

Predicting OCD: An Analysis of the Conceptually Related Measures of Intolerance of Uncertainty, Perfectionism, and Coping

Fotinos K¹, Fine A¹, Nasiri K¹, Youmer N¹, Sternat T^{1,2}, Cook S¹, Epstein I¹ and Martin A Katzman^{1,2,3,4*}

¹START Clinic for Mood and Anxiety Disorders, Toronto, ON, Canada

²Department of Psychology, Adler Graduate Professional School, Toronto, ON, Canada

³Department of Psychology, Lakehead University, Thunder Bay, ON, Canada

⁴Northern Ontario School of Medicine, Sudbury, ON, Canada

*Corresponding Author: Martin A Katzman, START Clinic for Mood and Anxiety Disorders, Toronto, ON, Canada.

Received: March 01, 2018; Published: May 02, 2018

DOI: 10.31080/ecpp.2018.07.00244

Abstract

Purpose: To examine intolerance of uncertainty, maladaptive coping strategies, and perfectionism as predictors of an obsessive-compulsive disorder (OCD) diagnosis.

Methods: Outpatients (N = 549) referred to the START Clinic for Mood and Anxiety Disorders in Toronto from 2011-2014 completed a structured clinical interview (MINI International Neuropsychiatric Interview Plus) and were subsequently administered a series of self-report questionnaires. Included in these questionnaires were the Intolerance of Uncertainty Scale (IUS), the Hewitt Multidimensional Perfectionism Scale (MPS) and the Coping Inventory of Stressful Situations Scale (CISS). Multiple binary logistic regression analyses were performed using the diagnosis of OCD as the outcome variable and the total scores on each of the scales (and their associated subscales) as separate predictor variables of OCD.

Results: Total scores on the IUS and the MPS significantly predicted an OCD diagnosis ($p < .001$ and $p < .05$, respectively), with greater IU and maladaptive perfectionism correlating with an increased likelihood of being diagnosed with OCD. While total scores on the CISS did not predict an OCD diagnosis, sub-factors 1 and 2 of the CISS (specifically, task-oriented and emotion-oriented coping) did predict an OCD diagnosis ($p < .05$). Furthermore, factor 1 of the IUS 2-factor model (IUS-negative) and factors 2 and 3 of the IUS 4-factor model (IUS-inability to act and IUS-avoid, respectively) were significant predictors of OCD ($p < .001$). None of the subscales within the MPS individually predicted an OCD diagnosis.

Conclusions: Maladaptive perfectionism, coping strategies and intolerance of uncertainty, predicted the diagnosis of OCD. The subscales were potentially stronger predictors and better moderators of this relationship, providing information about the nature of OCD and its treatment. Future studies should examine these features in determining potential differential outcomes in response to treatment for OCD.

Keywords: Features that Predict; Comorbidity; Intolerance of Uncertainty; Perfectionism; Treatment Implications; Yale-Brown Obsessive Compulsive Scale (YBOCS)

Abbreviations

CISS: Coping Inventory of Stressful Situations; DSM: Diagnostic and Statistical Manual; GAD: Generalized Anxiety Disorder; IU: Intolerance of Uncertainty; IUS: Intolerance of Uncertainty Scale; MDD: Major Depressive Disorder; MDE: Major Depressive Episode; MPS: Multidimensional Perfectionism Scale; OCD: Obsessive Compulsive Disorder; SAD: Social Anxiety Disorder; YBOCS: Yale-Brown Obsessive Compulsive Disorder Scale

Introduction

Obsessive-compulsive disorder (OCD) is amongst the most debilitating mental and physical diseases worldwide [1] due to its high comorbidity with other psychiatric disorders and a general tendency for affected individuals to under-report [2,3]. Lack of insight, avoidant behaviors, shame about symptoms, and doubts about treatment effectiveness were found to be of the primary reasons for under reporting in this population [4,5]. OCD is defined as a heterogeneous condition consisting of pathological doubt about objects, situations, or actions that provoke anxiety and elicit a ritualized response [6,7]. Obsessions are defined as anxiety- and distress-inducing persistent and intrusive thoughts, impulses, or images, while compulsions are the responses to those obsessions. Compulsions may manifest as repetitive behaviors or mental acts performed with the purpose of preventing or reducing distress or a dreaded outcome [8].

The consensus on lifetime prevalence of OCD is mixed with some researchers reporting 1% - 3% [6,9-11], and others reporting 6.7%, depending on geographical region [12]. Ruscio and colleagues (2010) [10] demonstrated that in a nationally representative survey of 2073 US adults, more than one quarter of respondents reported experiencing obsessions or compulsions at some point in their lives, with 1.2% reporting OCD symptoms in the previous year and 2.3% reporting lifetime OCD. The variability in reported lifetime prevalence may in part be due to overlapping symptomatology resulting in diagnostic inconsistencies [13], in addition to subclinical presentations of the disorder [10,14-17]. The Diagnostic and Statistical Manual (DSM) 5th Edition (DSM 5) [8] reclassified OCD into a new category called Obsessive-Compulsive and Related Disorders, differing from its previous locale in the Diagnostic and Statistical Manual (DSM) 4th Edition Text Revision (DSM-IV-TR) [18], where OCD was classified within the category of Anxiety Disorders. This change took place as a result of increasing research presenting OCD as a spectrum rather than as a single, mutually exclusive disorder [19]. The variability in OCD symptomatology and presentation suggests that several constructs may be used to interpret severity of symptoms in order to draw comparisons between OCD and other disorders. Specifically, intolerance of uncertainty (IU) and perfectionism are features present in both anxiety disorders [20] and OCD alike [21-23], and assessments that measure the severity of these features may offer clinically useful information.

