an unselected sample was used instead of intentionally recruiting a sample with a varying range of OCPD symptom severity. This resulted in a sample with a mean score of 158.35 *(SD* =

48.55*)* out of the possible 294 points. The range was restricted, as there was a lack of individuals who had high POPS scores. The highest reported score was a 265. Thus, this sample did not exhibit substantial OCPD symptoms, which may have impacted the emotional reactions reported following each hypothetical scenario.

An additional limitation of this study was the use of a non-clinical sample. While some participants did report high symptom severity of OCPD on the POPS, it is not known what portion of this sample met the diagnostic criteria for OCPD since a clinical diagnosis was not required. Additionally, assessment of obsessive-compulsive personality symptoms was limited to one self-report measure, so the results of this study may not be generalizable to clinical OCPD populations.

The hypothetical scenarios were created for the purposes of this study and were not piloted or validated prior to their use. Each scenario was based off of a subscale of the POPS (i.e. difficulty with change, emotional overcontrol, rigidity, maladaptive perfectionism, reluctance to delegate). Although the intention was to develop situations based off of these subscales that would evoke emotional reactions for those with OCPD, the developed scenarios may not have successfully done so.

Lastly, the sample used in the study was mostly male, white, and middle-aged, further limiting the generalizability of the study's findings. Although the study was open to the MTurk community and there was a wide range of participant ages (25 to 67 years old), the mean age was 38.24. In the future, it would be beneficial to recruit a racially and gender diverse sample with a wider distribution of ages.

Future Directions

Future studies may better capture the relationship between OCPD, IU, and experienced emotions by recruiting a sample of participants experiencing varying OCPD severity or by recruiting a sample of participants with clinically diagnosed OCPD. The use of a different scale or measure for participants to report their experienced emotions (i.e. anxiety) following each hypothetical scenario may improve the quality of the data and produce more significant results. The PANAS-X scales used in this study, while being validated and reliable, may have not presented emotions that best reflected the anxious responses participants experienced after reading the scenarios. Using a measure such as the Beck Anxiety Inventory (BAI; Beck et al., 1988) may better report feelings of anxiety in response to the scenarios and provide more accurate results. Additionally, it is crucial to validate the hypothetical scenarios to ensure they are replicating the selected OCPD trait factors and measuring the intended experienced emotions.

Summary

In summary, the current study assessed the extent to which OCPD predicted emotions in response to scenarios designed to disrupt rigidity and plans. The study also examined the extent to which IU predicted emotional reactions to these scenarios above and beyond OCPD. The findings demonstrated that OCPD predicted fear and hostility but not general positive affect. Additionally, IU was found to predict hostility above and beyond OCPD but did not predict fear or general positive affect above and beyond OCPD. The findings of this study suggest that IU may be an important component of the expression of emotions in OCPD patients and thus may be an important piece to target in treatment.

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Table 1
Demographic Data

		N	%
Gender	Males	80	67.2
	Females	38	31.9
Race/ethnicity	White	93	78.2
	Black	16	13.4
	Asian	3	2.5
	Other	1	.8
Degree Status	Bachelor's Degree	66	77.6
	Other	19	22.4

Table 2
Descriptive Data on Measures

Measure	Subscale	*M*	*SD*
PANAS-X			
	PANAS General Positive Affect	28.74	9.21
	PANAS Hostility	12.86	5.78
	PANAS Fear	12.52	6.04
POPS	Total	158.35	48.55
	Difficulty with Change	28.37	8.99
	Emotional Overcontrol	23.90	8.80
	Rigidity	44.62	18.36
	Maladaptive Perfectionism	38.71	12.93
	Reluctance to Delegate	25.71	7.95
IUS-12	Total	35.86	11.04

Note. PANAS-X = Positive and Negative Affect Schedule; POPS = Pathological Obsessive Compulsive Personality Scale; IUS-12 = Intolerance of Uncertainty Scale – Short Form

