ELSEVIER

Journal of Anxiety Disorders 22 (2008) 1–17

Journal of Anxiety Disorders

Assessment of obsessive–compulsive disorder: A review

Kristen Grabill [a,b], Lisa Merlo [b], Danny Duke [a,b], Kelli-Lee Harford [a], Mary L. Keeley [a,b], Gary R. Geffken [a,b,c], Eric A. Storch [b,c,*]

[a] *Department of Clinical & Health Psychology, University of Florida, Gainesville, FL, United States*
[b] *Department of Psychiatry, University of Florida, Gainesville, FL, United States*
[c] *Department of Pediatrics, University of Florida, Gainesville, FL, United States*

Received 23 October 2006; received in revised form 15 January 2007; accepted 31 January 2007

Abstract

Obsessive–compulsive disorder (OCD) affects approximately 2–3% of the adult population and is considered a debilitating and costly disorder, with associated impairments spanning the social, occupational, and familial domains. Although effective treatments of OCD exist, many individuals who suffer from OCD go undiagnosed or misdiagnosed, preventing them from obtaining appropriate treatment. As a result, making improvements to the assessment and diagnosis of OCD remains an important area of focus for research and clinical practice. This paper provides a critical review of instruments used in the assessment and diagnosis of OCD as well as a review of adjunctive measures used to assess associated symptoms. Types of instruments reviewed include diagnostic interviews, self-report questionnaires, family-report questionnaires, and clinician-administered inventories. Discussion of each instrument includes information regarding the pragmatics of administration and the psychometric properties of each instrument, as well as an evaluation of each instrument's strengths and weaknesses. We conclude by providing a synthesis of the literature and highlighting directions for future research.

Keywords: Obsessive–compulsive disorder; Assessment; Measurement; Adults

Obsessive–compulsive disorder (OCD) is a chronic, disabling condition affecting 2–3% of the U.S. adult population (Samuels & Nestadt, 1997). Approximately 3.3 million Americans suffer from OCD (NIMH, 2000), and recent estimates of social and economic losses attributable to OCD equal $8.4 billion in the U.S. alone (NIMH, 1999). Individuals with OCD suffer from recurrent, unwanted, and intrusive thoughts (obsessions) and/or engage in repetitive ritualistic behaviors (compulsions). Obsessions include worries, doubts, or images that evoke anxiety or distress and persist even though the individual recognizes the symptom as irrational, unrealistic, or untrue (APA, 2000). Common obsessions include excessive concern with dirt or germs, fears that harm may come to self or a loved one, and doubting that an action was performed correctly, such as locking the door or shutting off the stove. Compulsions are frequently performed in response to these obsessions in order to prevent, reduce, or eliminate distress or feared consequences. Frequently reported compulsions include hand washing/cleaning, counting, praying, and checking (Deacon & Abramowitz, 2005; Hollander & Wong, 1995; Rapoport, 1990). Unfortunately, relief provided by rituals is typically

* Corresponding author at: Department of Psychiatry, University of Florida, Gainesville, FL 32610, United states. Tel.: +1 352 392 3611; fax: +1 352 846 1455.
E-mail address: estorch@psychiatry.ufl.edu (E.A. Storch).

0887-6185/$ – see front matter © 2007 Elsevier Ltd. All rights reserved.
doi:10.1016/j.janxdis.2007.01.012

Table 1
Summary of measures

Measure	Format	Description	Strengths	Weaknesses
ADIS (Brown et al., 2001)	Diagnostic interview	Includes detailed symptom queries for each disorder. Each disorder is assigned a severity rating (0–8 scale)	Excellent reliability Detailed descriptions of disorders Diagnostic utility	Time intensive Requires a trained rater
SCID-I (First & Gibbon, 2004)	Diagnostic interview	Contains questions about past and present symptoms for DSM-IV diagnoses	Assesses broad range of comorbidity Diagnostic utility Simple design relative to other diagnostic interviews	Time intensive Requires a trained rater Poor reliability of OCD diagnoses
Y-BOCS (W.K. Goodman et al., 1989; W.L. Goodman et al., 1989)	Clinician administered	Contains a symptom checklist and separate obsession and compulsion severity ratings (0–4 scale)	Considered the ''gold standard'' Measures both symptom frequency and severity	Poor discriminant validity Lack of support for factor structure Requires a trained rater
			Considered the ''gold standard''	
NIMH GOCS (Taylor, 1995)	Clinician administered	One-item measure of overall symptom severity (1–15 scale)	Simple to administer Good reliability and convergent validity	Provides limited information about symptom severity Requires a trained rater
FAS (Calvocoressi et al., 1999)	Clinician administered	Designed to be administered to family members. Includes a detailed symptom list to allow clinicians to develop probes. Also includes 13 general questions about accommodation (0–4 scale)	Good psychometric properties Only measure to assess family accommodation	Lack of test–retest data Little information regarding treatment sensitivity
BATs	Clinician administered	Multiple forms. Patient may be asked to report distress related to one stimulus (SUDs). Can also involve rating multiple tasks leading to compulsive behavior	In vivo measure of fear and avoidance Useful in therapy Useful as part of a multimethod assessment	May not be helpful with some rituals Difficult to implement Lack of standardization Limited psychometric data
LOI-Survey Form (Kazarian et al., 1977)	Self-report	69 items assessing presence or absence of symptoms, traits, resistance, and interference. Response format is yes/no	Good reliability and discriminant validity	Lack of test–retest data Adequate convergent validity Does not measure symptom severity
LOI-Short Form (Matthews et al., 2004)	Self-report	30 items assessing presence or absence of symptoms. Response format is yes/no	LOI Short Form is easy to administer Good discriminant validity Internally consistent	Lack of data about test–retest reliability, convergent and predictive validity, and treatment sensitivity Lack of psychometric data with OCD patients Subscales not identified Does not measure symptom severity

PI-WSUR (Sanavio, 1988)	Self-report	39 items assessing obsessions about harm, impulses to harm, contamination obsessions and washing, grooming compulsions, and checking (0–4 scale)	Improved upon the original Padua Inventory Good psychometric properties Available in several languages	Does not assess some OCD symptoms (e.g., hoarding)
Y-BOCS-SR (Steketee, Chambless, et al., 1996; Steketee, Frost, et al., 1996)	Self-report	58 questions about the presence or absence of symptoms (yes/no format). Additional severity questions for the primary 3 obsessions and compulsions (0–4 scale)	Good reliability and convergent validity Measures symptom severity Good sensitivity	Poor specificity may result in over-identification of OCD patients Unknown treatment sensitivity
OCI-R (Foa et al., 2002)	Self-report	18 items assessing distress about washing, checking, ordering, obsessing, hoarding, and mental neutralizing symptoms (0–4 scale)	Good psychometric properties in clinical and non-clinical samples Some diagnostic utility, as cutoff scores are provided Allows comparison of severity across symptom categories	Does not include a separate severity scale Compulsions weighted more heavily than obsessions
VOCI (Thordarson et al., 2004)	Self-report	Assesses severity of contamination, checking, obsessions, hoarding, needing things to be just right, and indecisiveness (0–4 scale)	Good psychometric properties Measures cognitive and behavioral dimensions of OCD	Limited evidence for discriminant validity Does not assess ordering/arranging or doubts and mental neutralizing Lack of data about treatment sensitivity
FOCI (Storch, Stigge-Kaufman, et al., in press; Storch et al., 2006)	Self-report	Contains a 20-item symptom checklist and a symptom severity scale (0–5 response scale)	Good preliminary psychometric properties Quick administration Supported by factor analytic studies	Needs more psychometric data
SCOPI (Watson & Wu, 2005)	Self-report	45 items measuring severity of obsessive checking, obsessive cleanliness, pathological impulses, compulsive rituals, and hoarding (1–5 scale)	Good psychometric properties Based on a previously supported factor model	Unknown divergent validity Lack of data about treatment sensitivity
CBOCI (Clark et al., 2005)	Self-report	25 items assessing frequency and severity of obsessions and compulsions (0–3 scale)	Good psychometric properties First screening measure with validated obsession and compulsion scales	Does not discriminate well between OCD patients and those with mood or anxiety disorders No test–retest data with a clinical sample Lack of data about treatment sensitivity
OCD-SCL-90-R (Derogatis, 1977)	Self-report	10-item subscale of the SCL-90-R, assessing level of distress (0–4 scale)	Good internal consistency Treatment sensitive	Mixed evidence of construct validity Does not assess a broad symptom range

only temporary and contributes to future ritual engagement (Deacon & Abramowitz, 2005; Morrison, 1995). As a result, untreated symptoms often persist or increase over time, causing significant impairment in social, academic, and/or family functioning (Karno & Golding, 1991; Koran, Thienemann, & Davenport, 1996). OCD is considered a significant public health concern due to its prevalence and associated costs (Abramowitz, Whiteside, & Deacon, 2005), but it remains underrecognized in individuals of all ages (Heyman et al., 2003). Contributions to this problem include inadequate and ineffective screening, difficulty in differentiating OCD from other anxiety, mood, and neurological disorders, and individuals' hesitance to report symptoms because of their embarrassing or abhorrent nature. Yet, accurate diagnosis is an essential component of effective treatment. Thus, making improvements to the assessment and diagnosis of OCD remains an important area of focus for research and clinical practice.

