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Symptom Dimensions in Two Samples of Africans Americans with Obsessive-Compulsive Disorder

M. T. Williams^a, J. Elstein^b, E. Buckner^c, J. Abelson^d, and J. Himle^d

^aUniversity of Louisville, Center for Mental Health Disparities, Department of Psychological & Brain Sciences, Louisville, KY 40292, USA

^bUniversity of Pennsylvania, Department of Psychology, Philadelphia, PA, 19104, USA

^cLoyola University New Orleans, Department of Counseling, New Orleans, LA 70118, USA

^dUniversity of Michigan, School of Social Work, Ann Arbor, MI 48109, USA

Abstract

Obsessive-compulsive disorder (OCD) is a leading cause of disability worldwide, however, there is a lack of research that includes African Americans, thus it is unclear whether findings about symptom dimensions can be generalized to this population. A sample of adult African Americans with OCD (N=74) was recruited at the University of Pennsylvania (Penn) and administered the Yale Brown Obsessive-Compulsive checklist (YBOCS) to better understand the phenomenology of OCD in African Americans. Frequencies of symptoms are reported and compared to findings from the National Survey of American Life (NSAL; N=54). A principal components analysis of YBOCS categories and items was performed on the Penn sample. A six-component solution was found, that included Contamination & Washing, Hoarding, Sexual Obsessions & Reassurance, Aggression & Mental Compulsions, Symmetry & Perfectionism, and Doubt & Checking, explaining 59.1% of the variance. Factors identified were similar to those of previous studies in primarily white samples. African Americans with OCD reported more contamination symptoms and were twice as likely to report excessive concerns with animals as European Americans with OCD. The results indicate the presence of cultural differences, which is consistent with findings among non-clinical samples. Implications of these findings are discussed.

Keywords

African Americans; obsessive-compulsive disorder; factor analysis; assessment; symptom dimensions; ethnic differences

1. Introduction

Obsessive-compulsive disorder (OCD) is a severe and disabling disorder consisting of intrusive obsessions and repetitive compulsions. Although many with OCD worry about cleanliness, symmetry, arranging, and perfectionism, OCD is a multi-faceted disorder that

Corresponding Author: Monnica Williams, Ph.D., Center for Mental Health Disparities, University of Louisville, Psychological & Brain Sciences, 2301 South Third Street, Louisville, KY 40292, m.williams@louisville.edu, Phone (502) 852-2521, Fax (502) 852-8904.

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can manifest itself in a variety of symptom dimensions, including unacceptable thoughts, ruminations about morality, and hoarding (Ruscio, Stein, Chiu, & Kessler, 2010).

It is important that ethnicity be taken into account when conducting psychopathology research, as cultural practices and beliefs can have profound effects on the prevalence and manifestation of a disorder. Little is known about African Americans with OCD, however research suggests some critical cultural variation. One study uncovered differences between ethnic groups on the Padua Inventory for OCD (Sanavio, 1988); four checking items and two mental control items were more common in African Americans, and African Americans reported more cleaning behaviors than European Americans in a non-clinical sample (Williams et al., 2005). It has been suggested that contamination fear is the most common obsession in African Americans with OCD (Lewis-Hall, 1994). However, this does not mean the differences are *caused* by race, rather it could be related to some other variable associated with race, such as cultural beliefs, practices, or shared experiences (Helms et al., 2005). One explanation is that black-white differences in contamination fears reflect differences in cultural norms regarding cleaning behaviors rather than actual clinical differences in OCD symptoms (Williams & Turkheimer, 2007). It has also been suggested that African Americans may report increased cleaning behaviors to create a positive image and counter negative stereotypes (Williams et al., 2008).

The original Yale-Brown Obsessive Compulsive Checklist (YBOCS; Goodman et al., 1989) includes over fifty obsessions and compulsions that account for the majority of clinically observed OCD symptoms in Europeans and European Americans. Obsessions and compulsions are separated into fifteen separate categories; however, research studies usually focus on thirteen categories, thereby excluding the two categories comprised of miscellaneous obsessions and compulsions. To identify cohesive symptom dimensions, researchers, starting with Baer (1994), have performed factor analytic studies using the YBOCS categories and items. There has been some variability as to just how many symptom dimensions exist within OCD. Baer's principal components analysis (PCA) yielded three factors, however, numerous later studies found either four or five-factor solutions (Bloch et al., 2008). One reason for variability in the number of components across studies is that Harming/Checking and Sexual/Religious clusters sometimes formed a unique factor and sometimes form separate factors (*e.g.*, Denys, de Geus, van Meegen, & Westenberg, 2004). Pinto et al. (2007) suggested that category of aggressive obsessions be separated into two distinct types of obsessions: Taboo Thoughts (including impulsive aggressive, religious, and sexual fears), and Doubt (fear of accidentally causing harm or making a mistake). Pinto et al. found a five-factor solution, in which the final factors were termed Contamination/Cleaning, Hoarding, Symmetry/Ordering, Taboo Thoughts, and Doubt/Checking.

