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Validation of the Yale-Brown Obsessive-Compulsive Severity Scale in African Americans with obsessive-compulsive disorder

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ABSTRACT

The Yale-Brown Obsessive Compulsive Scale (Y-BOCS) is widely used in the assessment of obsessive-compulsive disorder (OCD), but the psychometric properties of the instrument have not been examined in African Americans with OCD. Therefore, the purpose of this study is to explore the properties of the Y-BOCS severity scale in this population. Participants were 75 African American adults with a lifetime diagnosis of OCD. They completed the Y-BOCS, the Beck Anxiety Inventory (BAI), the Beck Depression Inventory-II (BDI-II), and the Multigroup Ethnic Identity Measure (MEIM). Evaluators rated OCD severity using the Clinical Global Impression Scale (CGI) and their global assessment of functioning (GAF). The Y-BOCS was significantly correlated with both the CGI and GAF, indicating convergent validity. It also demonstrated good internal consistency (α=0.83) and divergent validity when compared to the BAI and BDI-II. Confirmatory factor analyses tested five previously reported models and supported a three-factor solution, although no model exhibited excellent fit. An exploratory factor analysis was conducted, supporting a three-factor solution. A linear regression was conducted, predicting CGI from the three factors of the Y-BOCS and the MEIM, and the model was significant. The Y-BOCS appears to be a valid measure for African American populations.

1. Introduction

1.1. Assessment of OCD in African Americans

Obsessive-compulsive disorder (OCD) is a highly disabling and distressing disorder, which has made it one of the leading causes of disability worldwide (Lopez and Murray, 1998). OCD is characterized by the experience of distressing obsessions (e.g., thoughts of contamination, symmetry, illness) and continuous compulsions (e.g., checking, hoarding, and ordering) as a way to avoid, assuage, or decrease the distress occasioned by the obsessions. OCD afflicts an estimated 1.6% of the American population, causing significant and pervasive impairment in multiple domains, including home life, work, and relationships (Himle et al., 2008; Ruscio et al., 2010). In fact, a few decades ago, OCD-related costs had already been estimated at over $8 billion dollars annually in the US (DuPont et al., 1995). Therefore, ongoing research to improve our understanding of the disorder is an important public health challenge.

There has been increasing interest in understanding OCD cross-culturally. The phenomenology of the disorder has been found to differ across ethnic and racial groups (Williams and Steever, in press). Examples of this include differences in the types of obsessions and compulsions reported by African Americans with an OCD diagnosis, such as increased contamination concerns, especially with respect to animals, and greater fears about being misunderstood by others (Williams et al., 2012b).

Although African Americans appear to experience OCD at equivalent rates as the general population (Zhang and Snowden, 1999; Himle et al., 2008; Ruscio et al., 2010), they are underrepresented in OCD treatment clinics and research studies. For example, a survey of all North American OCD clinical trials from 1995–2008, found that among 2221 participants, only 1.3% were African American (Williams et al., 2010). For each of the 21 studies reviewed in that investigation, *N* for African Americans ranged from zero to a maximum of 5. It is suggested that this shortcoming is due, in part, to a failure to identify OCD due to its heterogeneous presentation, cultural differences in symptom expression, and inadequate recruitment techniques (Friedman et al., 2003; Williams et al., 2012b, 2012c; Williams and Steever, in press).

A related problem could be the use of clinical measures that are not valid for this population. Research has shown that many measures of OCD lack validity in non-clinical samples of African

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Americans, which makes all measures of OCD suspect for this group until shown otherwise (Thomas et al., 2000; Ritsher et al., 2002; Williams et al., 2005; Williams and Turkheimer, 2007; Williams et al., 2008). Therefore, it is vitally important that all measures of OCD be reliable and valid when assessing symptoms of OCD in African Americans.

1.2. Factor structure of the Y-BOCS in OCD patients

One assessment tool used to assess OCD severity is the Yale-Brown Obsessive Compulsive Scale (Y-BOCS; Goodman et al., 1989a, 1989b), which is considered the gold standard in assessing OCD. The Y-BOCS severity scale has good psychometric properties and is one of the most widely used instruments in OCD research. The original structure proposed by Goodman et al., included two subscales, obsessions and compulsions. Each subscale represents an important factor adding to the totality of an individuals' OCD severity. Several studies have explored the factor structure of the Y-BOCS severity scale to determine how consistent these factors hold across different samples. However, results have shown relatively inconsistent factor solutions, with some studies supporting a one-factor solution (Fals-Stewart, 1992), others supporting different two-factor solutions (Amir et al., 1997; McKay et al., 1998; Deacon and Abramowitz, 2005; Storch et al., 2005), and others supporting a three-factor solution (Moritz et al., 2002).