One critical component in the accurate identification and assessment of OCD in any setting (e.g., clinical, community, or research settings) is a comprehensive understanding of commonly-used OCD measures. These measures include diagnostic interviews, clinician-administered inventories, self-report questionnaires, and family-report questionnaires, with each instrument designed to facilitate specific assessment goals (e.g., OCD screening, establishing a diagnosis, informing treatment planning, or establishing a baseline symptom severity from which to evaluate treatment progress). As a result, it is important to differentiate between screening instruments and those used to facilitate diagnostic decisions or for symptom assessment. The purposes of this paper are to: (1) synthesize the multitude of information regarding OCD assessment measures that are frequently used with adults (for a review of OCD instruments appropriate for use with children and adolescents, see Merlo, Storch, Murphy, Goodman, & Geffken, 2005), and (2) to provide a succinct resource for clinicians and researchers to easily determine which OCD assessment instruments are best suited to the specific needs and goals of their setting. We include a review of commonly used diagnostic interviews, clinician-administered inventories, and self-report measures of OCD-specific symptoms as well as commonly co-occurring symptoms (e.g., depressive symptoms). Additionally, several promising new instruments are introduced. In our discussion of each measure, we address the pragmatics of administration, the psychometric properties of each instrument, and an evaluation of each measure's clinical/research utility. Table 1 provides a summary of information included within the text.

1. Measures

1.1. Diagnostic interviews

1.1.1. Anxiety Disorders Interview Schedule for DSM-IV (ADIS)

The ADIS (Brown, Di Nardo, Lehman, & Campbell, 2001) is a semi-structured diagnostic interview based on Diagnostic and Statistical Manual, Fourth Edition (DSM-IV; APA, 2000) criteria. The ADIS was developed to establish differential diagnosis among the anxiety disorders, as well as other disorders that frequently co-occur with anxiety disorders (e.g., mood, substance use disorders). The ADIS also includes screening questions for disorders such as psychotic disorders and eating disorders (Summerfeldt & Antony, 2002). Currently, two versions of the ADIS exist: the standard version assesses current symptoms whereas the lifetime version assesses both current and past symptoms. The interviewer asks a number of questions related to both demographic information and detailed symptom queries for each included disorder. Diagnoses are then assigned a severity rating based upon the distress and impairment that the patient experiences (0–8 scale).

Brown et al. (2001) reported that inter-rater reliability of the ADIS was fair to good (κ = .56–.81) for most disorders, including OCD (κ = .75). For OCD, inter-rater reliability of the ADIS dimensions ranged from r = .43 (resistance to obsessive impulses) to .84 (clinical severity rating). The most common source of unreliability was differences in ratings among clinicians with respect to whether the patient met the clinical cutoff or merely displayed sub clinical symptoms of the disorder (Brown et al., 2001). Validity data on the ADIS is sparse with studies generally examining symptoms rather than diagnostic categories. Brown, Chorpita, and Barlow (1998) demonstrated good convergent and discriminant validity of the ADIS based on its factor structure, by demonstrating that the symptoms loaded significantly on the expected latent factor and did not cross load on the latent factors of other disorders.

Advantages of the ADIS include very detailed descriptions for each disorder and excellent reliability of the OCD category. Disadvantages include the level of expertise required to administer the ADIS and the length of administration, particularly if the lifetime ADIS is administered.

1.1.2. Structured Clinical Interview for DSM-IV Axis I Disorders (SCID-I)

The SCID-I (First & Gibbon, 2004) is a semi-structured interview that was developed for use in research and can be used to diagnose Axis I disorders according to DSM-IV criteria. Interviewers ask a number of questions designed to elicit information about different diagnostic criteria (past and present) in addition to demographic and other historical information such as treatment history. To maximize efficiency, there are ''skip out'' instructions which allow the clinicians to skip over questions about a particular diagnosis if it is clear that the diagnostic criteria are not met. There is also a shortened clinical version of the SCID that includes disorders commonly seen in clinical practice, although it excludes a number of disorders such as eating disorders and social phobia and also some specifiers such as ''with poor insight'' for OCD (First & Gibbon, 2004).

Test–retest reliability of the SCID-I ranges from $\kappa = .35$ to 1.0 depending on diagnostic category, time between testing, interviewer training and study population. For example, test–retest reliability for OCD ranges from poor to fair ($\kappa = .42$–$.60$). The authors purport that it is difficult to assess the validity of the SCID because there does not exist a ''gold standard'' for psychiatric diagnosis with which to compare the SCID (First & Gibbon, 2004). However, First and Gibbon cited several studies (Basco et al., 2000; Kranzler, Kadden, Babor, Tennen, & Rounsaville, 1996; Kranzler et al., 1995) which used the ''LEAD'' standard and found that the SCID demonstrates superior validity for determining psychiatric diagnoses at intake compared to a standard clinical interview. The LEAD standard uses data collected over time from expert diagnosticians and all the data that are available for the patient, including information from collaterals, behavioral observations, and medical records, and compares diagnoses obtained on the basis of one instrument/method to those obtained using the combined information.

The SCID-I provides a structured way to gather information in order to make a diagnosis of OCD according to criteria in the DSM-IV. It also assesses for comorbid diagnoses, which could impact treatment and prognosis. Disadvantages of the SCID include the level of expertise needed for administration, the significant time commitment needed to complete the measure, and the relatively low reliability of OCD diagnoses in particular. Additionally, Taylor, Thordarson, and Socht-ing (2002) suggested that the SCID does not yield as much clinically useful information related to OCD as do other measures (e.g., ADIS; Brown et al., 2001); on balance, when used in conjunction with the Y-BOCS, it may be preferred to the ADIS because of its relative simplicity.

1.2. Clinician-rated measures

Clinician-rated measures are widely used to assess OCD symptom severity and help with treatment planning and evaluation. Advantages include the ability to gain more detailed information about specific symptoms and idiographic OCD triggers. In addition, Shaffer, Fisher, and Lucas (1999) suggested that clinician-administered measures may offer the advantage of providing opportunities to clarify items for respondents so that responses are consistent with item content. Disadvantages include the significant time investment required to administer the measures, the level of training needed, potential rater bias when responses are ''coded,'' and the susceptibility to demand characteristics. Shaffer et al. (1999) also indicated that the psychometric properties of clinician-administered measures may be more variable than self-administered measures due to variation in interviewer characteristics such as experience, thoroughness and temperament. The most commonly used clinician-administered OCD instruments (including structured diagnostic interviews, semi-structured inventories, and observational assessments) are reviewed below.

1.2.1. Yale-Brown Obsessive–Compulsive Scale

The Yale-Brown Obsessive–Compulsive Scale (Y-BOCS; W.K. Goodman et al., 1989; Goodman, Price, Rasmussen, & Mazure, 1989) is a widely-used semi-structured, clinician-administered measure that assesses the severity of obsessions and compulsions over the previous week. Ratings are based on information provided by the patient and collaterals, as well as clinical observations. The Y-BOCS is administered in two parts: first, clinicians utilize a symptom checklist to determine the types of obsessions and/or compulsions experienced by the patient. Next, severity of these obsessions and compulsions are rated using a five point Likert scale ranging from 0 to 4, with higher scores indicating greater severity. The 10 severity items, which assess distress, frequency, interference, resistance, and symptom control, yield three scores: an Obsessions Severity Score (range = 0–20), a Compulsions Severity Score (range = 0–20) and a Total Score (range = 0–40). Six additional items examine features that can be used to aid with differential diagnosis and treatment (e.g., degree of insight, avoidance).

The Y-BOCS is considered the ''gold standard'' for assessing symptom severity (Frost, Steketee, Krause, & Trepanier, 1995). To date, it has been translated for use in a number of countries including Germany, Brazil, Turkey, France, Japan and the Netherlands (Arrindell, de Vlaming, Eisenhardt, van Berkum, & Kwee, 2002). The Y-BOCS has good inter-rater reliability ($r = .80$–$.99$) and test–retest reliability ($r = .81$–$.97$ over a 2 week interval) as well as acceptable to good internal consistency ($\alpha = .69$–$.91$). It has demonstrated good criterion-related validity, as patients diagnosed with OCD receive higher scores than patients with other anxiety disorders and normal controls. The Y-BOCS also demonstrates good convergent validity via high correlations with other OCD measures such as the LOI, MOCI and GOCS (mean $r = .51$, range .17–.77; Taylor, 1995). Treatment sensitivity has been shown through multiple clinical trials. One criticism of the Y-BOCS (e.g., Taylor, 1995) is its relatively low discriminant validity, as indicated by high correlations with measures of depression (mean $r = .64$, range = .53–.91 with the Hamilton depression scale) and general anxiety (mean $r = .62$, range = .47–.85 with the Hamilton anxiety scale). Similarly, Storch et al. (2005) found a modest relationship between the Y-BOCS and the Beck Depression Inventory (BDI). However, it is possible that these results reflect the high levels of comorbidity among OCD, depression, and other anxiety disorders (Samuels & Nestadt, 1997). A further criticism of the Y-BOCS is that the proposed factor structure has not been consistently supported in factor analytic studies. Whereas a number of researchers have provided evidence for the original two-factor structure (e.g., Arrindell et al., 2002; McKay, Danyko, Neziroglu, & Yaryura-Tobias, 1995; McKay, Neziroglu, Stevens, & Yaryura-Tobias, 1998; Storch et al., 2005), other researchers have identified different factor structures. For example, Amir, Foa, and Coles (1997) found support for a factor structure comprised a disturbance factor and a symptom severity factor, rather than the proposed obsessions and compulsions factors. Moritz et al. (2002) also examined the factor analytic structure of the Y-BOCS and described three factors—severity of obsessions, severity of compulsions and resistance to symptoms.

1.2.2. National Institute of Mental Health Global Obsessive–Compulsive Scale (NIMH GOCS)

The NIMH GOCS is a single item measure of overall OCD severity. It is assessed on a Likert scale ranging from 1 (minimal symptoms) to 15 (very severe). Severity ratings are clustered into five main groups (1–3, 4–6, 7–9, 10–12, and 13–15) with detailed descriptions of each cluster (Taylor, 1995).

The main advantage of the GOCS is its simplicity. It has high test–retest reliability over a 2-week period ($r = .87$–$.98$; Kim, Dysken, & Kuskowski, 1992; Kim, Dysken, Kuskowski, & Hoover, 1993), good inter-rater reliability ($r = .77$–$.95$) and is highly correlated with the Y-BOCS ($r = .68$, $p < .005$). However, Taylor (1995) noted that a disadvantage of the NIMH GOCS is that it only provides a global assessment of symptoms and has a limited capacity to capture information about the severity of the different types of symptoms. Tek et al. (1995) and Kim et al. (1993) suggested that an additional limitation of the NIMH GOCS may be the level of expertise needed to produce reliable ratings. Finally, Kim et al. (1993) suggested that, because of the lack of detailed documentation of symptoms, the GOCS is limited in its ability to be used for treatment.