IU may be understood as the persistent incapacity to endure the possibility of uncertain negative future outcomes [20,24]. It can be likened to trait worry in that it manifests as a low tolerance of ambiguity, increased indecisiveness and perfectionism, and in the need for predictability and structure [25-27]. However, individuals who are highly intolerant of uncertainty may further believe that they lack sufficient coping or problem solving skills to effectively manage threatening situations that have the potential to evoke discomfort and negative emotionality [26]. To this extent, high IU has not only been shown to predict OCD symptomatology, especially symptoms related to OCD obsessions [21,23,28], but it has also been found to negatively affect treatment outcomes [29].

Trait perfectionism can be understood as the perceived or real requirement for perfection, or as having exceedingly high expectations for the self or others [30-32]. Hewitt and Flett (1991) [30] explain trait perfectionism as a multidimensional concept involving personal and social factors that become pathological insofar as the individual is intolerant of mistakes or is achieving below their perceived standards [32]. Pathological trait perfectionism can contribute to varying degrees of psychopathology, including maladjustment and personality disorders [31] and increased OCD severity [32]. Specifically, Ashby and Bruner (2005) [33] analyzed adaptive versus maladaptive perfectionism in an undergraduate sample and found that increased maladaptive perfectionism was associated with increased OCD behaviors, corroborating that perfectionism may play a role in OCD. Vernacular synonymous with perfection are rightness, exactness, and precision, features that are commonly observed in OCD, as measured by the Yale Brown Obsessive-Compulsive Scale (YBOCS) [34]. Furthermore, obsessions of control, as well as ordering and checking obsessions, appeared to be closely related with both trait perfectionism and high IU in more recent studies [28,35]. Subsequent to the development of the Multidimensional Perfectionism Scale (MPS) [30], De Cuyper and colleagues (2015) [36] support a three-factor structure of the MPS including self-oriented perfectionism, socially prescribed perfectionism, and other-oriented perfectionism.

Coping can be understood as the method in which an individual adapts or deals with stressful or adverse situations [37]. One common coping strategy is avoidance, which can prove to be maladaptive or ineffective depending on the individual and/or the situation. Endler and Parker (1994) [38] created the Coping Inventory for Stressful Situations (CISS) to measure an individual's overall ability to cope. It has also been used to draw inferences about personality traits, with factor analytic data demonstrating that the task-oriented coping subscale is negatively correlated with neuroticism [39,40]. Several studies have investigated this scale in non-clinical populations, including caregivers and family members of individuals with psychiatric disorders; however, the CISS has seldom been used in large clinical populations, and specifically not in OCD.

While studies on non-clinical populations have demonstrated a mediating relationship of IU on perfectionism and OCD symptom severity [32]; there remains a dearth of data considering the sub-factors of these constructs that measure IU, perfectionism, and coping strategies in clinical OCD populations. Discerning which elements of uncertainty, perfectionism, and coping have the greatest influence on OCD may help clinicians tailor treatment to address the low remission and high relapse rates otherwise observed in both primary and tertiary care settings [41]. The present study was undertaken as an exploratory analysis to examine indirect measures that may be associated with psychopathology. Specifically, the aim was to evaluate the potentially predictive nature of the sub-factors of these constructs on the likelihood of receiving a clinical diagnosis of OCD. The secondary outcome measure was to determine the differences in scores on these constructs for OCD patients compared to other disorders to provide potentially useful clinical information regarding treatment.

Methods

Participants and procedure

Five hundred and forty-nine (N = 549) outpatients were referred to the START Clinic for Mood and Anxiety Disorders in Toronto, Canada between 2011-2014. One hundred and seven (n = 107) participants received a primary diagnosis of OCD, whereas 441 were not diagnosed with OCD. The two samples appeared to be evenly matched for gender with a total of 57 males and 50 females in the OCD group, compared to 223 males and 218 females in the non-OCD control group, with one individual not reporting information on gender. The average age of participants was 35.49 (SD = 12.60) with table 1 depicting complete demographic information (Table 1).

Patients were evaluated by a two-step procedure, which included the administration of the Mini International Neuropsychiatric Interview 6.0.0 [42], followed by a semi-structured psychiatric assessment to confirm diagnoses. Patients were subsequently distributed a series of self-report questionnaires as part of their initial intake assessment, which included the Intolerance of Uncertainty Scale (IUS) [43,46], the Hewitt Multidimensional Perfectionism Scale (MPS) [44] and the Coping Inventory of Stressful Situations Scale (CISS) [38].