Regarding the aforementioned models, Fals-Stewart (1992) conducted a study examining the psychometric properties of the Y-BOCS ($N=193$). A principal axis factor analysis revealed a single dimension that corresponded to overall impairment resulting from OCD, thus the author cautioned against conceptualizing the Y-BOCS as having separate subscales representing obsessions and compulsions. However, McKay et al. (1995) conducted a confirmatory factor analysis (CFA) with a sample of 83 OCD patients to determine if a one-factor or a two-factor solution would result. A two-factor solution exhibited best fit, presenting two separate subscales of compulsions and obsessions, as originally postulated by Goodman et al. Furthermore, Amir et al. (1997) conducted a study with a larger sample ($N=404$), divided in half, to confirm the fit of models across different groups, to test a one-factor model, the two-factor model proposed by McKay et al., and a new two-factor model. After testing all models by means of CFAs, results showed that the one-factor model only fit one group, the McKay model did not fit any group, and the third model, which describes two factors focused on the disturbance caused by the OCD and symptom severity, had excellent fits across both samples. The authors noted, however, that focusing on a patient's functioning and the severity of symptoms was more important than dividing severity by obsessions and compulsions.

Moritz et al. (2002) conducted an exploratory factor analysis (EFA) in a sample of 109 OCD subjects. Their results supported a three-factor solution examining severity of obsessions, severity of compulsion, and control/resistance over obsessions/compulsions. The factor structure of the Y-BOCS was maintained after a cognitive-behavioral intervention. Finally, Deacon and Abramowitz (2005) conducted a study in which they compared the factor solutions described in previous studies. A series of CFAs failed to support previously demonstrated factor structures; a follow-up EFA yielded a new two-factor model including two subscales described as “Severity,” comprised of time, interference and distress related to obsession/compulsions, and “Resistance/Control”, comprised of resistance and control of OCD symptoms. However, the authors explained that following previous research, the items contained in the resistance/control subscale were not significant contributors to the global assessment of OCD severity. This indicated the possibility that these items had poor validity, and their values may be ambiguous in presenting a view of an individual's OCD severity. Overall, there was concern over not being able to determine if high scores on this subscale represent distress over involvement in resistance/control or lack thereof.

1.3. Properties of the Y-BOCS in African Americans

Only two studies have examined the psychometric properties of the Y-BOCS in African Americans, utilizing samples of undergraduates and community participants (Washington et al., 2008; Garnaat and Norton, 2010). Both of these studies used the self-report version of the Y-BOCS. Washington et al. (2008) found that a one-factor solution best characterized the structure of the Y-BOCS in the African American sample. However, the non-clinical undergraduate sample, even though it was very diverse, may be more homogenous than a clinical community sample. Further, Garnaat and Norton (2010) explored the factor structure of the Y-BOCS among four different ethnic groups and concluded that comparisons between African American and European American participants might not be appropriate for the Obsessions subscale. Results showed that the Y-BOCS may underestimate obsessions in African Americans who endorse low to average levels of obsessions. No specific statistics were conducted for models using only African Americans in this study.

To date, no studies have explored the properties of the Y-BOCS severity scale in African Americans who have been diagnosed with OCD. Therefore, the purpose of this study is to examine the psychometric properties of the Y-BOCS severity scale in a well-characterized sample of African Americans diagnosed with the disorder. We hypothesize that the factor structure will match the findings from the non-clinical sample of African Americans described in Washington et al. (2008). Further, we will explore the validity of previous factor solutions found in the literature in this sample and determine whether additional psychometric exploration is needed.

1.4. Ethnic identity and OCD severity

In non-clinical samples, racial differences explained the over endorsement of contamination concerns in African Americans (Williams and Turkheimer, 2007), thus it is possible that ethnicity may be a factor in the current study. It would be incorrect to assume that such differences are caused by biological differences or an abstraction called “race” (Helms et al., 2005). Ultimately, differences are caused by some psychological or cultural variable associated with race (e.g., Williams and Turkheimer, 2007). Race and ethnicity can be problematic variables in research, as terms may have different meanings in different situations. In the US, where this study was conducted, African American (Black) and European American (White) racial groups are also synonymous with those corresponding ethnic and cultural groups.

A secondary interest of this study is to examine the relationship between ethnic identity and OCD severity in this population. Ethnic identity can be thought of as a sense of commitment and belonging to an ethnic group, positive feelings about the group, and behaviors that indicate involvement with the ethnic group (Phinney, 1992; Roberts et al., 1999; Avery et al., 2007). Ethnic identity is generally stronger and more salient among African Americans and other ethnic minorities than among European Americans, who tend to view Whiteness as normative (Phinney, 1992; Roberts et al., 1999; McDermott and Samson, 2005).

Previous studies have found that ethnic identity is negatively correlated to psychopathology severity among African Americans (Walker et al., 2008; Yip et al., 2006; Williams et al., 2012a). In their comprehensive review of anxiety psychopathology in African Americans, Hunter and Schmidt (2010) advance that ethnic identity may be a protective factor, buffering individuals from the negative