The categories in the YBOCS are based on clinical consensus and are not empirically derived. Feinstein, Fallon, Petkova, and Leibowitz (2003) were the first to attempt a factor analytic study on individual YBOCS items. However, the study suffered from some limitations, such as low subject to item ratio, so its findings should be viewed with caution. Pinto et al. (2008) also conducted an item-by-item analysis with a larger sample (N=485) and arrived at a five-factor solution similar to others conducted using YBOCS categories (*i.e.*, Abramowitz et al., 2003; Pinto et al., 2007). Williams et al. (2011) expanded on this work by including mental compulsions and reassurance seeking, which are two common categories not typically included in factor analytic studies. These compulsions were found to fit into the symptom dimension typically associated with sexual, religious, and aggressive obsessions.

There may be cross-cultural differences in obsessive and compulsive symptoms that have yet to be identified (Guarnaccia, 1997; Hatch et al., 1996). Cross-cultural research has found differences in obsessional content and compulsions in studies done internationally (*i.e.*, Lemelson, 1994), but no such studies have been conducted with ethnic minorities in the U.S. (Hatch et al., 1996; Williams et al., 2010). There is no published research to date on symptom dimensions in African Americans diagnosed with OCD, as all previous studies of this group have been conducted with non-clinical samples, and none have utilized the YBOCS symptom checklist.

It is important to accurately understand symptom differences in African Americans because patients who do not meet the most common presentations (*i.e.*, excessive washing and overt repetitive checking) may not be quickly identified by medical professionals. African Americans are consistently overdiagnosed with psychotic disorders and more likely to be hospitalized, even after controlling for severity of symptoms and SES (Snowden, Hastings, & Alvidrez, 2009). Given the bias toward a psychotic diagnosis for this group, it is possible that African Americans with the most severe OCD, especially those with unusual obsessions or compulsions, may be misdiagnosed as psychotic (Hollander & Cohen, 1994; Ninan & Shelton, 1993). Effective treatments for OCD are typically different than those for psychotic disorders. Thus, it is critical that clinicians have a good understanding of OCD symptomology when assessing and treating patients in this ethnoracial group.

To better understand the phenomenology of OCD in African Americans, we conducted an assessment study of this group using a sample from the Philadelphia area (Williams, Proetto, Casiano, & Franklin, 2012), and we also examined symptoms reported by participants in the National Survey of American Life (NSAL) epidemiological study (Heeringa et al., 2004). Data from these two samples provides a unique opportunity to better understand the symptoms of OCD from both a clinically diagnosed sample and a representative national sample. The clinical sample provides the first data ever reported on the details of OCD symptoms in African Americans. The NSAL sample provides symptom information from the first representative sample of African Americans with OCD. Although the NSAL dataset provides fewer specific details about OCD symptoms, we are able to make some broad comparisons to aid us in understanding this disorder in African American nationally.

Results are difficult to predict since little research has been done, but some hypotheses can be drawn. For example, since previous studies in non-clinical samples suggest that African Americans over-endorse contamination symptoms (*e.g.*, Williams et al., 2005; Williams & Turkheimer, 2007), it is likely that a higher percentage of diagnosed participants will endorse similar items. Also, based on the multitude of four and five-factor solutions to the YBOCS, it is probable that four or five components will be found in our study as well. Based on the frequency of items endorsed and results of the PCA, we can gain insight on the presentation of OCD specifically in African Americans.

2. Methods

2.1. Penn Study

Recruitment took place from 2009-2010 at the University of Pennsylvania (Penn). Trained research assistants screened prospective participants by phone, and those who appeared to have symptoms of OCD were invited to participate in the study. Once selected individuals consented to participate in the study, comprehensive demographic information was collected. Details about the recruitment process and methodology are available elsewhere (Williams et al., 2012).

Of the 83 participants (all African American), 71 had current OCD and 4 had past OCD with subclinical symptoms; one of the participants with current OCD did not complete the YBOCS Checklist, for a total of 74 in this study. Of the 74, 42 were female (56.8%), and 32 were male (43.2%). Their ages ranged from 19 to 64, with an average age of 41.4 years (SD 12.3). In terms of work status, 39.2% were employed full-time or part-time, and the mean household income was \$20,000-\$39,999 annually.