Materials

Mini-International Neuropsychiatric Interview 6.0.0 (MINI)

The MINI [42] is a clinician administered structured interview used in clinical and research settings to screen for axis I diagnoses, and includes brief assessment modules for suicidality and antisocial personality disorder modules. It follows the DSM-IV and ICD-10 criteria and it is validated in North America and Europe [45]. It demonstrates good inter-rater and test-retest reliability, with good sensitivity and specificity overall [42,45].

Intolerance of Uncertainty Scale (IUS)

The IUS [43,46] is a 27-item self-report construct assessing the participant's perception and tolerance of uncertain situations. Items are rated on a 5-point Likert scale ranging from 1-not at all characteristic of me to 5- entirely characteristic of me. It demonstrates excellent internal consistency and good test-retest reliability and validity [25,46,47]. The literature on factor analysis of the IUS posits both a 2-factor model [48-50] and a 4-factor model [46,51]; therefore, both were explored in the present study. The 2-factor model consists of two subscales: i) Uncertainty has negative behavioral and self-referent implications (IUS-negative) and ii) Uncertainty is unfair and spoils everything (IUS-unfair). The 4-factor model parses out the construct further to include 4 subscales: i) Uncertainty is stressful and upsetting (IUS-stressful and upsetting), ii) Uncertainty leads to the inability to act (IUS-inability to act), iii) Uncertain events are negative and should be avoided (IUS-avoid), and iv) Uncertainty is unfair (IUS-unfair).

Hewitt Multidimensional Perfectionism Scale (MPS)

The MPS [44] is a 45-item self-report scale assessing the participant’s need for perfectionism in the self and others, where items are rated on a 7-point Likert scale from 1-strongly disagree to 7-strongly agree. The construct demonstrates good internal consistency and reliability and comprises three 15-item subscales measuring: i) Self-oriented perfectionism, ii) Other-oriented perfectionism, and iii) Socially-prescribed perfectionism [30,31,36].

Coping Inventory of Stressful Situations (CISS)

The CISS [38] is a 48-item self-report scale assessing coping strategies with three subscales including i) Task-oriented, ii) Emotion-oriented, and iii) Avoidance-oriented coping [52,53]. Items are rated on a 5-point Likert scale ranging from 1-not at all to 5-very much as participants are required to rate how often they engage in various coping strategies when faced with difficult, stressful, or upsetting situations. The CISS includes both positive and negative valence statements such as “I outline my priorities” and “I blame myself for not knowing what to do”, respectively, to address adaptive and maladaptive coping schemas. The CISS demonstrates good test-retest reliability, validity and internal consistency [38,54].

Statistical Analysis

Statistical analyses were conducted using IBM SPSS Statistics Version 24.0. Two-tailed Student’s t-tests for independent samples were performed to assess for differences in the mean scores on each of the constructs and their subscales for the OCD group versus the non-OCD group. Results were considered statistically significant at $\alpha < .05$. Similarly, a series of t-tests were conducted to determine whether there were significant differences between demographic groups on total scores on any of the scales or their subscales. The Levene’s test for homogeneity of variances was violated due to the discrepancy in sample sizes between the OCD group and the non-OCD group; thus, equal variances not assumed are reported.

Multiple logistic regression models were used to determine the predictive nature of the scores on the constructs and the incidence of an OCD diagnosis. The dependent variable in all analyses was OCD diagnosis (yes/no), a categorical variable. The independent variables in all analyses were continuous variables (scores on the Likert scales). The results were compared to determine whether certain subscales were better predictors of an OCD diagnosis than the overall construct itself.

Results

Descriptive statistics and between-groups comparisons of the OCD group and the non-OCD groups in terms of age, sex, and total scores for each scale and their subscales are depicted in table 1 (Table 1). Group statistics were run on the entire sample (N = 549) to assess for gender differences on each of the constructs of interest. Females tended to score higher on all three measures (IUS, MPS, and CISS) than males in the general sample ($p < .05$, $p < .01$, and $p < .001$, respectively); however, among those with OCD, no significant difference was observed on any of the measures.

Variable	Total non-OCD		Total OCD		Significance (p-value)
	M (n = 441)	SD	M (n = 107)	SD	
Age	35.80		34.29		.266
Sex ^a	.494		.467		.616
IUS Total	77.31	22.29	85.98	21.10	<.001**
Negative	41.58	13.39	47.10	12.80	<.001**
Unfair	35.73	10.44	38.90	9.769	.003*
Stressful and Upsetting	28.45	9.606	31.81	9.401	.001*
Inability to act	31.15	9.541	35.41	8.758	<.001**
Avoid	21.23	6.381	22.65	6.044	.033*
Unfair	11.63	4.136	12.85	3.943	.005*
MPS Total ^b	172.89	26.10	178.60	26.80	.050*
Self	62.71	12.17	65.29	12.96	.053
Social	61.60	10.53	63.26	10.57	.148
Other	57.73	8.255	58.02	8.471	.725
CISS Total ^c	138.9	21.27	140.68	20.88	.428
Task	48.77	11.48	43.79	11.70	<.001**
Emotion	49.28	11.92	53.77	10.86	<.001**
Avoidance	40.84	10.95	43.12	10.95	.051†

Table 1: Descriptive statistics for demographic variables, scales and subscales of interest for the non-OCD and the OCD groups.