1.2.3. Family Accommodation Scale for Obsessive–Compulsive Disorder (FAS)

The FAS (Calvocoressi et al., 1999) is a clinician-administered measure designed to assess the degree to which family members accommodate a patient's OCD symptoms. It consists of two sections, the first of which is a detailed symptom list adapted from the Y-BOCS that is designed to identify symptoms of which the family member is aware. It allows the clinician to develop probes, and is not scored. The second section is comprised of 13 items assessing OCD symptom accommodation provided by family members. Each of the 13 items is followed by a specific question based on the information provided in section one. For example, the scripted question ''During the past week, did you provide [patient's name] with things that s/he needed to perform compulsions, or did you help him/her in other ways to undertake or complete compulsions?'' would be followed by a relevant example (e.g., ''You told me earlier that [patient's name] washes his hands excessively. During the past week, did you buy extra soap or other items he needed for this ritual?''). The family member's response is then scored on a 0 (none) to 4 (extreme) scale, based on the amount of time/energy spent accommodating the patient.

The FAS demonstrates good internal consistency ($\alpha = .82$, Calvocoressi et al., 1999; $\alpha = .80$, Geffken, Storch, & Duke, 2006) and good inter-rater reliability (ICCs = .75–.95). Convergent validity was demonstrated by Calvocoressi et al. (1999) through significant correlations with the Y-BOCS ($r = .49$), patient Global Assessment of Functioning scores (APA, 2000; $r = -.45$), poor global family functioning on the Family

Assessment Device (FAD; Epstein, Baldwin, & Bishop, 1983; $r = .50$), the Patient Rejection Scale (Kreisman, Simmens, & Joy, 1979; $r = .67$), and Questionnaire on Resources and Stress (QRS) subscales measuring dependency and management (Holroyd, 1987 $r = .73$). Storch, Merlo, et al. (in press) found similar results in pediatric patients as the FAS was positively related to symptom severity and OCD-related impairment. Discriminant validity was measured by Calvocoressi et al. (1999) through comparison with the FAD and QRS subscales measuring financial stress (Holroyd, 1987; $r = .05$), and stress associated with caring for a relative with cognitive impairment ($r = -.05$), terminal illness ($r = .00$), and physical limitations ($r = .18$; Calvocoressi et al., 1999). Evidence of discriminant validity was also provided by Geffken et al. (2006) through comparison with the subscales of the COPE Inventory (Carver, Scheier, & Weintraub, 1989): Active ($r = .14$), Reframing ($r = -.10$), Denial/Disengagement ($r = .25$), Social Support ($r = -.03$), and Religion ($r = -.18$); with the BDI-II ($r = .23$); and with the Hunter Opinions and Personal Expectations Scale ($r = -.21$; Nunn, Lewin, Walton, & Carr, 1996).

The FAS demonstrates good internal consistency, inter-rater reliability, and evidence of construct validity. It is a valuable tool in that it is currently the only measure that examines the extent to which family members accommodate patients with OCD. However, currently there is a lack of data regarding test–retest reliability and sensitivity to treatment effects.

1.2.4. Behavioral Avoidance Tests (BATs)

BATs are observational measures designed to measure avoidance behavior and levels of distress associated with these behaviors. They have historically been used to assess fear and avoidance in individuals with phobias, and have only recently begun to be used in OCD research. BATs can take the form of single task in which the patient is presented with a feared stimuli and asked to provide a rating of their level of distress (subjective unit of distress; SUDs) or can involve multiple tasks in which patients carry out and rate a variety of tasks that typically lead to compulsive behavior (Taylor, 1995). BATs are usually administered by a clinician before and after treatment to assess severity of fear and avoidance and also to assess treatment effects.

Steketee, Chambless, Tran, and Worden (1996) evaluated the psychometric properties of a multiple task/multiple step BAT. Four individual BAT scores were assigned by the clinician for (1) percentage of assigned steps completed, (2) SUDS ratings of anxiety, (3) avoidance, and (4) rituals associated with the tasks. These individual scores then yielded a composite BAT score. Internal consistency of the composite BAT was adequate at pretest ($\alpha = .64$), but lower at posttest ($\alpha = .49$). Good convergent validity was demonstrated for each subscale and the BAT composite score, as each correlated significantly with the Y-BOCS total score ($r = -.33$–$.49$) and the MOCI ($r = -.20$ to $.46$). Negative correlations represent the relationship between the percentage of assigned steps completed with the YBOCS and MOCI total scores, with higher percentages of steps being completed being associated with lower scores on the YBOCS and MOCI. Given that individuals with higher levels of anxiety on the other measures tend to complete fewer steps in a given assignment, negative relationships with this measure are indicative of convergent validity.

Divergent validity was generally good, with low correlations observed among the BAT scores and the SCL-90 depression subscale ($r = .01$–$.36$) and SCID criteria for OCPD ($r = -.10$–$.04$). However, the BAT composite score was significantly correlated with the SCL-90 depression subscale ($r = .36$). The treatment sensitivity of the BAT ($d = .83$–1.23) was lower than that of the Y-BOCS ($d = 1.44$), but higher than the MOCI ($d = .68$).

One advantage of the BAT is that it can provide in vivo measures of fear and avoidance related to obsessions and compulsions (Steketee, Chambless, et al., 1996; Steketee, Frost, & Bogart, 1996; Taylor, 1995). Steketee, Chambless, et al. (1996) and Steketee, Frost, et al. (1996) suggested that BATs can be an important adjunct to other interview or self-report measures and be part of a multimethod approach to assessment of OCD symptoms and severity. BATs can also be helpful during initial CBT with the development of a fear hierarchy. According to Taylor (1995), BATs may not be helpful with some compulsions such as those involving checking, ordering, or mental rituals. In addition, because some compulsions are situation-specific or not likely to occur under others' observation, the clinic setting may not adequately assess the severity of the compulsion in other settings. Furthermore, designing multi-task/multi-method BATs can be complicated. Other disadvantages of BATs include the lack of a standardized protocol for administration and limited data on the reliability and validity of BATs for OCD.

1.3. Self-report measures

Self-report measures are valuable screening tools that are frequently used within clinical and research

settings. Advantages include ease of administration, utility in gauging treatment response, and large normative databases. Disadvantages include the potential for respondents to interpret scaled response choices differently, the higher likelihood of response bias, and difficulty of use for patients who may have a language barrier or low reading level. In addition, among patients with very specific idiosyncratic symptoms, self-report measures may result in an underestimate of their symptoms and/or impairment. Several existing OCD self-report measures are outlined below.

1.3.1. Leyton Obsessional Inventory-Survey Form (LOI-Survey Form) and Leyton Obsessional Inventory Short Form (LOI-SF)

The original Leyton Obsessional Inventory (LOI; Cooper, 1970) was developed as a clinician-assisted card-sorting task, and consisted of 69 items assessing for the presence of Obsessive Symptoms (46 items) and Obsessive Traits (23 items). Thirty-nine additional questions assessed the degree to which the individual displays *Resistance* to these symptoms/traits (e.g., "I know that this is not necessary and I try to stop it"), and how much *Interference* they cause (e.g., "This interferes with other activities or wastes a lot of time").

Kazarian, Evans, and Lefave (1977) created a self-report version of the LOI, referred to as the LOI-Survey Form, which consisted of the original 69 items. Like the card-sort, the LOI Survey Form includes four subscales assessing (1) symptoms, (2) traits, (3) resistance, and (4) interference. However, the LOI-Survey Form is somewhat unwieldy to administer, due to its length and response format. A revised version of the LOI Survey Form, the LOI-Short Form (LOI-SF; Matthews, Jang, Hami, & Stein, 2004) specifically addresses this issue. It is a 30-item measure that assesses the presence or absence of particular OCD symptoms, using a yes/no response format. A sample item is "I find that almost every day I am upset by unpleasant thoughts that come into my mind against my will." The authors used a rationally derived method for reducing the number of items from 69 to 30.

The LOI-Survey Form has demonstrated adequate to good psychometric properties (Stanley et al., 1993), with subscale internal consistency coefficients in a sample of OCD and anxiety patients ranging from .75 to .90. Convergent validity was assessed against the Symptom Checklist-90-Revised (SCL-90-R; Derogatis, 1977) obsessive–compulsive subscale (rs = .31–.57) and the Eysenck Personality Inventory (EPI; Eysenck & Eysenck, 1965) neuroticism subscale (rs = .34–.37). Discriminant validity was adequate when LOI subscales were compared with the other subscales of the SCL-90-R (rs = −.09–.40) and with the extraversion subscale of the EPI (rs = −.12–.13). The Interference scores were most predictive of OCD diagnosis (R^2 = .51), and a cutoff score of 15 on this subscale was determined to be optimal. In a sample of college students, the LOI-Short Form (LOI-SF) demonstrated good internal consistency (α = .81; Matthews et al., 2004). Discriminant validity was assessed with a variety of measures including the State Trait Anxiety Inventory, trait version (Spielberger, 1983; r = .35), Fear and Phobias Questionnaire (Marks & Matthews, 1979; r = .29), Beck Depression Inventory (BDI; Beck & Steer, 1993b; r = .11), Wender Utah Rating Scale (Rossini & O'Connor, 1995; r = .28), PTSD Checklist-Civilian Version (Weathers, Litz, Herman, Huska, & Keane, 1991; r = .43), Speilberger Anger Inventory (Spielberger, 1988; r = .27), and the Zuckerman Sensation Seeking Scale (Zuckerman & Link, 1968; r = −.16).