The Structured Clinical Interview for DSM Disorders, or SCID (SCID; First et al., 1997), was administered by trained professionals to all participants. The SCID is a thorough examination that assesses for Axis I disorders in the *DSM-IV-TR*. Participants were also assessed using the YBOCS Checklist and Severity Scale (Goodman et al., 1989). The YBOCS consists of two major dimensions of OCD: obsessions and compulsions. As previously described, obsessions are broken down into several categories, including contamination obsessions, aggressive obsessions, sexual obsessions, somatic obsessions, religious obsessions, hoarding obsessions, obsessions about symmetry/exactness, and miscellaneous obsessions. Compulsions are directly related to the obsessions, because compulsions are normally performed to reduce anxiety caused by obsessions, and include cleaning, checking, repeating, counting, ordering/arranging, hoarding, and miscellaneous compulsions. As in the DSM-IV Field Trial, a version of the YBOCS was used that included additional items designed to assess mental compulsions (Foa et al., 1995). This category included: mental repetition of special words, images, or numbers; repetition of special prayers; mental counting; mental list-making; and mental reviewing.

2.2. NSAL Study

Conducted by the Program for Research on Black Americans, the NSAL is the most in-depth study of mental health disorders in African Americans and other U.S. racial and ethnic minorities ever completed (Heeringa et al., 2004). The goal of this study was to explore inter- and intra-group differences in mental health disorders, symptom dimensions, psychological distress, and informal and formal service use as they are manifested in the context of a variety of stressors, risk and resilience factors, and coping resources. The study drew from three nationally representative adult samples of African Americans, blacks of Caribbean descent, and Non-Hispanic whites. Data were collected from 2001-2003. Details about the methodology of this study are reported elsewhere (Jackson et al., 2004).

Of the 54 African Americans included from the NSAL the study, 21 were male (43.4%) and 33 were female (56.6%). Their ages ranged from 18 to 66, with an average age of 38.3 years (SD 13.6). In terms of work status, 48.3% were employed full-time or part-time, and the mean household income was \$17,200-\$35,100 annually.

The DSM-IV Mental Health Composite International Diagnostic Interview (WMH-CIDI), a semi-structured interview, was used to assess lifetime and current Axis I disorders. The CIDI short-form version (CIDI-SF) Obsessive-Compulsive Disorder diagnostic module was administered rather than the full WMH-CIDI OCD module. A CIDI-SF OCD diagnosis is considered a probable diagnosis, since the section does not fully assess DSM-IV criteria. Specifically, persons with a positive CIDI-SF OCD are estimated to have an 84.2% chance of also being a full CIDI OCD. Only African Americans classified as having a probable OCD diagnosis are included in the current study. Six questions about specific OCD symptoms were posed, which included unpleasant thoughts such as feeling dirty or having germs, fears of harming someone else, repeated washing or checking, doing things in a certain order, compulsive counting, and repeating certain words over and over again.

3. Results

3.1. Frequency of OCD Symptoms

The breakdown of the seventy-four participants' response to specific YBOCS items in the Penn sample is shown in Table 1. 'Never' means that the participant never experienced that symptom of OCD in their lifetime, 'Current' means that the item is currently something the participant is concerned about or compulsively performing, and 'Past' means that the participant once had that obsession or performed that compulsion, but no longer does so. The left column indicates the larger grouping category the symptom was included with for later analysis (described in the next section).

The YBOCS symptoms from the Penn sample can be roughly compared to the frequencies of OCD symptoms reported from the NSAL study, shown in Table 2a. Many questions from the NSAL did not map directly on to YBOCS questions or categories, so the closest approximation is provided in Table 2b. In Table 2b, Obsessions about Contamination are counted for any person reporting a current symptom in the YBOCS Contamination Obsessions category. Harm/Aggression & Sexual Obsessions are counted for any person reporting a current symptom in the YBOCS Aggression or Sexual Obsessions categories. Washing or Checking refers to anyone with a current symptom in the YBOCS Washing or Checking Compulsions categories. Ordering & Arranging refers to anyone with a current symptom of Ordering/Arranging rituals. Counting (Aloud or Mentally) refers to anyone who endorsed either the item about counting rituals or the mental counting item. Mental repetition is based on the item referring to mental repetition of special words, images, or numbers.