* $p < .05$; ** $p < .001$

a: The information in the cells for sex is the proportion of females.

b: The information presented in the rows for the MPS survey is based on $n = 440$ for the non-OCD group as 1 individual did not report their responses, and $N = 106$ for the OCD group as 1 individual did not report their responses.

c: The information presented in the rows for the CISS survey is based on $n = 438$ for the non-OCD group as 3 individuals did not report their responses.

†: Marginally significant

Note: IUS: Intolerance of Uncertainty Scale; MPS: Multidimensional Perfectionism Scale; CISS: Coping Inventory of Stressful Situations

Both the OCD and the non-OCD groups were highly comorbid with figure 1 depicting the most frequent comorbidities in both samples. In the OCD group, Generalized Anxiety Disorder (GAD) was the greatest comorbidity (N = 82; 76.6%), followed by Social Anxiety Disorder (SAD) (N = 69; 64.4%), Panic Disorder (N = 67; 62.6%), and Major Depressive Episode (MDE) (N = 48; 44.9%). Figure 1 depicts the principal comorbidities in the OCD group with all other disorders grouped into the 'Other' category (Figure 1).

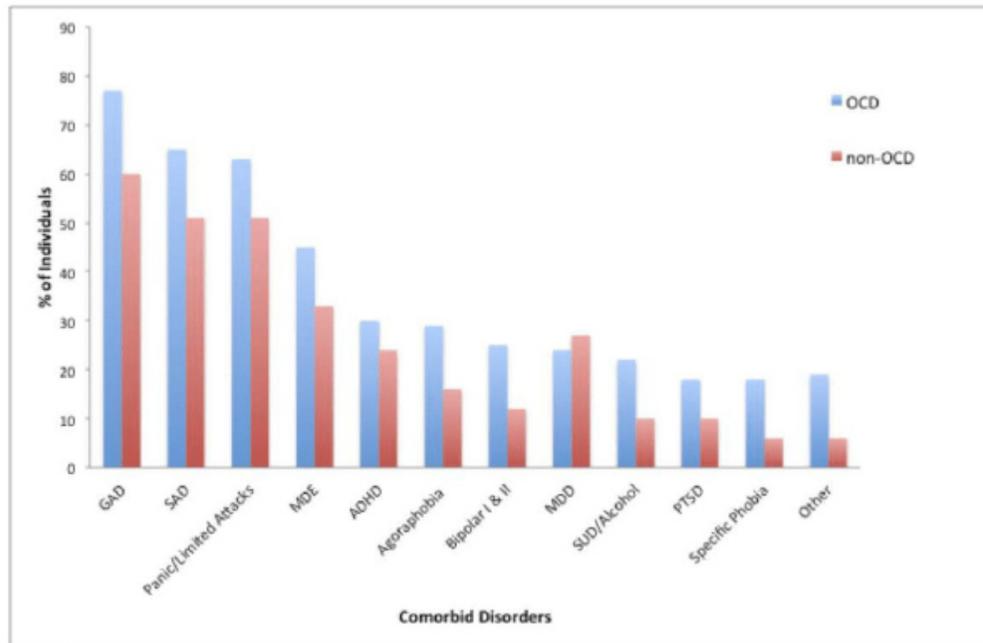


Figure 1: Comorbidities in the OCD (n = 107) versus the non-OCD (n = 441) samples. Most common comorbid disorders in patients with and without OCD. A significantly higher percentage of patients with OCD reported comorbid psychiatric disorders, with the exception of MDD where a greater percentage of non-OCD patients were diagnosed with MDD. Statistical significance was determined with a chi-square test, with $p < .05$ indicating statistical differences.

Logistic Regression Analysis

Five multiple logistic regression models were constructed. Table 2 illustrates that these five models yielded different results. In the first model, IUS Total and MPS Total functioned as significant predictors of OCD diagnosis, whereas CISS Total did not. In subsequent models, factor 1 in the IUS 2-factor model was a significant predictor of OCD ($p = .011$) and factors 2 and 3 of the IUS 4-factor model were significant predictors ($p = .001$ and $p = .041$, respectively). Factors 1, 2 and 3 of the CISS functioned as significant predictors of an OCD diagnosis but no factors within the MPS were significant (Table 2).

Odds ratios were calculated for each logistic regression analysis and revealed statistical significance. Individuals that scored high on the MPS total construct were approximately 13% more likely to be diagnosed with OCD. Individuals that scored high on the IUS total construct were only 2% more likely to be diagnosed with OCD. Interestingly, the subscales of the IUS revealed greater odds of predicting an OCD diagnosis than the overall construct. Specifically, individuals that scored high on the second factor (IUS-inability to act) of the IUS 4-factor model were 9% more likely to be diagnosed with OCD, and higher scores on the first factor of the 2-factor IUS model yielded a 2% increase in likelihood of an OCD diagnosis. Individuals with lower scores on the third factor of the IUS 4-factor model (IUS-avoid) were 6% less likely to be diagnosed with OCD, and individuals with lower scores on the first factor of the CISS (CISS-task) were 4% less likely to be diagnosed with OCD. Full results including odds ratios are depicted in table 2.