To summarize, the LOI-Survey Form has demonstrated good internal consistency and discriminant validity in a clinical sample. However, it is fairly unwieldy to administer and convergent validity data is limited. The advantages of the LOI-SF include quick and easy administration, with good internal consistency and discriminant validity demonstrated in a convenience sample of college students. Disadvantages of the LOI-SF include relatively little known psychometric data (e.g., unknown test–retest reliability, convergent validity, and predictive validity), and a lack of data available using a clinical sample of OCD patients. The sensitivity of the LOI-SF to treatment effects is unknown and subscales have not been identified.

1.3.2. Padua Inventory-Washington State University Revision (PI-WSUR)

Sanavio (1988) developed the original Padua Inventory as the first measure of self-reported OCD symptoms that included separate obsession scales in addition to traditional compulsion scales. However, later research demonstrated that the obsession subscales also appeared to measure general "worry" (Freeston et al., 1994). As a result, the PI-WSUR (Burns, Keortge, Formea, & Sternberger, 1995) was designed to better distinguish between worry and obsessions. The PI-WSUR contains 39-items, each rated on a five point scale (0 = "not at all," 4 = "very much"), indicating the degree of disturbance caused by the symptom. Five subscales assess the following: (1) obsessional thoughts about harm to oneself or others (e.g., "I think or worry a lot about having hurt someone without knowing it"), (2) obsessional impulses to harm oneself or others (e.g.,

"Sometimes I feel the need to break or damage things for no reason"), (3) contamination obsessions and washing (e.g., "I feel my hands are dirty when I touch money"), (4) dressing/grooming compulsions (e.g., "Before going to sleep, I have to do things in a certain order"), and (5) checking compulsions, (e.g., "I have to do things several times before I think they are properly done").

The PI-WSUR demonstrated good internal consistency, with αs ranging from .77 to .88 on subscales and α of .92 for the total scale (Burns et al., 1995). It has also demonstrated adequate 6-month test–retest data (r = .76) in an Icelandic student sample (Jonsdottir & Smari, 2000). In this same study, convergent validity was evidenced by the PI-WSUR's significant correlation with the Maudsley Obsessive–Compulsive Inventory (Hodgson & Rachman, 1977; MOCI; r = .61), and discriminant validity was demonstrated vis-à-vis lower correlations with the Penn State Worry Questionnaire (Meyer, Miller, Metzger, & Borkovec, 1990; PSWQ; r = .37).

Overall, the PI-WSUR has demonstrated good psychometric properties and represents an improvement of the original Padua Inventory. It has also been translated into Spanish, German, and Icelandic, and thus can be used with a wider range of patients. However, the PI-WSUR does not assess as many symptoms of OCD as some other measures; a notable example is compulsive hoarding, which is not included in the measure.

1.3.3. Yale-Brown Obsessive–Compulsive Scale-Self-Report (Y-BOCS-SR)

The Y-BOCS-SR (Steketee, Frost, et al., 1996) was created to combine the utility of self-report measures with the advantages of the clinician-administered Y-BOCS (W.K. Goodman et al., 1989; W.L. Goodman et al., 1989). The Y-BOCS-SR asks the respondent to indicate the presence or absence of 58 obsessions and compulsions, circling the three primary obsessions and compulsions. For both obsessions and compulsions, the respondent is then asked to answer five questions indicating: time spent, interference, distress, resistance, and control. These responses are rated on a 5-point likert-type scale (0 = "none," 4 = "extreme").

The Y-BOCS-SR has demonstrated good internal consistency (α = .89 in a non-clinical sample, and .78 in OCD patients; Steketee, Chambless, et al., 1996; Steketee, Frost, et al., 1996). One-week test–retest reliability was .88 in the non-clinical sample, though no test–retest data have been reported in a clinical sample. Convergent validity was demonstrated by strong correlations with the clinician-rated Y-BOCS (r = .75 in the non-clinical sample, and .79 in the clinical sample). Criterion-related validity, assessed using a standard cutoff of 16 for OCD diagnosis, is adequate. Results indicate that 3% of OCD patients fell below, but 50% of non-OCD patients scored above the cutoff (Steketee, Chambless, et al., 1996; Steketee, Frost, et al., 1996).

Overall, the Y-BOCS-SR demonstrates good internal consistency, test–retest reliability, and convergent validity. It measures symptom severity, and can also be used to facilitate diagnostic decisions. However, it is noteworthy that, despite the good sensitivity of the Y-BOCS-SR, this measure demonstrates poor specificity, and may result in over-identification of OCD patients. Sensitivity to treatment effects is unknown.

1.3.4. Obsessive–Compulsive Inventory-Revised (OCI-R)

The original Obsessive–Compulsive Inventory (OCI; Foa, Kozak, Salkovskis, Coles, & Amir, 1998) contains 42 items with 7 subscales. Individual questions assess the frequency and severity of each symptom, on a five-point scale. The OCI-R (Foa et al., 2002) was developed as a revision of the OCI in order to improve ease of administration, ease of scoring, and decrease redundancy among some subscales. The authors utilized factor analysis to consolidate the 42 items in the OCI to 18 items reflecting six subscales with three items each. Each item is rated on a five-point scale assessing degree of distress (0 = "not at all," 4 = "extremely"). The subscales reflect the following dimensions: Washing (e.g., "I find it difficult to touch an object when I know it has been touched by strangers or certain people"), Checking (e.g., "I check things more often than necessary"), Ordering (e.g., "I get upset if objects are not arranged properly"), Obsessing (e.g., "I find it difficult to control my own thoughts"), Hoarding (e.g., "I have saved up so many things that they get in the way"), and Mental Neutralizing (e.g., "I feel compelled to count while I am doing things").

The OCI-R has demonstrated good internal consistency in a clinical sample of adults with OCD (Foa et al., 2002). The authors reported alphas ranging from .82 to .90 for each subscale, and .81 for the total score. Two-week test–retest reliability in the OCD sample was good for the subscales (r = .74–.91). In a college sample (Hajcak, Huppert, Simmons, & Foa, 2004), the total score α was .88 and subscale α ranged from .76 to .84, with the exception of Hoarding (α = .68) and Mental Neutralizing (α = .61). One-month test–retest reliability ranged from acceptable to good (r = .54–.77). The

OCI-R has also demonstrated convergent validity with the Y-BOCS ($r = .53$; Foa et al., 2002), the Maudsley Obsessive–Compulsive Inventory (Hodgson & Rachman, 1977; $r = .85$), and the PI-WSUR ($r = .75$; Hajcak et al., 2004). Discriminant validity was assessed with the Hamilton Depression Rating Scale ($r = .58$; Foa et al., 2002) and BDI ($r = .70$ and .39; Hajcak et al., 2004). Foa et al. (2002) used ROC analysis to calculate an optimal cutoff of 21 (sensitivity: 65.6%, specificity: 63.9%) in order to distinguish OCD patients from non-anxious controls.

In summary, the OCI-R correlates very strongly with the original version ($r = .98$), but is notably shorter (42 items versus 18 items) and less time-consuming. The OCI-R has demonstrated good psychometric properties in both clinical and normative samples. In addition, it can be useful in making diagnostic decisions, as the measure has published clinical-cutoff scores. The OCI-R also allows comparison of severity across symptom categories. However, the OCI-R has some drawbacks, as it lacks a separate severity scale, and compulsions are assessed more heavily than obsessions.

1.3.5. Vancouver Obsessional Compulsive Inventory (VOCI)

The VOCI (Thordarson et al., 2004) is a revised version of the Maudsley Obsessional Compulsive Inventory (MOCI; Hodgson & Rachman, 1977). The MOCI is a 30-item questionnaire, using a yes/no response format, which was criticized for having redundant subscales, omitting important obsessive–compulsive phenomena, being insensitive to treatment effects, and using confusing reverse scoring (Thordarson et al., 2004). As a result, the VOCI was created to address these issues. Factor analysis of 172 items, generated by the authors, was used to develop the measure. The VOCI uses a five-point Likert response scale to assess the degree of symptom severity on six dimensions: Contamination (e.g., ''I am excessively concerned about germs and disease''), Checking (e.g., ''One of my major problems is repeated checking''), Obsessions (e.g., ''I often experience upsetting and unwanted thoughts about losing control''), Hoarding (e.g., ''I become very tense or upset when I think about throwing things away''), Just Right (e.g., ''I feel compelled to follow a very strict routine when doing ordinary things''), and Indecisiveness (e.g., ''I find it very difficult to make even trivial decisions'').

The VOCI demonstrates excellent internal consistency ($\alpha = .94$ total, and $\alpha = .88$–$.96$ on subscales; Thordarson et al., 2004) and 47-day test–retest reliability ($r = .96$) in a sample of OCD patients. However, in a sample of students, 11-day test–retest reliability was only modest ($r = .56$; Thordarson et al., 2004). The authors note that convergent validity was demonstrated through comparison with a variety of measures: PI-WSUR ($r = .85$), MOCI ($r = .74$), Y-BOCS-SR ($r = .67$) and Y-BOCS ($r = .14$). The low correlation with the Y-BOCS was not discussed by the authors, but in the sample, the Y-BOCS also related inconsistently to other measures of OCD symptoms (Y-BOCS-SR, $r = .74$; MOCI, $r = .47$; PI, $r = .22$), which might indicate that the clinicians administering the Y-BOCS were not sufficiently trained. Discriminant validity was demonstrated by lower correlations between the VOCI and several measures that were not developed to specifically assess OCD: the BDI ($r = .47$), Beck Anxiety Inventory ($r = .43$), and Penn State Worry Questionnaire ($r = .36$; Thordarson et al., 2004).

In general, the VOCI has demonstrated good to excellent psychometric properties. A strength of the VOCI is that it measures both the cognitive and behavioral dimensions of OCD. However, there is limited support for the discriminant validity of the VOCI and it does not assess ordering/arranging symptoms or doubts and mental neutralizing. The VOCI also has not been examined for sensitivity to treatment effects.

