BRIEF REPORT

Florida Obsessive-Compulsive Inventory: Development, Reliability, and Validity

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The Florida Obsessive-Compulsive Inventory (FOCI) is a new self-report questionnaire that has separate scales for symptom enumeration (The Checklist) and evaluation of symptom severity (Severity Scale). The present research investigated the FOCI in a sample of 113 patients with obsessive-compulsive disorder (OCD). The results indicated that the FOCI Severity Scale is internally consistent ($\alpha = .89$) and highly correlated with the total score from the Yale–Brown Obsessive-Compulsive Scale (Y-BOCS; Goodman et al., 1989a). The correlations of the FOCI Severity Scale with measures of depression and global severity of psychopathology were similar to those obtained with the Y-BOCS Total Severity Score. The FOCI Symptom Checklist had adequate reliability (K-R 20 = .83) and moderate correlations ($rs < .45$) with the FOCI Severity Scale, the Y-BOCS scales, and measures of depression and severity of psychopathology. These findings imply concurrent validity for the FOCI Severity Scale. A strength of the FOCI is that it offers a quick evaluation of both presence and severity of OCD symptoms. An important limitation is that the FOCI does not assess the severity of individual symptoms. J Clin Psychol 63: 851–859, 2007.

Keywords: Florida Obsessive-Compulsive Inventory; obsessive-compulsive disorder; reliability; validity

Although there are many well-developed measures of obsessive-compulsive disorder (OCD) symptoms, none are able to rapidly assess both symptom enumeration and severity in a simple self-report format. In fact, the only measure that concurrently measures the self-reported presence and severity of commonly reported OCD symptoms is the Yale–Brown

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Obsessive-Compulsive Scale–Self Report (Y-BOCS-SR; Warren, Zqourides, & Monto, 1993). The Y-BOCS-SR form has a similar composition to the clinician-rated version (Goodman, Price, Rasmussen, & Mazure, 1989b; Goodman et al., 1989a). Patients initially rate the presence of 58 obsessions and compulsions. Following this, they identify three primary obsessions and three primary compulsions, and answer five questions for each on time occupied, interference, distress, resistance, and degree of control (Steketee, Frost, & Bogart, 1996; Warren et al., 1993). Although the Y-BOCS-SR provides a severity index, questions about the validity of separate obsession and compulsion scales have been raised through factor analytic studies (e.g., Amir, Foa, & Coles, 1997; Kim, Dysken, Pheley, & Hoover, 1994; McKay, Neziroglu, Stevens, & Yaryura-Tobias, 1998; Moritz et al., 2002; Storch et al., 2005a). Such concerns have led some to suggest that practitioners may benefit from a total severity score as opposed to a two-scale framework (Storch et al., 2005b).

In addition to the Y-BOCS-SR, a number of other self-report indices have been widely used to assess OCD symptoms over the past few decades. The Leyton Obsessional Inventory Short Form is a 30-item measure answered on a yes/no scale that is based on the clinician-rated version (Cooper, 1970). The Maudsley Obsessional Compulsive Inventory (MOCI; Hodgson & Rachman, 1977) contains 30 true/false items assessing for the presence of common obsessions and compulsions. The Compulsive Activity Checklist (Freund, Steketee, & Foa, 1987) consists of 38 items that are rated on a 4-point scale to measure impairment due to obsessive compulsive symptoms, providing subscales for washing and checking behaviors). The Padua Inventory Revised (Burns, Keortge, Formea, & Sternberger, 1996) is a 39-item measure of obsessions and compulsions rated on a 5-point scale according to the degree of disturbance. The Obsessive-Compulsive Inventory-Revised (OCI-R) (Foa et al., 2002) is an 18-item questionnaire based on the earlier 84-item OCI (Foa, Kozak, Salkovskis, Coles, & Amir, 1998), in which participants rate the degree to which they are bothered or distressed by specific OCD symptoms in the past month. More recently, the Vancouver Obsessional Compulsive Inventory (Thordarson et al., 2004) has been introduced as a revision of the MOCI, which assesses a wider range of symptoms than does the original. Other measures have been developed to examine additional psychological variables that are related to OCD, including the Frost Indecisiveness Scale (Frost & Shows, 1993), the Thought-Action Fusion Scale (Shafran, Thordarson, & Rachman, 1996), along with the Responsibility Attitude Scale and Responsibility Interpretations Questionnaire provided by Salkovskis et al. (2000).