	Predictor	Nagelkerke R ²	χ^2 (df)	Odds ratio (OR)	p
MPS 3F	MPS-self	.013	χ^2 (3) = 4.440	1.016	NS
	MPS-social			1.010	NS
	MPS-other			.989	NS
MPS Total Only	MPS Total	.030	χ^2 (1) = 10.441	1.126	.014*
IUS 4F	IUS-stressful and upsetting	.063	χ^2 (4) = 22.106	NS	NS
	IUS-inability to act			1.090	.001**
	IUS-avoid			.940	.041*
	IUS-unfair			NS	NS
IUS 2F	IUS-negative	.043	χ^2 (2) = 14.843	1.032	.011*
	IUS-unfair			1.001	NS
IUS Total Only	IUS Total	.039	χ^2 (1) = 13.465	1.019	< .001**
CISS 3F	CISS-task	.085	χ^2 (3) = 30.011	.961	< .001**
	CISS-emotion			1.025	.021*
	CISS-avoidance			1.025	.034*
CISS Total Only	CISS Total	.002	χ^2 (1) = .619	1.004	NS

Table 2: Logistic regression analyses testing the effect of IUS, MPS, and CISS on diagnosis of OCD

*p < .05; **p < .001

Discussion

There is a dearth of literature examining the differences in severity of IU in those diagnosed with GAD compared to OCD, with one study reporting no significant differences between the two [22]. The present study sought to address this gap by examining the sub-factors related to established measures of anxiety and OCD to reveal important information about the predictable onset of OCD. Differential components of each construct were investigated in relation to OCD compared to other disorders to identify potentially stronger relationships between these subcomponents and specific OCD symptomology. While statistical significance was observed in most cases, small effect sizes suggest that perhaps there were additional variables that contributed to an OCD diagnosis that were not explored in the present study. Nonetheless, more research into the sub-factors of these constructs on larger samples is warranted.

Certain factors of the IUS in both the two- and four-factor models were better predictors of an OCD diagnosis than others, indicating that specific aspects of IU play a more significant role in the development of OCD. The second factor in the 4-factor model: uncertainty leads to the inability to act, was the strongest predictor of an OCD diagnosis. When total scores on this subscale for OCD and non-OCD groups were compared, the largest difference in total mean scores was observed. While uncertainty is a common feature in most anxiety disorders, this particular sub-factor encompasses the behavioural consequence of being uncertain – an aspect that may be particularly useful in differentiating OCD from other anxiety disorders.

Gentes and Ruscio (2011) [55] make the distinction that individuals with OCD perform rituals or compulsions to mitigate the distress that arises from uncertainty, whereas individuals with GAD endeavor to control future outcomes and moderate IU through engaging in mental worry. We might reasonably conclude, then, that different facets of IU relate more strongly to one disorder over another. De Silva (2010) [56] proposes a sequence for an obsessive-compulsive episode that includes i) a trigger (e.g. uncertainty), which is followed by ii) an obsession (e.g. a recurring thought related to the individual’s uncertainty), and increased iii) discomfort, before they are iv) driven to perform v) a compulsion in order to vi) reduce discomfort. The individual with OCD may become stuck in continuous repetition of their

compulsion until they have resolved their discomfort, which may in part explain why the ‘uncertainty leads to the inability to act’ subscale is more strongly predictive of OCD than other anxiety disorders. Furthermore, the YBOCS [34] inquires about the individual’s level of distress if prevented from carrying out a compulsive behavior and on the more severe end, individuals may respond with “extreme, incapacitating distress”, which may further explain higher observed scores on questions pertaining to uncertainty leads to the inability to act.

In support of previous findings [57], it was observed that high IU in individuals with OCD was associated with increased indecisiveness and deliberation. This is consistent with participants’ tendency to score lower on the task-oriented subscale of the CISS, which measures the likelihood of adaptive problem solving and time management behaviors under stress. The task-oriented subscale of the CISS was in fact inversely correlated and predictive of an OCD diagnosis, suggesting that people with OCD are significantly less likely to adopt a task-oriented or problem solving approach. This is interesting given previous findings with non-clinical populations linking low scorers on the task-oriented subscale of the CISS with increased neuroticism [39,40]. Since neuroticism is frequently associated with experiences of negative affect, anxiety, and self-consciousness, it generally leads to emotion-focused or avoidant coping styles [40]. It is known that avoidance negatively impacts exposure and response prevention (EX/RP) treatment outcomes in OCD due to the individual’s noncompliance with between-session homework involving confronting sources of distress [58]. Therefore, understanding an individual’s preferential coping strategy may allow clinicians to predict the response and efficacy of EX/RP treatment in OCD. The present study found that the CISS-emotion and CISS-avoidance subscales were significant positive predictors of an OCD diagnosis, suggesting that a potential area of focus for early sessions may be addressing avoidance before delving into EX/RP treatment. Ultimately, coping patterns can be used to identify and perhaps understand those meeting criteria for a diagnosis of OCD.