1.3.6. Florida Obsessive–Compulsive Inventory (FOCI)

The FOCI (Storch, Stigge-Kaufman, et al., in press; Storch, Lack, Simmons, Murphy, & Geffken, 2006) was created to allow patients to quickly rate the severity of symptoms on a unitary scale for obsessions and compulsions. Items from the checklist were derived from the Y-BOCS and from the authors' clinical experience. The FOCI contains two subscales: a Symptom Checklist and a Symptom Severity Scale. The Symptom Checklist assesses the presence or absence of 10 obsessions (e.g., ''Bothered by thoughts/images such as contamination or acquiring a serious illness) and 10 compulsions (e.g., ''Driven to perform acts again like ritualized washing, cleaning, or grooming''), for a total score ranging from 0–20 (affirmative responses are scored '1'). The Symptom Severity Scale examines five dimensions of severity (e.g., time occupied, interference, distress, resistance, and degree of control) on ranging from 0 = ''None'' to 5 = ''Extreme.''

To date, only one report has examined the psychometrics of the FOCI. Storch, Stigge-Kaufman, et al. (in press) and Storch et al. (2006) reported good

internal consistency, with a Cronbach's α value of .89 for the Symptom Severity Scale, and a Kuder-Richardson-20 coefficient value of .83 for the Symptom Checklist. Convergent validity was demonstrated by significant correlations among the FOCI and the Y-BOCS. As expected, the FOCI Symptom Checklist demonstrated only a moderate correlation with the Y-BOCS ($r = .40$), while the FOCI Severity Scale correlated strongly ($r = .78$). Discriminant validity was assessed through comparison to two common depressive symptom questionnaires: the BDI (Beck, Steer, & Brown, 1996) and HDRS (Warren, 1994). Although the FOCI Symptom Checklist correlated moderately with the BDI ($r = .35$) and HDRS ($r = .34$), this relation was believed to reflect the high comorbidity rate of depression in patients with OCD. Similarly, the Symptom Severity Scale correlated strongly with the BDI ($r = .63$) and moderately with the HDRS ($r = .30$); however, Fisher's r to z analyses indicated that the correlation between the self-report Severity Scale scores and the clinician-administered Y-BOCS scores was significantly greater than the correlation between the Severity Scale and the clinician-administered HDRS.

In general, the FOCI is useful for screening purposes, as it contains both a symptom checklist and severity scale, has good preliminary psychometric properties, and can be completed in five minutes. In addition, it improves upon previous instruments by combining obsession and compulsion severity into a unitary severity scale, an approach supported by factor analytic studies of the Y-BOCS (Amir et al., 1997; Kim, Dysken, Pheley, & Hoover, 1994; McKay et al., 1998; Moritz et al., 2002; Storch et al., 2005). However, more information is needed regarding the psychometric properties of the FOCI, as no test–retest data or normative database is currently available.

1.3.7. Schedule of Compulsions, Obsessions, and Pathological Impulses (SCOPI)

Watson and Wu (2005) designed the SCOPI citing the need for a measure that better reflected the research-supported symptom structure of OCD (e.g., Leckman, Grice, Boardman, & Zhang, 1997; Summerfeldt, Richter, Antony, & Swinson, 1999). The authors utilized factor analysis of items derived from existing instruments and a review of the literature to develop a 45-item scale. Each item is rated on a five-point scale according to severity (1 = "strongly disagree," 5 = "strongly agree"). The SCOPI contains five subscales designed to assess Obsessive Checking (e.g., "I sometimes find that I cannot get rid of unpleasant thoughts that have popped into my mind"), Obsessive Cleanliness (e.g., "I worry a lot about germs"), Pathological Impulses (e.g., "Occasionally, I will have a sudden urge to steal something"), Compulsive Rituals (e.g., "If I don't do tasks in a particular order, I feel uncomfortable"), and Hoarding (e.g., "I find it difficult to throw things away, even when I know I don't need them").

The SCOPI has demonstrated good internal consistency, with a median $\alpha = .86$ across clinical and non-clinical samples (Watson & Wu, 2005). Two-month test–retest reliability was good ($r = .79$–$.82$ across subscales). Convergent validity was assessed through comparison of SCOPI scores to OCI-R scores and Y-BOCS scores. On the OCI-R, correlations for subscales with relevant content ranged from .64 to .77. However, the content of some subscales on the OCI-R was not comparable to those on the SCOPI, and those did not correlate as well with any of the OCI-R subscales (rs = .18–.52). Correlations between the SCOPI and the Y-BOCS were moderate in a university sample ($r = .56$–$.60$) as well as an OCD clinical sample ($r = .55$–$.62$). In addition, OCD patients displayed significantly higher elevations on the Checking and Compulsive Rituals scales than students or non-OCD psychiatric outpatients. OCD patients also scored higher on Obsessive Cleanliness than students. However, students had significantly higher scores on the Pathological Impulses Subscale, and there were no group differences for Hoarding.

In summary, the SCOPI has good internal consistency, test–retest reliability, and adequate convergent validity. In addition, the design of the SCOPI was based on a factor model of OCD that had previously been supported in the literature (Leckman et al., 1997; Summerfeldt et al., 1999). However, divergent validity of the SCOPI remains unknown, as it has not yet been compared to a measure that does not assess OCD.

1.3.8. Clark-Beck Obsessive–Compulsive Inventory (CBOCI)

The CBOCI (Clark, Antony, & Beck, 2005) was developed as a brief screener of frequency and severity of DSM-IV obsessive and compulsive symptoms and is meant to complement the BDI-II (Beck et al., 1996) and Beck Anxiety Inventory (BAI, Beck & Steer, 1993a). Clark et al. (2005) utilized factor analysis of items derived from review of theoretical, diagnostic, and assessment literature to develop a 25-item scale. Each item is rated on a four-point scale (0–3) according to levels of frequency or severity. The item response format is similar to the BDI-II, with respondents

instructed to select ''one statement in each group that best describes your thoughts, feelings, or behavior during the past 2 weeks including today''. The CBOCI contains two subscales designed to assess Obsessions (14 items) and Compulsions (11 items).

The CBOCI has demonstrated excellent internal consistency, with $\alpha = .95$ across clinical and non-clinical samples for both subscales (Clark et al., 2005). One-month test–retest reliability in a non-clinical sample was high ($r = .77$). Convergent validity was assessed through comparison of CBOCI scores to Y-BOCS and PI-WSUR scores in a clinical sample. The CBOCI Obsessions subscale correlated strongly with the Y-BOCS Obsessions subscale ($r = .80$), and the CBOCI Compulsions subscale correlated moderately with the Y-BOCS Compulsions subscale ($r = .66$). Total scale correlations between the CBOCI and the Y-BOCS were moderate in a normative student sample ($r = .60$) but higher in an OCD patient sample ($r = .78$). The CBOCI total score correlated strongly with the PI-WSUR total score ($r = .77$), BAI ($r = .69$) and BDI-II ($r = .75$). The authors argue that, given high comorbidity between OCD and other anxiety and depressive disorders, some degree of correlation with measures of anxiety and depression is warranted. Thus, the CBOCI has adequate ability to distinguish clinical from non-clinical samples, but limited ability to distinguish OCD patients from depressed and anxious patients.

In summary, the CBOCI has excellent internal consistency, good test–retest reliability and convergent validity, and adequate divergent validity. Additionally, it is one of the first quick screening measures to have empirically validated obsession and compulsion subscales. While it adequately distinguishes clinical from non-clinical individuals, it does not discriminate well between patients with OCD and those with other anxiety or mood disorders. Also, test–retest data are not currently available with an OCD sample. The CBOCI has also not been tested for diagnostic sensitivity and specificity or for sensitivity to treatment effects.

1.3.9. Obsessive–Compulsive Scale of the Symptom Checklist-90-Revised (OCD-SCL-90-R)

The SCL-90-R (Derogatis, 1977) is a 90-item broad-band measure of psychopathology, including obsessive and compulsive symptoms. Items for the SCL-90-R, including those for the OCD scale, were derived from the Hopkins Symptom Checklist (HSCL-90; Derogatis, Lipman, & Covi, 1973). The OCD scale is a one-factor scale comprised of 10 items. Items are rated on a 5-point severity scale (0 = ''not at all distressing'' to 4 = ''extremely distressing'').

Woody, Steketee, and Chambless, (1995) examined the psychometric properties of the OCD-SCL-90-R. It has demonstrated good internal consistency ($\alpha = .88$) in patients with OCD, in patients with panic disorder with agoraphobia, and in relatives without a psychiatric diagnosis. The OCD-SCL-90-R demonstrated modest evidence of convergent validity through correlation with the Y-BOCS total score ($r = .43$) and the MOCI ($r = .41$). Evidence of divergent validity was poor, as evidenced by strong correlations with the SCL-90-R depression scale ($r = .79$) and SCL-90-R anxiety scale ($r = .56$). The OCD-SCL-90-R did not distinguish between patients with OCD and those with panic disorder with agoraphobia, but did discriminate between OCD patients and their non-clinical relatives. The OCD-SCL-90-R was highly sensitive to treatment changes. These changes were also correlated with treatment changes observed on the Y-BOCS ($r = .64$).

The OCD subscale of the SCL-90-R demonstrated high internal consistency and sensitivity to treatment effects. However, evidence for construct validity is mixed. Particularly problematic is evidence that the scale correlates more strongly with measures of depression and anxiety than with other measures of OCD.