Although the aforementioned measures examine OCD symptoms in a variety of self-report formats, none provide a brief assessment of both OCD symptoms and severity. Therefore, we believed that a new measure could make a significant contribution to the literature by allowing patients to quickly rate the severity and interference of symptoms on a unitary scale for obsessions and compulsions. Such an index would ideally provide practitioners with a brief, responsive, reliable, and valid self-report measure that can be used in clinical settings or as a large-scale screener with minimal cost and burden. Toward this end, we have developed the Florida Obsessive-Compulsive Inventory (FOCI). The FOCI has two scales: Symptom Checklist and Symptom Severity. On the former, the individual marks the presence or absence of 20 common obsessions and compulsions (10 each) that were derived from the comprehensive Yale–Brown Obsessive-Compulsive Scale Symptom Checklist (Y-BOCS; Goodman et al., 1989b; Goodman et al., 1989a). Test items were selected based on the final author's clinical experience and knowledge associated with developing the Y-BOCS Symptom Checklist. Thereafter, items were viewed by other OCD experts to insure relevance and readability, and a small sample of patients with OCD completed the resultant measure and provided final revisions. On the Symptom

Severity Scale, the individual rates the cumulative severity of endorsed symptoms on five items: time occupied, interference, distress, resistance, and degree of control. A Symptom Checklist Total Score is derived by summing the 20 items (range = 0–20), with higher scores corresponding to the presence of greater symptomatology. A Symptom Severity Total Score is derived by summing the five severity items (range = 0–25), with higher scores corresponding to greater symptom severity.

Given the benefit of having a self-report measure that efficiently assesses for both the presence and severity of OCD symptoms, we sought to investigate the reliability and validity of the FOCI in a large sample of adults with OCD. We addressed the following questions: What symptoms are frequently endorsed by adults with OCD? What are the internal consistency and interscale correlations of the FOCI? Does the FOCI correlate with measures of obsessive-compulsive symptom severity, impairment, and depressive symptomatology?

Method

Participants

A total of 113 patients (53 males, 60 females) participated in either a clinical medication trial (n = 74) or attended an outpatient clinic for pharmacological and/or cognitive-behavioral management of OCD (n = 39). Inclusion criteria required that participants have a current principle diagnosis of OCD, as defined by the *Diagnostic and Statistical Manual of Mental Disorders*, third edition, revised (*DSM-III-R*; American Psychiatric Association, 1987) or fourth edition (*DSM-IV*; American Psychiatric Association, 1994), for a duration of at least 1 year. Exclusion criteria included a diagnosis of schizophrenia or other psychotic disorders, active bipolar disorder, suicidal ideation, abuse of alcohol or other substance within 6 months, or concurrent use of psychotropic medication. Participants ranged in age from 18 to 62 years (M = 33.8, SD = 11.5) with an ethnic distribution as follows: 91.2% Caucasian, 2.7% African American, 3.5% Hispanic American, 1.8% Asian American, and 0.9% self-identified as "Other." There were no significant differences between demographic characteristics (i.e., age, gender, ethnicity) of patients in the clinical trial versus those seen in the outpatient setting.

Measures

Y-BOCS. The Y-BOCS (Goodman et al., 1989b; Goodman et al., 1989a) is a 10-item, semistructured clinician-administered measure of obsession and compulsion severity. Items are rated over the previous week on a 5-point Likert scale ranging from 0 to 4, with higher scores corresponding to greater symptom severity. Items pertaining to obsessions and compulsions are summed to derive the Obsession and Compulsion Severity Scales. All items are summed to derive the Total Severity Score. Internal consistency of the Total Severity Scale has been variable in previous studies, ranging from .88 to .91 in one study (Goodman et al., 1989a) to .69 in another (Woody, Steketee, & Chambless, 1995). Despite the mixed internal-consistency findings, interrater reliability has been excellent for this measure (Goodman et al., 1989a; Woody et al., 1995). Total and subscale scores on the Y-BOCS have been significantly correlated with other measures of OCD symptoms, depression, and other measures of anxiety (Goodman et al., 1989b), and this measure has been widely considered the gold standard for measuring symptom improvement in OCD treatment studies (Shear et al., 2000). Cronbach's α in the current sample for the Obsession, Compulsion, and Total Severity Scales were .71, .85, and .87, respectively.