3.2. Principal Components Analysis of the Penn Sample

To identify OCD symptom dimensions in African Americans, we conducted a PCA with the Penn sample. Because there were 78 total items on the YBOCS, it was not feasible to include each individual item in the principal components analysis (PCA) due to low subject to item ratio. Instead, items were grouped into several categories. Obsessions were categorized as Impulsive Aggression, Unintentional Harm, Contamination, Sexual, Scrupulosity, Hoarding, Symmetry, and Somatic obsessions. The compulsions were broken down into Cleaning, Checking, Repeating, Counting, Ordering/Arranging, Hoarding, and Mental compulsions.

These categories were chosen based on the categories present in the structure of the YBOCS measure itself, as was done in most previous similar studies (Bloch et al., 2008). The Aggressive Obsessions category, however, was separated into two distinct categories: impulsive aggression, and unintentional harm, based on the findings of Pinto et al. (2007). If "Other aggressive or harm related" obsession was endorsed, it was decided in the coding whether that particular 'other' obsession fell under impulsive aggression or unintentional harm. The complete Miscellaneous obsessions and compulsions categories were not included, but we did examine all miscellaneous items that were endorsed as current symptoms by over 25% of participants. These included the "need to know and remember," the "fear of not saying just the right thing," "the fear of losing things," "excessive list-making," and "urges to ask, tell, confess, or seek reassurance." Each of these items was considered its own category and included in the PCA for a total of 20 items.

Once the categories were determined, the data were coded according to methodology used previously (*e.g.*, Baer, 1994; Mataix-Cols, et al., 1999; Williams et al., 2011). A zero was assigned to a category if a participant had no current symptoms from it, a one was assigned if the participant had one or more current symptoms from that category, and a two was assigned if one of the participants' three primary or target symptoms was in that category.

This three-point system weights the most disabling symptoms more heavily while still including others that are present but not the primary focus of clinical attention.

The PCA was conducted using SPSS version 17.0, with an orthogonal rotation (Varimax). Six components were chosen based on an inspection of the scree plot, which accounted for 59.06% of the variance. Loadings ≥ 0.45 were considered significant. The rotated component matrix identified the six components as Contamination & Washing (which also included somatic and ordering symptoms), Hoarding (also fear of losing something), Sexuality & Reassurance (also need to know/remember and repeating), Aggression & Mental Compulsions (also counting and listmaking), Symmetry & Perfectionism (also ordering and fear of losing something), and Doubt & Checking (unintentional harm and also scrupulosity). Ordering cross-loaded onto Symmetry & Perfectionism and Contamination & Washing. Fear of losing something cross-loaded into Hoarding and Symmetry & Perfectionism. Results of the PCA are shown in Table 3.

Demographic variables (gender, income, education, and age) were correlated to the six components using a two-tailed Pearson's and point-biserial correlations. Gender was significantly correlated to the Symmetry & Perfectionism component, in favor of males ($r = .301, p = .009$). Income was negatively correlated with Contamination & Washing ($r = -.268, p = .029$). The other correlations were not significant.

4. Discussion

Contamination & Washing was one of the more predictable symptom dimensions, as nearly all previous factor analytic studies have identified an identical component (Bloch et al., 2008). The symptom dimension of Hoarding was also expected as it has been typically found in previous studies as well (Bloch et al., 2008), and fear of losing things was understandably associated with hoarding. The dimension described as Symmetry & Perfectionism, too was expected as obsessions with symmetry have consistently grouped with ordering compulsions (Bloch et al., 2008). Fear of being misunderstood, endorsed by almost half of our sample, fell into this group as well. This symptom has not been studied previously, however in the primarily European American sample ($N = 168$) studied by Williams et al. (2011), 41.1% endorsed this item as a current symptom, but only 6.5% reported it as a primary symptom, whereas almost double the African American Penn sample experienced this as a primary symptom. An obsessive need to be perfectly understood could be a unique finding for African Americans related to fears of appearing unintelligent, resulting in *stereotype compensation* – an intentional effort to present one's self in a counter-stereotypical manner (Williams et al., 2008).

The Doubt & Checking symptom dimension is consistent with previous studies in light of the functional relationship between these behaviors once unintentional harm was considered apart from other aggressive obsessions (Pinto et al., 2007, 2008; Williams et al., 2011). Participants with obsessions of causing unintentional harm tended to also have scrupulosity (moral or religious concerns) and most commonly performed checking compulsions in response to their obsessions, although some association to the Sexuality & Reassurance dimension is noted. Most other studies have found scrupulosity grouped with sexual and aggressive obsessions (Bloch et al., 2008), although a focused study by Siev et al. (2011), found that religious obsessions were associated with more than one type of obsessive-compulsive symptom, though they did not test this association with OCD symptom dimensions, per se. It could be that religious and scrupulous obsessions are a part of several symptom dimensions, which would explain why it appears in many different categories across studies (Bloch et al., 2008).