1.4. Adjunctive measures

Adjunctive measures briefly reviewed within this section are those that do not directly assess OCD symptoms but may contribute valuable clinical and research information. For example, scales that assess comorbidity and health status offer breadth and depth of information useful for clinicians but not often assessed with traditional measures of OCD. For example, one commonly used and psychometrically sound measure of depressive symptoms is the BDI-II (Beck et al., 1996; Beck, Steer, & Garbin, 1988; Dozois, Dobson, & Ahnberg, 1998; Steer & Clark, 1997; Steer, Kumar, Ranieri, & Beck, 1998; Storch, Roberti, & Roth, 2004), a 21-item measure of frequency and severity of depressive symptoms. Another frequently used measure of depressive symptoms is the clinician-administered Revised Hamilton Depression Rating Scale (HDRS; Warren, 1994), which contains 21 items and demonstrates good psychometric properties. As a measure of general anxiety, the Beck Anxiety Inventory (BAI; Beck & Steer, 1993a) is widely used, is designed for use with the BDI, and possesses adequate psychometric properties (Creamer, Foran, & Bell, 1995; Leyfer, Ruberg, & Woodruff-Borden, 2006; Osman, Barrios, Aukes, Osman, & Markaway, 1993; Osman, Kopper, Barrios,

Osman, & Wade, 1997). The State Trait Anxiety Inventory (STAI; Spielberger, 1983) is a frequently used, 40-item measure assessing both state and trait anxiety and demonstrating good psychometric properties (Addolorato et al., 1999; Blankenstein, 1976; Chaplin, 1984; Forsberg & Bjorvell, 1993; Kelly, 2004; Kvaal, Ulstein, Nordhaus, & Engedal, 2005; Lilley & Cobham, 2005). Given that eating disorders are also often comorbid with OCD, the Eating Disorders Inventory-2 (EDI-2; Garner, 1991) is a self-report measure of eating disorder symptoms and vulnerability factors with good psychometric properties. To assess social anxiety, the Social Interaction Anxiety Scale (SIAS; Mattick & Clarke, 1998) is a psychometrically sound (Mattick & Clarke, 1998; Rodebaugh, Woods, Heimberg, Liebowitz, & Schneier, 2006) self-report measure of anxiety in dyadic and group social interactions, and demonstrates good psychometric properties. In OCD patients whose cases are complicated with medical diagnoses, assessment of health related symptoms is also relevant to diagnosis and treatment of OCD. One commonly used measure designed to assess health symptoms is the Short-Form 36 (SF-36; Anderson, Laubscher, & Burns, 1996; Mallinson, 2002; Stansfield, Roberts, & Foot, 1997; Ware, Kosinski, & Dewey, 2000), a 36-item measure assessing interference due to health problems and possessing adequate psychometric properties.

There are several measures that measure specific OCD constructs. For example, the Saving Inventory Revised (SI-R; Frost, Steketee, & Kyrios, 2003) is a 26-item self-report measure assessing hoarding symptoms and demonstrating good psychometric properties (Frost, Steketee, & Grisham, 2004; Frost et al., 2003). The Hoarding Assessment Scale (HAS; Shytle & Sheehan, 2004) is a self-report measure designed to assess the severity of hoarding symptoms, and possesses adequate psychometric properties (Frost et al., 2004). The Interpretation of Intrusions Inventory (Obsessive Compulsive Cognitions Working Group, 2005a) is a 31-item self-report measure assessing interpretations of unwanted, distressing obsessions and compulsions, and demonstrates adequate psychometric properties. The Thought–Action Fusion Scale (TAFS; Shafran, Thordarson, & Rachman, 1996) measures the tendency to believe that thoughts are equivalent to actions, and demonstrates good psychometric properties. The Obsessive Beliefs Questionnaire (OBQ-44; OCCWG, 2005b) is a 44-item self-report questionnaire designed to measure belief domains, and demonstrates good psychometric properties.

2. Conclusion

Several theoretically and psychometrically sound measures have been developed to assess the presence and severity of OCD symptoms in community and clinical samples. Each type of instrument has unique strengths and weaknesses. For example, diagnostic interviews are particularly useful for differential diagnosis because they assess for comorbid symptoms and distinguish between different psychiatric disorders. Clinician-administered measures have the advantage of gathering data from multiple sources, including information provided by the patient and collaterals, as well as the clinician's observations and judgment. Behavioral assessment tests can provide in vivo measures of fear and avoidance related to obsessions and compulsions that are not captured by other instruments (Steketee, Frost, et al., 1996; Taylor, 1995). Finally, self-report measures are relatively brief and easy to complete, making them useful as screening instruments. Despite these strengths, limitations of the current OCD assessment instruments warrant discussion as well. Clinician-administered instruments often require extensive training and can be subject to interviewer bias. Weaknesses associated with diagnostic interviews include their time-consuming and often costly nature. Finally, self-report measures may be difficult to understand for some clients, especially younger clients or those who have cognitive limitations.

It is also important to address general weaknesses of OCD assessment tools as a whole, so as to facilitate future research devoted to improving overall assessment and diagnosis of OCD. One issue relates to the need for instruments that are sensitive to treatment change across all types of treatments (e.g., cognitive therapy, exposure with response prevention, Acceptance and Commitment Therapy). The development of treatment-specific measures of change would facilitate research examining specific proposed mechanisms of change (e.g., cognitions, avoidance behaviors, psychological acceptance). Given evidence that treatment response varies depending on the nature of symptom presentation (Sookman, Abramowitz, Calamari, Wilhelm, & McKay, 2005), a second issue concerns the need for instruments to more fully capture the nature and associated impairment of specific and/or idiosyncratic symptoms. Steps should be taken to distinguish between the quantity and nature (i.e., severity) of symptoms and their unique impact on impairment. For example, an individual may present with only one symptom (e.g., compulsive hoarding), but this symptom may be severe enough to significantly

impair functioning in multiple domains and to warrant immediate therapeutic attention. On the other hand, an individual may present with multiple symptoms, but these symptoms may be relatively mild and thus minimally impair functioning. Future research should focus on ways to account for such differences through a more comprehensive assessment of symptom presentation and impairment. A third issue pertains to the lack of psychometric data available for some instruments. For example, studies investigating the sensitivity and specificity of instruments will facilitate the development and improvement of adequate screening and diagnostic devices. Given the high rates of comorbidity among individuals with OCD (see Abramowitz, 2004 for a review), instruments that are able to discriminate OCD symptoms from symptoms of general anxiety and depression are crucial for reliable diagnosis and appropriate treatment placement.

References

Abramowitz, J. S. (2004). Treatment of obsessive–compulsive disorder in patients who have comorbid major depression. *JCLP/In Session, 60*, 1133–1141.

Abramowitz, J. S., Whiteside, S. P., & Deacon, B. J. (2005). The effectiveness of treatment for pediatric obsessive–compulsive disorder: a meta-analysis. *Behavior Therapy, 36*, 55–63.

Addolorato, G., Ancona, C., Capristo, E., Graziosetto, R., Di Rienzo, L., Maurizi, M., et al. (1999). State and trait anxiety in women affected by allergic and vasomotor rhinitis. *Journal of Psychosomatic Research, 46*, 283–289.

American Psychiatric Association (2000). Diagnostic and statistical manual of mental disorders (4th ed., text revision). Washington, D.C.: American Psychiatric Association.

Amir, N., Foa, E. B., & Coles, M. E. (1997). Factor structure of the Yale-Brown Obsessive Compulsive Scale. *Psychological Assessment, 9*, 312–316.

Anderson, C., Laubscher, S., & Burns, R. (1996). Validation of the Short-Form 36 (SF-36) health survey questionnaire among stroke patients. *Stroke, 27*, 1812–1816.

Arrindell, W. A., de Vlaming, I. H., Eisenhardt, B. M., van Berkum, D. E., & Kwee, M. G. T. (2002). Cross-cultural validity of the Yale-Brown Obsessive Compulsive Scale. *Journal of Behavior Therapy and Experimental Psychiatry, 33*, 159–176.

Basco, M. R., Bostic, J. Q., Davies, D., Rush, A. J., Witte, B., Hendrickse, W. A., et al. (2000). Methods to improve diagnostic accuracy in a community mental health setting. *American Journal of Psychiatry, 157*, 1599–1605.

Beck, A. T., & Steer, R. A. (1993a). *Manual for the Beck Anxiety Inventory.* San Antonio, TX: Psychological Corporation.

Beck, A. T., & Steer, R. A. (1993b). *Manual for the Beck Depression Inventory.* San Antonio, TX: Psychological Corporation.

Beck, A. T., Steer, R. A., & Brown, G. K. (1996). *Manual for Beck Depression Inventory-II*. San Antonio, TX: Psychological Corporation.

Beck, A. T., Steer, R. A., & Garbin, M. G. (1988). Psychometric properties of the Beck Depression Inventory: twenty-five years of evaluation. *Clinical Psychology Review, 8*, 77–100.

Blankenstein, K. R. (1976). Relationships between Spielberger Trait Anxiety and Lykken Social and Physical Trait Anxiety. *Journal of Clinical Psychology, 32*, 781–783.

Brown, T. A., Chorpita, B. F., & Barlow, D. H. (1998). Structural relationships among dimensions of the DSM-IV anxiety and mood disorders and dimensions of negative affect, positive affect, and autonomic arousal. *Journal of Abnormal Psychology, 107*, 179–192.

Brown, T. A., Di Nardo, P. A., Lehman, C. L., & Campbell, L. A. (2001). Reliability of DSM-IV anxiety and mood disorders: implications for the classification of emotional disorders. *Journal of Abnormal Psychology, 111*, 49–58.

Burns, G. L., Keortge, S. G., Formea, G. M., & Sternberger, L. G. (1995). Revision of the Padua inventory of obsessive compulsive disorder symptoms: distinctions between worry, obsessions, and compulsions. *Behaviour Research and Therapy, 34*, 163–173.

Calvocoressi, L., Mazure, C. M., Kasl, S. V., Skolnick, J., Fisk, D., Vegso, S. J., et al. (1999). Family accommodation of obsessive compulsive symptoms: instrument development and assessment of family behavior. *Journal of Nervous and Mental Disease, 187*, 636–642.

Carver, C. S., Scheier, M. F., & Weintraub, J. K. (1989). Assessing coping strategies: a theoretically based approach. *Journal of Personality and Social Psychology, 56*, 267–283.