The OCD group’s tendency to score higher on the inability to act subscale of the IUS 4-factor model and their tendency to score lower on the task-oriented coping subscale may represent similar depictions of the same phenomenological presentation in OCD patients, thus supporting the observed inverse relationship. Furthermore, this inverse relationship may in part explain why scores on the CISS as a total construct were not predictive of an OCD diagnosis, nor were they significantly different between the OCD and non-OCD groups, as the scale measures both adaptive and maladaptive coping strategies. These conflicting strategies may therefore cancel each other out, which would not otherwise be reflected in the average scores on the total construct.

Similar conclusions may be drawn about the overall MPS compared to its subscales. For example, item #1 within the self-oriented subscale proposes that “When I am working on something, I cannot relax until it is perfect”, which may be consistent with an individual’s obsessions around symmetry or exactness (YBOCS) [34]. In comparison, item #36 of the same subscale suggests “I do not have very high goals for myself”, a statement that may not necessarily be a feature of OCD. This may be a partial explanation for why the subscales of the MPS were not predictive of an OCD diagnosis, nor were their total scores significantly different in the OCD versus the non-OCD group. Perhaps the average scores on the overall construct differed in both groups because on the whole, OCD individuals tended to rate their responses about perfectionism more strongly than non-OCD individuals. These greater scores on the overall MPS construct resulted in a 13% greater likelihood of being diagnosed with OCD, as per our sample, which is similarly reflected in previous studies examining perfectionism in OCD [59]. Still, more research into the types of perfectionism observed in OCD is warranted.

Perhaps a greater effect using the subscales may be observed if OCD were considered as a spectrum disorder [18], rather than as OCD with specific features. Nonetheless, the present study did not consider sub-features of the diagnosis, which may have limited the interpretation of the perfectionism analysis. Future research should seek to examine subsets of people with OCD, who suffer with symptoms that may specifically pertain to perfectionism, such as pervasive obsessions around scrupulosity, order or symmetry.

The present study also failed to examine OCD severity as a measure of IU, perfectionism, and coping. Measuring OCD severity via the YBOCS may have yielded stronger observed effects on each of the constructs and their respective subscales than an OCD diagnosis alone. The presence of comorbid anxiety disorders in both the OCD and non-OCD groups likely confounded the results due to the lack of sensitivity of each construct in differentiating between worry/anxiety and obsession. IU is a common feature of all anxiety disorders; therefore, in this comorbid sample, it is difficult to discern whether certain subcomponents of IU are solely characteristic of OCD or if the results were influenced by the comorbid anxiety disorders with which these subjects also presented.

Conclusions

The present findings indicate that there is a difference in the predictability of an OCD diagnosis using the IUS, MPS, and CISS total constructs compared to their subscales in a clinical population. Results suggest that a model that separates the subscales of the CISS for predicting OCD is better than one that uses the general construct of CISS. Ultimately, coping subtypes may play different roles in separating patients suffering with OCD from those without OCD. Conversely, the general construct of MPS seems to be a better measure for predicting OCD than its subscales. Two models of the IUS construct were examined and in both cases, certain factors were better predictors than others. This finding suggests that specific aspects of IU play a more significant role in the development of OCD than others. Future studies should consider examining these models against OCD severity to determine whether the same subscales can predict severity and potentially suggest different treatment outcomes in OCD.

Conflict of Interest

The authors have no conflicts of interest to report.

Bibliography

1. Murray Christopher JL, et al. "The global burden of disease: a comprehensive assessment of mortality and disability from diseases, injuries, and risk factors in 1990 and projected to 2020: summary" (1996).
2. Kessler Ronald C, et al. "Severity of 12-month DSM-IV disorders in the national comorbidity survey replication adolescent supplement". *Archives of General Psychiatry* 69.4 (2012): 381-389.
3. Torres Albina R, et al. "Epidemiology, comorbidity, and burden of OCD". *Obsessive-compulsive Disorder: Phenomenology, Pathophysiology, and Treatment* (2017).
4. García-Soriano G, et al. "Factors associated with non-treatment or delayed treatment seeking in OCD sufferers: a review of the literature". *Psychiatry Research* 220.1-2 (2014): 1-10.
5. Marques Luana, et al. "Barriers to treatment and service utilization in an internet sample of individuals with obsessive-compulsive symptoms". *Depression and Anxiety* 27.5 (2010): 470-475.
6. Rasmussen Steven A and Jane L Eisen. "The epidemiology and differential diagnosis of obsessive compulsive disorder". *The Journal of Clinical Psychiatry* 53 (1994): 5-10.
7. Reed Graham F. "Obsessional experience and compulsive behaviour: A cognitive-structural approach". Volume 34 (1985).
8. American Psychiatric Association. *Diagnostic and statistical manual of mental disorders (DSM-5®)*. American Psychiatric (2013).
9. Fontenelle LF, et al. "The descriptive epidemiology of obsessive-compulsive disorder". *Progress in Neuro-Psychopharmacology and Biological Psychiatry* 30.3 (2006): 327-337.
10. Ruscio AM, et al. "The epidemiology of obsessive-compulsive disorder in the National Comorbidity Survey Replication". *Molecular Psychiatry* 15.1 (2010): 53-63.
11. Politis Spyridon, et al. "Epidemiology and comorbidity of obsessive-compulsive disorder in late adolescence: a cross-sectional study in senior high schools in Greece". *International Journal of Psychiatry in Clinical Practice* 21.3 (2017): 188-194.
12. Viana MC and Andrade LH. "Lifetime prevalence, age and gender distribution and age-of-onset of psychiatric disorders in the São Paulo Metropolitan Area, Brazil: results from the São Paulo Megacity Mental Health Survey". *Revista Brasileira de Psiquiatria* 34.3 (2012): 249-260.