Similar studies have also had a smaller number of dimensions, because in the current study impulsive aggression and sexual obsessions represented separate symptom dimensions instead of a single dimension (*e.g.*, Abramowitz et al, 2003; Williams et al., 2011). Aggressive obsessions included both counting and mental compulsions. It is reasonable for aggressive symptoms to be associated with mental compulsions, as people who fear they will act out aggressively might need to mentally reassure themselves that they will not behave that way. In the few studies that have included mental compulsions in their analyses, they have appeared in the same symptom dimension as aggressive obsessions (Abramowitz et al., 2003; Williams et al., 2011), but it is not clear why aggressive obsessions would group with counting compulsions. Counting has tended to appear with symmetry in prior studies (Bloch et al., 2008) or failed to load at all (*e.g.*, Pinto et al., 2008), although it did group with mental compulsions in one item-level analysis (Katerberg et al., 2010). As counting did not load as strongly into its associated component, it is possible that this difference might be discounted in future studies. However, if these results are replicated, it could be meaningful for African Americans specifically.

Although the need to know is a ubiquitous concern among people with OCD, this was particularly true for those with sexual obsessions. Sexual obsessions were also grouped with repeating compulsions, and reassurance-seeking, which makes sense, as people worried about doing something sexually inappropriate might seek assurance from other sources to convince themselves they would not do anything wrong (Williams et al., 2011). Repeating compulsions usually are included in a symmetry dimension (Bloch et al., 2008), although repeating appeared in symptom dimensions that included symmetry and sexual obsessions in a similar analysis done by Williams et al., (2011). This pattern may be specific to African Americans with sexual obsessions, although the functional relationship between these obsessions and compulsions is not clear.

Both Penn and NSAL reported high proportions of African Americans with contamination obsessions, (76% and 53% respectively), which is greater than contamination symptoms reported in similar primarily European American/non-Hispanic white OCD samples (59% and 26% respectively; Pinto et al., 2008; Ruscio et al., 2010). Specifically, in the Penn sample over a third of African Americans reported symptoms of disgust with bodily waste or secretion and almost half reported concerns with dirt or germs. These results provide support for previous assertions that contamination symptoms are significantly more common in African Americans (Lewis-Hall, 1994). In our Penn sample, lower income participants were significantly more concerned about contamination, lending support to the hypothesis that low SES may be correlated to greater exposure to contaminants, as suggested by Williams, Abramowitz, and Olatunji (2012). However, further investigation of possible cultural and historical factors that may lend to endorsement of such symptoms is needed, especially in light of the legacy of segregation, which was based on the notion that European Americans could become contaminated through close contact or sharing items with African Americans (*e.g.*, Williams & Turkheimer, 2007).

Of note was the number of African American participants in the Penn sample with concerns about animals, which is over double the number reported in Pinto et al.'s (2008) primarily European American research sample (31.1% versus 13.4% respectively). Williams and Turkheimer (2007) studied racial differences in OCD symptoms and found that a non-clinical sample of African Americans scored significantly higher on an animal attitude factor than European Americans, implicating cultural factors for this difference. Perhaps the Western perspective of animals as pets is more socially acceptable among European Americans than other cultures that are more likely to regard animals as a source of food or vehicle for labor. Other cultural differences may relate to the historic practices such as the use of dogs as a means to hunt slaves or attack protesters during the Civil Rights era. As

such, cultural differences are plausible contributing factors for increased animal sensitivity among African Americans with OCD. Recent work suggests that African Americans may experience greater phobias of animals (Chapman et al., 2008), which is consistent with the findings from our Penn sample.

Almost half of the participants in the Penn sample reported hoarding as an obsession, and over a third were compulsive hoarders. In this study, the hoarding dimension included the fear of losing things, which seems appropriately related to hoarding symptoms. It could be hypothesized that African Americans with lower incomes would have more of an incentive to save belongings and less motivation to get rid of things, however this component was not correlated to income. There has been some scientific discourse focused on making hoarding its own disorder, separate from OCD, in the DSM-5 (e.g., Mataix-Cols et al., 2010). Nearly all participants in the current study who endorsed hoarding also had other symptoms of OCD, although this was not a requirement for study inclusion; only one participant endorsed solely hoarding symptoms. The strong relationship between hoarding and other facets of OCD would seem to indicate that hoarding is closely related to OCD, if not a symptom of it. Additional research is clearly needed to examine this issue in more depth, as no studies to date have examined African Americans and hoarding, and a cross-cultural understanding of symptoms is essential in the conceptualization of hoarding disorder as a new diagnostic entity.