Table 3

Correlations

	POPS	**IUS-12**
General Positive Affect	.12	.04
Hostility	.74	.59
Fear	.71	.57

Note. POPS = Pathological Obsessive Compulsive Personality Scale; IUS-12 = Intolerance of Uncertainty Scale – Short Form

Table 4

Hierarchical Regressions

	B	SE B	β
Fear			
Step 1 (R^2 = .51)			
POPS	.09	.09	.71
Step 2 (ΔR^2 = .02)			
POPS	.08	.01	.60
IUS-12	.09	.05	.16

	B	SE B	β
Hostility			
Step 1 (R^2 = .55)			
POPS	.09	.08	.74
Step 2 (ΔR^2 = .02)			
POPS	.08	.01	.63
IUS-12	.09	.04	.16

	B	SE B	β
General Positive Affect			
Step 1 (R^2 = .01)			
POPS	.02	.02	.12
Step 2 (ΔR^2 = .003)			
POPS	.03	.02	.17
IUS-12	-.07	.10	-.08

Appendix A

Pathological Obsessive-Compulsive Personality Scale

Please rate the items below using the following scale:

1 = Strongly Disagree, 2 = Disagree, 3 = Slightly Disagree, 4 = Slightly Agree, 5 = Agree, 6 = Strongly Agree

1. I get lost in the details.
2. I never let someone else do something because they almost always do it incorrectly.
3. I tend to keep my emotions to myself.
4. When someone crosses me, I make sure to get revenge.
5. I hate changing my plans at the last minute.
6. I get upset when my day's schedule is disrupted.
7. My need to be perfect affects how much I get done.
8. I often have to take over others' responsibilities to make sure that the job is done right.
9. I spend too much time on something in order to get it just right.
10. I try to convince others of what I believe to be right and wrong.
11. People are either with me or they are against me.
12. I have been told I am inconsiderate of others.
13. I punish those who deserve it.
14. Expressing emotions usually leads to embarrassment.
15. I am easily upset by changes in my routine.
16. I have trouble dealing with unforeseen events.
17. I have trouble with last minute changes.
18. I often miss the deadlines I set for myself.

19. I trust others to carry out tasks competently.

20. I tend to take on more tasks because counting on others is useless.

21. Other people say that I am argumentative.

22. I get angry when others try to change my mind.

23. I have difficulty adapting to change.

24. Others say that I am closed minded.

25. I am happy to let others help me in my work.

26. I am a stubborn person.

27. I often spend too much time getting organized.

28. I rarely feel comfortable showing affection towards others.

29. I hold back my feelings.

30. It is difficult for me to show my feelings to others.

31. People think I am being critical whenever I give them advice.

32. I insist that others do things my way.

33. People tell me that I am inflexible.

34. Others have told me I am demanding in my relationships.

35. When working in a group, I find that I end up doing most of the work.

36. People have described me as being closed with my feelings.

37. I will put off a task if I do not think I can do it perfectly.

38. People say I am critical of the way they do things.

39. It is hard for me to shift from one task to another.

40. I end up doing a lot of jobs myself because no one can live up to my standards.

41. People say that I dismiss points of view that differ from my own.

42. There are few people who can meet my expectations.

43. It really irritates me when people don't stick to the plan.

44. I frequently need extensions on deadlines.

45. It takes longer for me to complete a task to my high standards.

46. I get caught up in the details no matter what I’m doing.

47. I put pressure on myself to get things just right.

48. It is difficult for me to relate to other people's emotions.

49. I am hard on myself when I am unable to complete a task to my high standards.

Appendix B

Depression Anxiety Stress Scale Short Form (DASS-21)

Please read each statement and circle a number 0, 1, 2 or 3 which indicates how much the statement applied to you **over the past week**. There are no right or wrong answers. Do not spend too much time on any statement.