13. Nelson Elliot and John Rice. "Stability of diagnosis of obsessive-compulsive disorder in the Epidemiologic Catchment Area study". *American Journal of Psychiatry* 154.6 (1997): 826-831.
14. Adam Yuki, *et al.* "Obsessive-compulsive disorder in the community: 12-month prevalence, comorbidity and impairment". *Social Psychiatry and Psychiatric Epidemiology* 47.3 (2012): 339-349.
15. Blom Rianne M., *et al.* "Obsessions in normality and psychopathology". *Depression and Anxiety* 28.10 (2011): 870-875.
16. De Bruijn C., *et al.* "Subthreshold symptoms and obsessive-compulsive disorder: evaluating the diagnostic threshold". *Psychological Medicine* 40.6 (2010): 989-997.
17. Fullana MA., *et al.* "Obsessive-compulsive symptom dimensions in the general population: Results from an epidemiological study in six European countries". *Journal of Affective Disorders* 124.3 (2010): 291-299.
18. American Psychiatric Association. "Diagnostic and statistical manual of mental disorders revised (DSM-III-R)". Washington DC (1987).
19. Bartz Jennifer A and Eric Hollander. "Is obsessive-compulsive disorder an anxiety disorder?" *Progress in Neuro-Psychopharmacology and Biological Psychiatry* 30.3 (2006): 338-352.
20. Dugas Michel J., *et al.* "The Role of Intolerance of Uncertainty in Etiology and Maintenance". In RG Heimberg, C L Turk and DS Mennin (Eds.), *Generalized anxiety disorder: Advances in research and practice*. New York, NY, US: Guilford Press (2004): 143-163.
21. Tolin David F., *et al.* "Intolerance of uncertainty in obsessive-compulsive disorder". *Journal of Anxiety Disorders* 17.2 (2003): 233-242.
22. Holaway Robert M., *et al.* "A comparison of intolerance of uncertainty in analogue obsessive-compulsive disorder and generalized anxiety disorder". *Journal of Anxiety Disorders* 20.2 (2006): 158-174.
23. Fergus Thomas A and Kevin D Wu. "Do symptoms of generalized anxiety and obsessive-compulsive disorder share cognitive processes?" *Cognitive Therapy and Research* 34.2 (2010): 168-176.
24. Carleton R Nicholas. "Into the unknown: A review and synthesis of contemporary models involving uncertainty". *Journal of Anxiety Disorders* 39 (2016): 30-43.
25. Buhr Kristin and Michel J Dugas. "Investigating the construct validity of intolerance of uncertainty and its unique relationship with worry". *Journal of Anxiety Disorders* 20.2 (2006): 222-236.
26. Counsell Alyssa., *et al.* "Intolerance of uncertainty, social anxiety, and generalized anxiety: Differences by diagnosis and symptoms". *Psychiatry Research* 252 (2017): 63-69.
27. Koerner Naomi., *et al.* "What's in a name? Intolerance of uncertainty, other uncertainty-relevant constructs, and their differential relations to worry and generalized anxiety disorder". *Cognitive Behaviour Therapy* 46.2 (2017): 141-161.
28. Calleo Jessica S., *et al.* "Obsessions and worry beliefs in an inpatient OCD population". *Journal of Anxiety Disorders* 24.8 (2010): 903-908.
29. Grayson Jonathan B. "OCD and intolerance of uncertainty: Treatment issues". *Journal of Cognitive Psychotherapy* 24.1 (2010): 3-15.
30. Hewitt Paul L and Gordon L Flett. "Perfectionism in the self and social contexts: conceptualization, assessment, and association with psychopathology". *Journal of Personality and Social Psychology* 60.3 (1991): 456-470.
31. Hewitt Paul Louis and Gordon L Flett. "Multidimensional perfectionism scale (MPS): Technical manual". MHS (2004).