The numbers of participants reporting ordering and counting symptoms in both the Penn and NSAL samples were fairly similar to reports from primarily European American samples (i.e., Pinto et al., 2008; Ruscio et al., 2010). However, the fact that half of the OCD sample in the NSAL study reported repeating of words (which is not directly asked on the YBOCS) seems unusually high.

This study had some notable limitations. The NSAL instrument utilized a shortened version of the CIDI OCD module, and thus diagnostic accuracy was reduced. It also differed considerably from the YBOCS as it addressed fewer specific symptoms, making direct comparison difficult. For example, the question about contamination concerns also included “unpleasant thoughts,” so the number of those with contamination concerns may actually be lower. In addition, a PCA was performed on the Penn sample rather than a true factor analysis to remain consistent with previous studies. However, a factor analysis is considered a better method of exploring underlying differences. The lack of prior research on how to categorize the miscellaneous obsessions and compulsions is also a potential limitation to this study. Many studies in the past simply excluded the miscellaneous items, but we chose to analyze the items most frequently endorsed by African Americans by including them as distinct categories. This might make it more difficult to compare this study with PCA studies conducted in the past. Future investigators should consider including these items in their factor analytic studies when they are frequently endorsed.

Studying symptom dimensions in two samples of exclusively African American participants is an important leap forward in OCD research. Knowing how African Americans’ symptoms differ from those of European Americans will aid in the diagnosis and treatment of this population. However, it will be difficult to understand the implications our findings until African Americans are included in treatment outcome studies (Williams, Powers, Yun, & Foa, 2010).

If further research reveals these symptom differences in African Americans are a robust finding, the question of why is still raised. There is some indication that genetics might play a role in OCD symptom expression, therefore it is possible genetic differences between ethnoracial groups that may lead to somewhat different manifestations of OCD (e.g.,

Lochner et al., 2005; Pinto et al., 2008). However, it is more likely that the cause has its roots in cultural differences. For example, according to Hunter and Schmidt's (2010) sociocultural model of anxiety in African Americans, the stigma of mental illness and the salience of somatic symptoms can lead to an over-reporting of physical symptoms of anxiety disorders (including OCD) and an underreporting of cognitive or emotional symptoms. Differing cultural norms, or the desire to counter society's views of African Americans might lead to a difference in behaviors and reporting of behaviors (Williams et al., 2008). Studying attitudes about treatment would also be important to gain insight as to how African Americans approach their own OCD.

5. Conclusion

It is important that the entire population be represented when studying a mental illness as prevalent and devastating as OCD. We find that two samples of African Americans with OCD produce convergent findings, particularly with regards to contamination concerns. Because this is the first study of its kind, it is still to be determined if these results are unique for African Americans or whether they appear in other ethnoracial groups as well. Symptom dimensions of OCD in African Americans certainly cannot be entirely established in a single investigation; however, unanswered questions generated by this study will hopefully spark additional new research.

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Highlights

- One group of African Americans with OCD was assessed with the YBOCS (N=74)
- A second group was assessed via National Survey of American Life (N=54)
- African Americans report higher rates of contamination symptoms than white samples
- A PCA of the YBOCS found a 6-factor solution, explaining 59.1% of the variance
- Symptom dimensions are similar to those found in previous studies