Chaplin, W. F. (1984). State-trait anxiety inventory. In: D. J. Keyser & R. C. Sweetland (Eds.), *Test critiques* (pp. 626–632). Test Corporation of America.

Clark, D. A., Antony, M. M., & Beck, A. T. (2005). Screening for obsessive and compulsive symptoms: validation of the clark-beck obsessive compulsive inventory. *Psychological Assessment, 17*, 132–143.

Cooper, J. (1970). The Leyton Obsessional Inventory. *Psychological Medicine, 1*, 48–64.

Creamer, M., Foran, J., & Bell, R. (1995). The Beck Anxiety Inventory in a non-clinical sample. *Behaviour Research and Therapy, 33*, 477–485.

Deacon, B. J., & Abramowitz, J. S. (2005). The Yale-Brown Obsessive Compulsive Scale: factor analysis, construct validity, and suggestions for refinement. *Journal of Anxiety Disorders, 19*, 573–585.

Derogatis, L. R. (1977). *SCL-90-R, administration, scoring, and procedures manual- I for the R(evised) version*. Johns Hopkins University School of Medicine.

Derogatis, L. R., Lipman, R. S., & Covi, L. (1973). The SCL-90: an outpatient psychiatric rating scale. *Psychopharmacology Bulletin, 9*, 13–28.

Dozois, D. J. A., Dobson, K. S., & Ahnberg, J. L. (1998). A psychometric evaluation of the Beck Depression Inventory-II. *Psychological Assessment, 10*, 83–89.

Epstein, N. B., Baldwin, L. M., & Bishop, D. S. (1983). The McMaster family assessment device. *Journal of Marital and Family Therapy, 9*, 171–180.

Eysenck, H. J., & Eysenck, S. B. G. (1965). *Manual for the Eysenck Personality Inventory.* London: Hedder & Stoughton.

First, M. B., & Gibbon, M. (2004). The structured clinical interview for DSM-IV axis I disorders (SCID I) and the structured clinical interview for DSM-IV axis II disorders (SCID II). In: M. J. Hisenroth & D. L. Segal (Eds.), *Comprehensive handbook of psychological assessment: Vol. 2. Personality assessment* (pp. 134–143). Hoboken, NJ: Wiley.

Foa, E. B., Huppert, J. D., Leiberg, S., Langner, R., Kichic, R., Hajcak, G., et al. (2002). The Obsessive–Compulsive Inventory:

development and validation of a short version. *Psychological Assessment, 14*, 485–496.

Foa, E. B., Kozak, M. J., Salkovskis, P., Coles, M. E., & Amir, N. (1998). The validation of a new obsessive–compulsive disorder scale: the Obsessive–Compulsive Inventory. *Psychological Assessment, 10*, 206–214.

Forsberg, C., & Bjorvell, H. (1993). Swedish population norms for the GHRI. HI and STAI-state. *Quality of Life Research, 2*, 349–356.

Freeston, M. H., Ladouceur, R., Rheaume, J., Letarte, H., Gagnon, F., & Thibodeau, N. (1994). Self report of obsessions and worry. *Behaviour Research and Therapy, 32*, 29–36.

Frost, R. O., Steketee, G., & Grisham, J. (2004). Measurement of compulsive hoarding: saving inventory-revised. *Behavioral Research and Therapy, 42*, 1163–1182.

Frost, R. O., Steketee, G., Krause, M. S., & Trepanier, K. L. (1995). The relationship of the Yale-Brown Obsessive Compulsive Scale (Y-BOCS) to other measures of obsessive compulsive symptoms in a nonclinical population. *Journal of Personality Assessment, 65*, 158–168.

Frost, R. O., Steketee, G., & Kyrios, M. (2003). Assessment of cognitive aspects of compulsive hoarding. *Cognitive Therapy and Research, 27*, 463–479.

Garner, D. M. (1991). *Eating Disorder Inventory-2 (EDI-2), professional manual*. Odessa, FL: Psychological Assessment Resources Inc.

Geffken, G. R., Storch, E. A., & Duke, D. C. (2006). Hope and coping in family members of patients with obsessive-compulsive disorder. *Journal of Anxiety Disorders, 20*, 614–629.

Goodman, W. K., Price, L. H., Rasmussen, S. A., Mazure, C., Fleischman, R. L., Hill, C. L., et al. (1989a). The Yale-Brown Obsessive Compulsive Scale: I. Development, use, and reliability. *Archives of General Psychiatry, 46*, 1006–1011.

Goodman, W. L., Price, L. H., Rasmussen, S. A., & Mazure, C. (1989b). The Yale-Brown Obsessive Compulsive Scale (Y-BOCS): validity. *Archives of General Psychiatry, 46*, 1012–1016.

Hajcak, G., Huppert, J. D., Simmons, R. F., & Foa, E. B. (2004). Psychometric properties of the OCI-R in a college sample. *Behaviour Research and Therapy, 42*, 115–123.

Heyman, I., Fombonne, E., Simmons, H., Ford, T., Meltzer, H., & Goodman, R. (2003). Prevalence of obsessive–compulsive disorder in the British nationwide survey of child mental health. *International Review of Psychiatry, 15*, 178–184.

Hodgson, R. J., & Rachman, S. (1977). Obsessional-compulsive complaints. *Behaviour Research and Therapy, 15*, 389–395.

Hollander, E., & Wong, C. (1995). Introduction: obsessive–compulsive spectrum disorder. *Journal of Clinical Psychiatry, 56*, 3–6.

Holroyd, J. (1987). *Questionnaire on resources and stress for families with chronically ill or handicapped members*. Brandon, VT: Clinical Psychology Publishing Co Inc.

Jonsdottir, S. D., & Smari, J. (2000). Measuring obsessions without worry: convergent and discriminant validity of the revised Padua inventory in an Icelandic student population. *Scandinavian Journal of Behaviour Therapy, 29*, 49–56.

Karno, M., & Golding, J. M. (1991). Obsessive compulsive disorder. In: L. N. Tovins & D. A. Refier (Eds.), *Pediatric disorders in America* (pp. 204–219). New York: Free Press.

Kazarian, S. S., Evans, D. R., & Lefave, K. (1977). Modification and factorial analysis of the Leyton Obsessional Inventory. *Journal of Clinical Psychology, 33*, 422–425.

Kelly, W. E. (2004). A brief measure of general worry: the three item worry index. *North American Journal of Psychology, 6*, 219–226.

Kim, S. W., Dysken, M. W., Pheley, A. M., & Hoover, K. M. (1994). The Yale-Brown Obsessive–Compulsive Scale: measures of internal consistency. *Psychiatry Research, 51*, 203–211.

Kim, S. W., Dysken, M. W., & Kuskowski, M. (1992). The Symptoms Checklist-90:Obsessive–Compulsive Subscale: a reliability and validity study. *Psychiatry Research, 41*, 37–44.

Kim, S. W., Dysken, M. W., Kuskowski, M., & Hoover, K. M. (1993). The Yale-Brown Obsessive Compulsive Scale (Y-BOCS) and the NIMH Global Obsessive Compulsive Scale (NIMH-GOCS): a reliability and validity study. *International Journal of Methods of Psychiatric Research, 3*, 37–44.

Koran, L. M., Thienemann, M. L., & Davenport, R. (1996). Quality of life for patients with obsessive-compulsive disorder. *American Journal of Psychiatry, 153*, 783–788.

Kranzler, H. R., Kadden, R., Babor, T. F., Tennen, H., & Rounsaville, R. J. (1996). Validity of the SCID in substance abuse patients. *Addiction, 91*, 859–868.

Kranzler, H. R., Kadden, R., Burleson, J., Babor, T. F., Apter, A., & Rounsaville, R. J. (1995). Validity of psychiatric diagnoses in patients with substance use disorders—is the interview more important than the interview? *Comprehensive Psychiatry, 36*, 278–288.

Kreisman, D. E., Simmens, S. J., & Joy, V. D. (1979). Rejecting the patient: preliminary validation of a self-report scale. *Schizophrenia Bulletin, 5*, 220–222.

Kvaal, K., Ulstein, I., Nordhaus, I. H., & Engedal, K. (2005). The Spielberger State-Trait Anxiety Inventory (STAI): the state scale in detecting mental disorders in geriatric patients. *International Journal of Geriatric Psychiatry, 20*, 629–634.

Leckman, J. F., Grice, D. E., Boardman, J., & Zhang, H. (1997). Symptoms of obsessive–compulsive disorder. *American Journal of Psychiatry, 154*, 911–917.

Leyfer, O. T., Ruberg, J. L., & Woodruff-Borden, J. (2006). Examination of the utility of the Beck Anxiety Inventory and its factors as a screener for anxiety disorders. *Journal of Anxiety Disorders, 20*, 444–458.

Lilley, P., & Cobham, V. E. (2005). Interaction of anxiety sensitivity and induced physiological state: effect on behaviour and interpretation of ambiguous scenarios. *Australian Journal of Psychology, 57*, 77–86.

Mallinson, S. (2002). Listening to respondents: a qualitative assessment of the Short-Form 36 health status questionnaire. *Social Science & Medicine, 54*, 11–21.

Marks, I. M., & Matthews, A. M. (1979). Brief standard self-rating for phobic patients. *Behavioral Residential Therapy, 17*, 263–267.

Matthews, C. A., Jang, K. L., Hami, S., & Stein, M. B. (2004). The structure of obsessionality among young adults. *Depression and Anxiety, 20*, 77–85.

Mattick, R. P., & Clarke, J. C. (1998). Development and validation of measures of social phobia scrutiny fear and social interaction anxiety. *Behaviour Research and Therapy, 36*, 455–470.

McKay, D., Danyko, S. J., Neziroglu, F., & Yaryura-Tobias, J. A. (1995). Factor structure of the Yale-Brown obsessive compulsive scale: a two dimensional measure. *Behavior Research and Therapy, 33*, 865–869.