32. Reuther Erin T., *et al.* "Intolerance of uncertainty as a mediator of the relationship between perfectionism and obsessive-compulsive symptom severity". *Depression and Anxiety* 30.8 (2013): 773-777.
33. Ashby Jeffrey S and Linda Pak Bruner. "Multidimensional Perfectionism and Obsessive-Compulsive Behaviors". *Journal of College Counseling* 8.1 (2005): 31-40.
34. Goodman Wayne K., *et al.* "The Yale-Brown obsessive compulsive scale: I. Development, use, and reliability". *Archives of General Psychiatry* 46.11 (1989): 1006-1011.
35. Taylor Steven., *et al.* "How are dysfunctional beliefs related to obsessive-compulsive symptoms?" *Journal of Cognitive Psychotherapy* 24.3 (2010): 165-176.
36. De Cuyper Kathleen., *et al.* "Psychometric properties of the Multidimensional Perfectionism Scale of Hewitt in a Dutch-speaking sample: Associations with the Big Five personality traits". *Journal of Personality Assessment* 97.2 (2015): 182-190.
37. McWilliams Lachlan A., *et al.* "Use of the Coping Inventory for Stressful Situations in a clinically depressed sample: Factor structure, personality correlates, and prediction of distress". *Journal of Clinical Psychology* 59.4 (2003): 423-437.
38. Endler Norman S and James DA Parker. "Assessment of multidimensional coping: Task, emotion, and avoidance strategies". *Psychological Assessment* 6.1 (1994): 50.
39. O'Brien Tess Byrd and Anita DeLongis. "The interactional context of problem-, emotion-, and relationship-focused coping: the role of the big five personality factors". *Journal of Personality* 64.4 (1996): 775-813.
40. Shewchuk Richard M., *et al.* "Trait influences on stress appraisal and coping: An evaluation of alternative frameworks". *Journal of Applied Social Psychology* 29.4 (1999): 685-704.
41. Eisen, Jane L., *et al.* "Five-year course of obsessive-compulsive disorder: predictors of remission and relapse". *The Journal of Clinical Psychiatry* 74.3 (2013): 233-239.
42. Sheehan DV., *et al.* "The Mini-International Neuropsychiatric Interview (MINI): the development and validation of a structured psychiatric interview for DSM-IV and ICD-10". *Journal of Clinical Psychiatry* 59.20 (1998): 22-33.
43. Freeston Mark H., *et al.* "Why do people worry?" *Personality and Individual Differences* 17.6 (1994): 791-802.
44. Hewitt Paul L., *et al.* "The Multidimensional Perfectionism Scale: Reliability, validity, and psychometric properties in psychiatric samples". *Psychological Assessment: A Journal of Consulting and Clinical Psychology* 3.3 (1991): 464-468.
45. Lecrubier, Yves, *et al.* "The Mini International Neuropsychiatric Interview (MINI). A short diagnostic structured interview: reliability and validity according to the CIDI". *European Psychiatry* 12.5 (1997): 224-231.
46. Buhr Kristine and Michael J Dugas. "The intolerance of uncertainty scale: Psychometric properties of the English version". *Behaviour Research and Therapy* 40.8 (2002): 931-945.
47. Dugas Michel J., *et al.* "Intolerance of uncertainty and problem orientation in worry". *Cognitive Therapy and Research* 21.6 (1997): 593-606.
48. Birrell Jane., *et al.* "Toward a definition of intolerance of uncertainty: A review of factor analytical studies of the Intolerance of Uncertainty Scale". *Clinical Psychology Review* 31.7 (2011): 1198-1208.
49. Rotomskis Augustinas. "Psychometric Properties of the Intolerance of Uncertainty Scale (IUS) in a Lithuanian-speaking population". *Journal of European Psychology Students* 5.1 (2014): 25-30.

50. Sexton Kathryn A and Michel J Dugas. "Defining distinct negative beliefs about uncertainty: Validating the factor structure of the Intolerance of Uncertainty Scale". *Psychological Assessment* 21.2 (2009): 176-186.
51. Berenbaum Howard., *et al.* "Intolerance of uncertainty: Exploring its dimensionality and associations with need for cognitive closure, psychopathology, and personality". *Journal of Anxiety Disorders* 22.1 (2008): 117-125.
52. Cook Stephen W and P Paul Heppner. "A psychometric study of three coping measures". *Educational and Psychological Measurement* 57.6 (1997): 906-923.
53. Cosway Richard., *et al.* "The Coping Inventory for Stressful Situations: Factorial structure and associations with personality traits and psychological health". *Journal of Applied Biobehavioral Research* 5.2 (2000): 121-143.
54. Takagishi Yukihiro., *et al.* "Factor Structure of the Coping Inventory for Stressful Situations (CISS) in Japanese Workers". *Psychology* 5.14 (2014): 1620-1628.
55. Gentes Emily L and Ayelet Meron Ruscio. "A meta-analysis of the relation of intolerance of uncertainty to symptoms of generalized anxiety disorder, major depressive disorder, and obsessive-compulsive disorder". *Clinical Psychology Review* 31.6 (2011): 923-933.
56. De Silva Padmal. "Obsessive-compulsive disorder". *Adult Psychological Problems*. Taylor and Francis (2014): 143-162.
57. Morein-Zamir Sharon., *et al.* "Tolerating uncertainty in OCD, do patients require more information to make decisions?" *European Neuropsychopharmacology* 27.6 (2017): 613-614.
58. Wheaton Michael G., *et al.* "Behavioral avoidance predicts treatment outcome with exposure and response prevention for obsessive-compulsive disorder". *Depression and Anxiety* 35.3 (2018): 256-263.
59. Tolin David F., *et al.* "Are "obsessive" beliefs specific to OCD?: A comparison across anxiety disorders". *Behaviour Research and Therapy* 44.4 (2006): 469-480.

Volume 7 Issue 5 May 2018

©All rights reserved by Martin A Katzman, *et al.*