Table 1

Frequencies of OCD Symptoms in the Penn Sample from the YBOCS Checklist

Category Obsessions	YBOCS item	Current (%)	Past (%)	Never (%)
Impulsive Aggression	Fear might harm self	4.1	18.9	77.0
Impulsive Aggression	Fear might harm others	6.8	9.5	63.8
Impulsive Aggression	Violent/horrific mental images	8.1	9.5	81.1
Impulsive Aggression	Blurting obscenities/insults	9.5	2.7	87.8
Impulsive Aggression	Doing something intentionally embarrassing	9.5	4.1	86.5
Impulsive Aggression	Acting on unwanted impulses	6.8	8.1	85.1
Impulsive Aggression	Fear will steal things	4.1	14.9	81.1
Unintentional Harm	Harm others if not careful enough	21.6	8.1	70.3
Unintentional Harm	Being responsible something bad happen	32.4	5.4	62.2
Unintentional Harm/Impulsive Aggression	Other aggressive or harm related obsessions	8.1	0.0	90.5
Contamination	Disgust with bodily waste/secretion	36.5	1.4	62.2
Contamination	Concern with dirt or germs	48.6	6.8	44.6
Contamination	Concern with environmental contaminants	17.6	1.4	81.1
Contamination	Excessive concern with household items	23.0	0.0	77.0
Contamination	Excessive concern with animals	31.1	1.4	67.6
Contamination	Concern with sticky substance/residues	33.8	1.4	64.9
Contamination	Will get ill because of contaminant	41.9	2.7	55.4
Contamination	Will get others ill by spreading contaminant	9.5	1.4	87.8
Contamination	Concern about how contamination feels	18.9	0.0	79.7
Contamination	Other contamination obsession	5.4	0.0	91.9
Sexual	Intrusive sexual thoughts, images, impulses	12.2	5.4	82.4
Sexual	Obsessions involving children/incest	5.4	4.1	89.2
Sexual	Obsessions involving homosexuality	9.5	1.4	89.2
Sexual	Aggressive sexual obsessions	2.7	2.7	94.6
Sexual	Other sexual obsessions	4.1	0.0	95.9
Hoarding	Hoarding and saving obsessions	47.3	10.8	41.9
Scrupulosity	Concerns with sacrilege/blasphemy	20.3	2.7	77.0
Scrupulosity	Excessive concerns with morality	27.0	2.7	70.3
Scrupulosity	Other scrupulosity/religious	1.4	1.4	97.3
Symmetry	Symmetry/exactness w/ magical thinking	6.8	1.4	91.5
Symmetry	Symmetry/exactness w/out magical thinking	45.9	2.7	48.6
Know or Remember	Need to know or remember	37.8	1.4	60.8
Miscellaneous	Fear of saying certain things	21.6	2.7	74.3
Misunderstood	Not saying just right thing/being misunderstood	47.3	5.4	47.3
Losing Something	Fear of losing things	43.2	4.1	52.7
Miscellaneous	Nonviolent images	6.8	2.7	90.5
Miscellaneous	Nonsense sounds/noises	10.8	2.7	86.5
Miscellaneous	Bothered by sounds/noises	27.0	1.4	71.6
Miscellaneous	Lucky/unlucky numbers	14.9	1.4	83.8

Category	YBOCS item	Current (%)	Past (%)	Never (%)
Obsessions				
Miscellaneous	Special colors	5.4	1.4	93.2
Miscellaneous	Superstitious fears	12.2	6.8	79.7
Miscellaneous	Other miscellaneous obsessions	9.5	0.0	86.5
Somatic	Concern with already having an illness/disease	12.2	1.4	86.5
Somatic	Concern with appearance of body part	12.2	1.4	85.1
Somatic	Other somatic concerns	2.7	0.0	97.3
Compulsions				
Washing	Excessive hand washing	43.2	5.4	51.4
Washing	Ritualized showering, bathing, grooming	35.1	1.4	63.5
Washing	Cleaning household/inanimate items	44.6	2.7	52.7
Washing	Measure to prevent contact with contaminants	25.7	1.4	73.0
Washing	Other contamination ritual	4.1	1.4	94.6
Checking	Checking locks, stove, other appliances	55.4	4.1	39.2
Checking	Checking did not/will not harm others	5.4	4.1	89.2
Checking	Checking did not/will not harm self	9.5	0.0	89.2
Checking	Checking nothing terrible did/will happen	5.4	2.7	89.2
Checking	Checking did not make mistake	40.5	1.4	56.8
Checking	Checking tied to somatic obsession	8.1	0.0	89.2
Checking	Other checking	6.8	0.0	91.9
Repeating	Rewriting/rereading	40.5	1.4	56.8
Repeating	Repeating routine activities	6.8	2.7	89.2
Repeating	Other repeating rituals	2.7	0.0	89.2
Counting	Counting rituals	18.9	4.1	75.7
Ordering	Ordering/arranging rituals	41.9	1.4	54.1
Hoarding	Hoarding/collecting compulsions	39.2	6.8	54.1
Mental	Special words, images, numbers, repeated mentally	9.5	0.0	89.2
Mental	Special prayers repeated in set matter	14.9	2.7	82.4
Mental	Mental counting	24.3	6.8	66.2
Mental	Mental listmaking	31.1	0.0	66.9
Mental	Mental reviewing	33.8	2.7	63.5
Listmaking	Excessive listmaking, written or aloud	29.7	2.7	67.6
Reassurance	Urge to tell, ask, confess, seek reassurance	28.4	2.7	68.9
Miscellaneous	Urge to touch, tap, rub	16.2	1.4	82.4
Miscellaneous	Rituals involving blinking/staring	9.5	0.0	90.5
Miscellaneous	Any measure (not checking) to prevent harm/bad	5.4	2.7	91.9
Miscellaneous	Ritualized eating behaviors	13.5	2.7	81.1
Miscellaneous	Superstitious behaviors	5.4	2.7	91.9
Miscellaneous	Hair pulling	4.1	5.4	89.2
Miscellaneous	Self-damaging behaviors	13.5	6.8	78.4
Miscellaneous	Other miscellaneous	4.1	0.0	94.6