Beck Depression Inventory (BDI; Beck, Ward, Mendelson, Mock, & Erbaugh, 1961). The 21-item BDI is a self-report instrument that measures cognitive, behavioral, and somatic symptoms associated with depression. The BDI has exhibited adequate internal consistency, test-retest reliability, discriminant validity, and construct validity (Beck, Steer, & Garbin, 1988). Cronbach's α in this sample was .91.

Hamilton Depression Rating Scale (HDRS; Hamilton, 1980). The 21-item clinician-rated HDRS evaluates current depressed mood, vegetative and cognitive symptoms of depression, and comorbid anxiety symptoms. This measure has demonstrated good inter-rater reliability and adequate validity (Hedlund & Vieweg, 1979). Scores above 7 correspond to the presence of depression. Cronbach's α in this sample was .76.

Clinical Global Impression Scale (CGI; National Institute of Mental Health, 1985). The CGI is a 7-point clinician rating of severity of psychopathology. Severity ratings range from 0 (*no illness*) to 6 (*extremely severe*). This instrument has favorable psychometric properties and has been extensively used in treatment studies (e.g., Hollander et al., 2003; Simpson et al., 2004).

Procedures

All participants provided written, informed consent, as approved by the Health Science Center Institutional Review Board of the University of Florida. Prior to treatment, participants underwent initial assessments and then were randomized into one of the two treatment conditions. Baseline assessments were conducted prior to randomization and consisted of a structured clinical interview involving either the Anxiety Disorders Interview Schedule for *DSM-IV* (ADIS; Brown, DiNardo, & Barlow, 1996) or the Structured Clinical Interview for *DSM-IV-TR* disorders (SCID; First, Spitzer, Gibbon, & Williams, 2001), along with the administration of the Y-BOCS. These initial assessments were conducted by an independent evaluator (trained by the final author) who assigned each participant a CGI rating. Following administration of the structured interviews, all participants completed the FOCI, which took approximately 5 min to complete. The majority of participants also completed either the BDI ($n = 40$), HDRS ($n = 32$), or both ($n = 19$). Unfortunately, measures were not counterbalanced, and no single measure of depression was administered to all participants due to inconsistencies induced by administrative changes that arose midway through the project. Prior to treatment, the sixth (G.R.G) or final author (W.K.G.) conducted unstructured clinical interviews and used this information in combination with the baseline assessments and medical records to provide *DSM-IV* diagnoses of the participants, following guidelines set forth by previous research (Leckman, Sholomskas, Thompson, Belanger, & Weissman, 1982). No data were analyzed from any patients that did not meet full diagnostic criteria for OCD. Treatment outcome data are not the focus of the present study and thus are not reported.

Results

Descriptive Data

The FOCI items are listed in Table 1. The frequencies of "yes" responses for the 20 Symptom Checklist items as well as the means and *SD*s for the Severity Scale also are listed in Table 1. Individuals' scores on the FOCI Symptom Checklist ranged from a