McKay, D., Neziroglu, F., Stevens, K., & Yaryura-Tobias, J. A. (1998). The Yale-Brown Obsessive–Compulsive Scale: confirmatory factor analytic findings. *Journal of Psychopathology and Behavioral Assessment, 20*, 265–274.

Merlo, L. J., Storch, E. A., Murphy, T. K., Goodman, W. K., & Geffken, G. R. (2005). Assessment of pediatric obsessive–compulsive disorder: a critical review of current methodology. *Child Psychiatry and Human Development, 36*, 195–214.

Meyer, T. J., Miller, M. L., Metzger, R. L., & Borkovec, T. D. (1990). Development and validation of the Penn State Worry Questionnaire. *Behavior Research and Therapy, 28*, 487–495.

Moritz, S., Meier, B., Kloss, M., Jacobsen, D., Wein, C., Fricke, S., et al. (2002). Dimensional structure of the Yale-Brown obsessive compulsive scale (Y-BOCS). *Psychiatry Research, 109*, 193–199.

Morrison, J. (1995). *DSM IV made easy: the clinicians guide to diagnosis*. New York: Guilford Press.

National Institute of Mental Health (1999). *Facts about obsessive compulsive disorder*.

National Institute of Mental Health (2000). *A real illness: obsessive–compulsive disorder*. Bethesda (MD): National Institute of Mental Health, National Institutes of Health, US Department of Health and Human Services (NIH Publication No. 00-4676).

Nunn, K. P., Lewin, T. J., Walton, J. M., & Carr, V. J. (1996). The construction and characteristics of an instrument to measure personal hopefulness. *Psychological Medicine, 2*, 531–545.

Obsessive Compulsive Cognitions Working Group (2005a). Psychometric validation of the Obsessive Beliefs questionnaire and the interpretations of intrusions inventory. Part 1. *Behaviour Research and Therapy, 41*, 863–878.

Obsessive Compulsive Cognitions Working Group (2005b). Psychometric validation of the Obsessive Belief Questionnaire and Interpretation of Intrusions Inventory. Part 2. Factor analyses and testing of a brief version, *Behaviour Research and Therapy, 43,* pp. 1527–1542.

Osman, A., Barrios, F. X., Aukes, D., Osman, J. R., & Markaway, (1993). The Beck Anxiety Inventory: psychometric properties in a community population. *Journal of Psychopathology and Behavioral Assessment, 15*, 287–297.

Osman, A., Kopper, B. A., Barrios, F. X., Osman, J. R., & Wade, T. (1997). The Beck Anxiety Inventory: reexamination of factor structure and psychometric properties. *Journal of Clinical Psychology, 53*, 7–14.

Rapoport, J. (1990). The waking nightmare: an overview of obsessive compulsive disorder. *Journal of Clinical Psychiatry, 51*, 25–28.

Rodebaugh, T. L., Woods, C. M., Heimberg, R. G., Liebowitz, M. R., & Schneier, F. R. (2006). Factor structure and screening utility of the social interaction anxiety scale. *Psychological Assessment, 18*, 231–237.

Rossini, E. D., & O'Connor, M. A. (1995). Retrospective self-reported symptoms of attention-deficit hyperactivity disorder: reliability of the Wender Utah Rating Scale. *Psychological Reports, 77*, 751–754.

Sanavio, E. (1988). Obsessions and compulsions: the Padua Inventory. *Behaviour Research and Therapy, 26*, 169–177.

Samuels, J., & Nestadt, G. (1997). Epidemiology and genetics of obsessive–compulsive disorder. *International Review of Psychiatry, 9*, 61–72.

Shaffer, D., Fisher, P. W., & Lucas, C. P. (1999). Respondent-based interviews. In: D. Shaffer & J. E. Richters (Eds.), *Diagnostic assessment in child and adolescent psychopathology* (pp. 3–33). New York, NY: The Guilford Press.

Shafran, R., Thordarson, D. S., & Rachman, S. (1996). Thought–action fusion in obsessive–compulsive disorder. *Journal of Anxiety Disorders, 10*, 379–391.

Shytle, R. D., & Sheehan, K. H. (2004). *Hoarding Assessment Scale*. Unpublished manuscript.

Sookman, D., Abramowitz, J. S., Calamari, J. E., Wilhelm, S., & McKay, D. (2005). Subtypes of obsessive–compulsive disorder: implications for specialized cognitive behavior therapy. *Behavior Therapy, 36*, 393–400.

Spielberger, C. C. (1983). *State-Trait Anxiety Inventory*. Palo Alto, CA: Consulting Psychologists Press.

Spielberger, C. C. (1988). *State-Trait Anger Expression Inventory, research edition. Professional manual*. Odessa, FL: Psychological Assessment Resources.

Stanley, M. A., Prather, R. C., Beck, J. G., Brown, T. C., Wagner, A. L., & Davis, M. L. (1993). Psychometric analyses of the Leyton Obsessional Inventory in patients with obsessive–compulsive and other anxiety disorders. *Psychological Assessment, 5*, 187–192.

Stansfield, S. A., Roberts, R., & Foot, S. P. (1997). Assessing the validity of the SF-36 general health survey. *Quality of Life Research, 6*, 217–224.

Steer, R. A., & Clark, D. A. (1997). Psychometric characteristics of the Beck Depression Inventory-II with college students. *Measurement and Evaluation in Counseling and Development, 30*, 128–136.

Steer, R. A., Kumar, G., Ranieri, W. F., & Beck, A. T. (1998). Use of the Beck Depression Inventory-II with adolescent psychiatric outpatients. *Journal of Psychopathology and Behavioral Assessment, 20*, 127–137.

Steketee, G., Chambless, D. L., Tran, G. Q., & Worden, H. (1996a). Behavioral Avoidance Test for obsessive compulsive disorder. *Behaviour Research and Therapy, 43*, 73–83.

Steketee, G., Frost, R., & Bogart, K. (1996b). The Yale-Brown Obsessive Compulsive Scale: Interview versus self-report. *Behaviour Research and Therapy, 34*, 675–684.

Storch, E. A., Lack, C., Simmons, L., Murphy, T., & Geffken, G. (2006). *A measure of functional impairment in youth with Tourette's Syndrome*. Unpublished manuscript.

Storch, E. A., Stigge-Kaufman, D., Bagner, D., Merlo, L. J., Shapira, N. A., Geffken, G. R., Murphy, T. K., & Goodman, W. K. (in press). Florida Obsessive-Compulsive Scale: Development, reliability, and validity. *Journal of Clinical Psychology*.

Storch, E. A., Merlo, L. J., Larson, M. J., Fernandez, M., Jacob, M. L., Geffken, G. R., et al. (in press). Family accommodation in pediatric obsessive–compulsive disorder. *Journal of Clinical Child and Adolescent Psychology*.

Storch, E. A., Roberti, J. W., & Roth, D. A. (2004). Factor structure, concurrent validity, and internal consistency of the Beck Depression Inventory-Second Edition in a sample of college students. *Depression and Anxiety, 19*, 187–189.

Storch, E. A., Shapira, N. A., Dimoulas, E., Geffken, G. R., Murphy, T. K., & Goodman, W. K. (2005). Yale-Brown Obsessive Compulsive Scale: the dimensional structure revisited. *Depression and Anxiety, 22*, 28–35.

Summerfeldt, L. J., Richter, M. A., Antony, M. M., & Swinson, R. P. (1999). Symptom structure in obsessive–compulsive disorder: a confirmatory factor-analytic study. *Behaviour Research and Therapy, 37*, 297–311.

Summerfeldt, L. J., & Antony, M. M. (2002). Structured and semi-structured diagnostic interviews. In: M. M. Antony & D. H. Barlow (Eds.), *Handbook of assessment and treatment planning for psychological disorders* (pp. 3–37). New York, NY: The Guilford Press.

Taylor, S. (1995). Assessment of obsessions and compulsions: reliability, validity, and sensitivity to treatment effects. *Clinical Psychology Review, 15*, 261–296.

Taylor, S., Thordarson, & Sochting, I. (2002). Obsessive–Compulsive Disorder. In: M. M. Antony & D. H. Barlow (Eds.), *Handbook of assessment and treatment planning for psychological disorders* (pp. 182–214). New York, NY: The Guilford Press.

Tek, C., Ulug, B., Gursoy, R. B., Tanriverdi, N., Mercan, S., Demir, B., et al. (1995). Yale-Brown Obsessive Compulsive Scale and the

US National Institute of Mental Health Global Obsessive Compulsive Scale in Turkish: reliability and validity. *Acta Psychiatrica Scandinavica, 91*, 410–413.

Thordarson, D. S., Radomsky, A. S., Rachman, S., Shafran, R., Sawchuk, C. N., & Hakstian, A. R. (2004). The Vancouver Obsessional Compulsive Inventory. *Behaviour Research and Therapy, 42*, 1289–1314.

Ware, J. E., Kosinski, M., & Dewey, J. E. (2000). *How to score version 2 of the SF-36 Health Survey.* Lincoln, RI: QualityMetric Incorporated.

Warren, W. L. (1994). *Revised Hamilton Rating Scale for depression* Mental measurements yearbook, (13th Ed.). Los Angeles, CA: Western Psychological Services.

Watson, D., & Wu, K. D. (2005). Development and validation of the Schedule of compulsions, obsessions, and pathological impulses (SCOPI). *Assessment, 12*, 50–65.

Weathers, F. W., Litz, B. T., Herman, D. S., Huska, J. A., & Keane, T. M. (1991). *The PTSD Checklist—civilian version (PCLC).* Boston: National Center for PTSD Boston Veteran's Affairs Medical Center NCPTSD FW Weathers.

Woody, S. R., Steketee, G., & Chambless, D. L. (1995). The usefulness of the obsessive–compulsive scale of the Symptom Checklist-90-Revised. *Behavioral Research Therapy, 33*, 607–611.

Zuckerman, M., & Link, K. (1968). Construct validity for the sensation-seeking scale. *Journal of Consulting Clinical Psychology, 32*, 420–426.