N=74. YBOCS=Yale-Brown Obsessive Compulsive Scale, checklist items.

Category represents the larger grouping used for the individual symptoms listed in the second column. Current means the symptom was endorsed as being an existing area of concern. Past means the symptom existed previously, but not currently. Never means the symptom was never present. Participants were able to select as many symptoms as necessary.

Table 2

a: OCD Symptom Dimensions for African Americans from the National Survey of American Life – Lifetime Rates

NSAL Sample	Percentage	(SE)	N
Obsessions			
Unpleasant Thoughts (Dirt, Germs)	61.6%	(7.4%)	35
Fear of Harm/Shameful Unpleasant Persistent Thoughts	75.9%	(4.7%)	41
Compulsions			
Washing or Checking	66.3%	(5.4%)	37
Procedural Order	50.6%	(7.1%)	26
Counting	31.3%	(4.2%)	17
Repeating Words	51.1%	(5.3%)	29

b: Major Symptom Groups in the Penn Sample Organized into the NSAL Categories –Lifetime Rates

Penn Sample	Percentage	SE	N
Obsessions			
Obsessions about Contamination	71.6%	.053	53
Harm/Aggression, Sexual Obsessions	56.8%	.058	42
Compulsions			
Washing or Checking	82.4%	.045	61
Ordering & Arranging	43.2%	.058	32
Counting (Aloud or Mentally)	33.8%	.055	25
Mental Repetition of Special Words, Images, Numbers	9.5%	.034	7

Table 3

Six Component Principal Components Analysis Solution

YBOCS Category/Item	Primary Symptom	Component						Doubt & Checking
		Contamination & Washing	Hoarding	Sexuality & Reassurance	Aggression & Mental	Symmetry & Perfectionism		
Obsession: Contamination	56.8%	.813	-.080	-.030	.050	.115	-.142	
Compulsion: Washing	51.4%	.801	-.032	-.023	-.020	.195	.039	
Obsession: Somatic	8.1%	.483	.225	-.079	.410	-.140	.188	
Obsession: Hoarding	32.4%	.078	.833	.250	.113	-.072	-.138	
Compulsion: Hoarding	33.8%	-.102	.806	.088	.147	.135	.016	
Obsession: Losing Something	12.2%	.049	.521	-.011	.052	.451	.315	
Obsession: Know or Remember	14.9%	.046	.093	.753	.090	-.146	-.279	
Compulsion: Reassurance	6.8%	-.178	.008	.624	-.016	.031	.272	
Compulsion: Repeating	13.5%	.093	.231	.587	.063	.109	.080	
Obsession: Sexual	10.8%	-.172	-.079	.446	.391	-.037	.336	
Obsession: Impulsive Aggression	8.1%	.031	.100	-.020	.778	.125	.055	
Compulsion: Listmaking	10.8%	.015	.297	.117	.536	-.005	-.016	
Compulsion: Mental	24.3%	-.427	-.040	.338	.481	.203	-.259	
Compulsion: Counting	8.1%	.173	-.358	.211	.453	.181	-.171	
Obsession: Symmetry	25.7%	.385	.082	.087	.044	.702	.175	
Obsession: Misunderstood	12.2%	-.080	.080	-.114	.203	.698	.031	
Compulsion: Ordering	29.7%	.530	-.136	.172	-.146	.620	.058	
Obsession: Unintentional Harm	20.3%	-.195	-.079	-.024	-.047	-.016	.786	
Obsession: Scrupulosity	9.5%	.325	.079	.433	.162	-.006	.491	
Compulsion: Checking	44.6%	.339	.105	.127	-.010	.008	.474	

YBOCS = Yale-Brown Obsessive-Compulsive Scale. Primary Symptom = Evaluators identified up to three obsessions and three compulsions that were of primary clinical concern for each participant.