Table 1
Frequencies, Means, and Standard Deviations of the Items of the FOCI

Item	Description	%Yes
	FOCI Total Scale	
	Bothered by thoughts/images such as . . .	
1.	Contamination or acquiring a serious illness	58
2.	Keeping objects in perfect order	60
3.	Images of death or horrible events	56
4.	Unacceptable religious/sexual thoughts	33
	Worried about terrible things, such as . . .	
5.	Fire, burglary, or flooding of the house	38
6.	Accidentally hitting pedestrian with car	32
7.	Spreading an illness	17
8.	Losing something valuable	50
9.	Harm coming to a loved one	55
10.	Acting on an unwanted urge or impulse	34
	Driven to perform acts again like . . .	
11.	Ritualized washing, cleaning, or grooming	65
12.	Checking light things (e.g., light switches)	65
13.	Counting, arranging, evening-up behaviors	58
14.	Collecting useless objects	38
15.	Repeating routine actions	50
16.	Needing to touch objects or people	33
17.	Unnecessary reading or rewriting	64
18.	Examining body for signs of illness	29
19.	Avoiding color, number, or names	22
20.	Repeated asking for reassurance	70
	FOCI Severity Scale	*M* (*SD*)
21.	How much time by thoughts/behaviors	2.66 (.92)
22.	How much distress do they cause	2.76 (.83)
23.	How hard is it to control them	2.73 (.87)
24.	How much do they cause avoidance behaviors	2.23 (1.14)
25.	How much do they interfere with life	2.43 (1.00)

minimum of 0 symptoms to a maximum of 17. Scores on the Severity Scale ranged from 4 to 20.

Reliability and Interscale Correlation

Internal consistency, as measured by the Kuder–Richardson 20 formula, for the FOCI Symptom Checklist was .83 ($n = 113$). Cronbach's α for the FOCI Severity Scale was .89 ($n = 99$). The FOCI Symptom Checklist was modestly related to the Severity Scale ($r = .38$, $p < .001$).

Concurrent Validity

Table 2 presents correlations among the FOCI Symptom Checklist and Severity Scale and measures of OCD severity, impairment, and depressive symptoms. Because the

Table 2
Concurrent Validity of the FOCI With Other Measures of OCD and Depression

	(1) $n = 113$	(2) $n = 99$	(3) $n = 108$	(4) $n = 108$	(5) $n = 108$	(6) $n = 92$	(7) $n = 59$	(8) $n = 51$
(1) FOCI Symptom Checklist	**.83**	.44	.38	.51	.47	.29	.40	.43
(2) FOCI Severity	.38**	**.89**	.96	.84	.89	.43	.70	.36
(3) Y-BOCS Obsession	.29**	.76**	**.71**	.93	1.16	.57	.76	.23
(4) Y-BOCS Compulsion	.43**	.73**	.72**	**.85**	1.09	.53	.49	.37
(5) Y-BOCS Total	.40**	.78**	.91**	.94**	**.87**	.56	.61	.32
(6) Clinical Global Impression Scale	.29**	.43**	.57**	.53**	.56**	**NA**	.25	.03
(7) Beck Depression Inventory	.35**	.63**	.61**	.43**	.54**	.25	**.91**	.75
(8) Hamilton Depression Rating Scale	.34*	.30	.17	.30*	.26	.03	.62**	**.76**
M	9.26	12.81	13.85	13.53	27.38	4.60	20.43	9.10
SD	4.65	3.98	2.60	3.26	5.43	.92	11.86	4.80

Note. OCD = Obsessive compulsive disorder; Y-BOCS = Yale–Brown Obsessive-Compulsive Scale. Numbers in the diagonal represent reliabilities (bold) while correlations corrected for attenuation due to unreliability are presented in the upper (shaded) part of the table.
*$p < .05$. **$p < .01$.

measures had different levels of internal consistency in the present sample, correlations were corrected for attenuation due to unreliability. Since no reliability data were collected for the CGI, correlations involving this variable were not corrected. Actual correlations can be seen in the lower part of Table 2, with reliabilities in the diagonal, and corrected correlations in the upper part (shaded). The correlations between the FOCI Severity Scale and the measures of OCD, impairment, and depressive symptoms ranged from moderate to strong. Correlations between the FOCI Symptom Checklist and OCD severity, impairment, and depressive symptoms were moderate. The two Y-BOCS symptom scales had a high corrected correlation (.93), suggesting that these could be appropriately combined into a unitary total score for comparison purposes. Further, the high correlation between the two Y-BOCS symptom scales suggests that corrected correlations involving the total score may not be seriously affected by a lack of unidimensionality; however, note that corrected correlations may be somewhat inflated when the scales are not completely unidimensional.