The rating scale is as follows:
0 Did not apply to me at all
1 Applied to me to some degree, or some of the time
2 Applied to me to a considerable degree, or a good part of the time
3 Applied to me very much, or most of the time

1 I found it hard to wind down	0	1	2	3
2 I was aware of dryness of my mouth	0	1	2	3
3 I couldn't seem to experience any positive feeling at all	0	1	2	3
4 I experienced breathing difficulty (eg, excessively rapid breathing, breathlessness in the absence of physical exertion)	0	1	2	3
5 I found it difficult to work up the initiative to do things	0	1	2	3
6 I tended to over-react to situations	0	1	2	3
7 I experienced trembling (eg, in the hands)	0	1	2	3
8 I felt that I was using a lot of nervous energy	0	1	2	3
9 I was worried about situations in which I might panic and make a fool of myself	0	1	2	3
10 I felt that I had nothing to look forward to	0	1	2	3
11 I found myself getting agitated	0	1	2	3
12 I found it difficult to relax	0	1	2	3
13 I felt down-hearted and blue	0	1	2	3
14 I was intolerant of anything that kept me from getting on with what I				

was doing	0	1	2	3
15 I felt I was close to panic	0	1	2	3
16 I was unable to become enthusiastic about anything	0	1	2	3
17 I felt I wasn't worth much as a person	0	1	2	3
18 I felt that I was rather touchy	0	1	2	3
19 I was aware of the action of my heart in the absence of physical exertion (eg, sense of heart rate increase, heart missing a beat)	0	1	2	3
20 I felt scared without any good reason	0	1	2	3
21 I felt that life was meaningless	0	1	2	3

Appendix C

Intolerance of Uncertainty Scale – Short Form

Rate each statement based on the following scale:

(not at all characteristic of me) 1 – 2 – 3 – 4 – 5 (entirely characteristic of me)

1. Unforeseen events upset me greatly.
2. It frustrates me not having all the information I need.
3. Uncertainty keeps me from living a full life.
4. One should always look ahead so as to avoid surprises.
5. A small unforeseen event can spoil everything, even with the best planning.
6. When it’s time to act, uncertainty paralyses me.
7. When I am uncertain, I can’t function very well.
8. I always want to know what the future has in store for me.
9. I can’t stand being taken by surprise.
10. The smallest doubt can stop me from acting.
11. I should be able to organize everything in advance.
12. I must get away from all uncertain situations.

Appendix D

PANAS-X

Please rate the items below using the following scale:

1 = Very slightly or not at all, 2 = A little, 3 = Moderately, 4 = Quite a bit, 5 = Extremely

_____ frightened	_____ active
_____ afraid	_____ alert
_____ scared	_____ attentive
_____ nervous	_____ enthusiastic
_____ jittery	_____ excited
_____ shaky	_____ inspired
_____ angry	_____ interested
_____ irritable	_____ proud
_____ hostile	_____ strong
_____ scornful	_____ determined
_____ disgusted	_____ loathing

Appendix E

Hypothetical Scenarios

Read the following scenario carefully. Imagine yourself experiencing the given scenario and how it makes you feel. After carefully reading and imagining yourself experiencing the situation, rate on a scale of 1 to 5 what emotions you experienced using the scale below.

1) You and a friend have plans to meet for lunch at your favorite restaurant. Right before you head out the door, you get a text from your friend. They ask if you could meet them an hour later than planned and at a different restaurant.
2) You have guests coming over to your house and want to make sure everything is nice and clean for their arrival. You are hard at work wiping down everything when you get a text saying your guests will be getting there earlier than you anticipated. The house is relatively clean, but you won't be able to get everything that you wanted done before your guests arrive.
3) You are working on a group project and are meeting with your group to go over how everyone's parts are going. Your part is finished and ready to be put into the final project. As your groupmates start showing their work, you notice things you would have done differently.
4) You are struggling with staying on top of your schoolwork, being involved with your extracurriculars, balancing a social life and staying healthy all at the same time. Your friend notices you seem down and asks if you are ok. You start venting about all of the different emotions you have been feeling and tell them everything
5) You and your roommates are decorating your apartment and trying to figure out how to set up your furniture. You think the couch would look best next to the window and insist that it should go there. Your roommates disagree and end up putting the couch in a different spot.