With these issues in mind, the FOCI Severity Scale and Y-BOCS Total Severity Score had a corrected correlation of .89, suggesting a high degree of concurrent validity for this scale. Furthermore, Fisher's r to z tests indicated that the correlation between the FOCI Severity Scale and the Y-BOCS Total Severity Score was significantly higher than the correlation between the FOCI Severity Scale and the HDRS score ($z = 3.95$, $p < .001$). This finding indicates that the FOCI Severity Scale is more closely associated with OCD symptom severity than other forms of emotional distress; however, this distinction is potentially confounded by method differences in administration of the FOCI and the HDRS. The FOCI Symptom Checklist had corrected correlations of .47 with the severity scales of both the Y-BOCS and FOCI, suggesting that this scale is not as sensitive to the severity of OCD symptoms.

Discussion

The present study examined the preliminary clinical and statistical utility of the FOCI, a recent addition to the OCD self-report assessment literature. Psychometric instruments

are believed to have good internal consistency with values over .8 (see Nunnally & Bernstein, 1994; Streiner, 2003), and our preliminary results indicated that the FOCI had good internal consistency for both the Symptom Checklist and the Symptom Severity Scales. As a sign of concurrent validity, FOCI Severity Scale scores correlated moderately to strongly with the Y-BOCS. FOCI scores also were moderately correlated with depressive symptoms, which was expected given the extent to which individuals with OCD show comorbid depression (Demal, Lenz, Mayrhofer, Zapotoczky, & Zitterl, 1993). Note that the FOCI Severity Scale correlated more strongly with the clinician-rated measure of OCD impairment than with clinician ratings of depression (HDRS). The moderate relationship between the FOCI Severity Scale and the BDI may be suggestive of high comorbidity and/or shared method variance since they are both self-report measures; however, it also is possible that method invariance might have differentially impacted the FOCI Severity Scale and the clinician-rated HDRS.

Results also provided descriptive data regarding the prevalence of various obsessions and compulsions among adults with OCD. For example, the most common symptom reported was compulsive reassurance seeking, with 70% of the sample engaging in this behavior. This is particularly noteworthy given the difficulty many family members and practitioners have in identifying reassurance-seeking as symptomatic of OCD and the frequency with which this behavior is inadvertently reinforced (Calvocoressi et al., 1995). Two thirds of the sample indicated that they engage in compulsive/ritualized washing, with most reporting that they also suffer from contamination obsessions; however, almost 10% of those engaging in washing rituals did not endorse excessive concerns about contamination. Sixty percent of the sample indicated that they experience obsessive thoughts related to keeping objects in perfect order, with roughly the same number feeling driven to "check" things and count/arrange/"even-up" objects.

Other common obsessions endorsed on the FOCI included horrible images, thoughts about harm coming to a loved one, and losing something valuable, with over half the sample reporting these concerns. Two thirds of the individuals described urges to compulsively read or rewrite materials, and half indicated that they perform routine actions repeatedly. Yet, not all symptoms were widely endorsed. For example, less than one third of the sample reported concerns about spreading an illness, avoidance of certain numbers/colors/names, or urges to examine their bodies for signs of illness. Regardless, no symptom was endorsed by less than 17% of the sample. These data provide additional evidence regarding the symptom presentation of treatment-seeking adults with OCD. Patient psychoeducation about the prevalence of these symptoms may aid in normalizing the disorder for those who are feeling isolated and misunderstood as a result of their condition.

Conclusion

The current findings support the preliminary reliability and validity of the FOCI. Although similar to the Y-BOCS-SR, the FOCI addresses empirical questions about the validity of separate obsession and compulsion-severity indices by using a single severity scale. Further, the FOCI can be completed in approximately 5 min (faster than the Y-BOCS-SR) and is quickly and easily scored. Future research is needed to further develop its psychometric properties, yet these preliminary results suggest that the FOCI is quite similar to the Y-BOCS Severity Scale, and may provide clinicians and researchers with a useful tool to screen for the presence of common OCD symptoms and to assess the severity of OCD impairment.

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