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ORIGINAL PAPER

Public Recognition and Perceptions of Obsessive Compulsive Disorder

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Abstract
Previous research has indicated that the public's knowledge on obsessive compulsive disorder (OCD) is poor. Public understanding and perception of OCD may be one contributor to this issue. Given that mental health literacy is an important first step for those to receive the appropriate care, we sought to understand more about the public's awareness and perceptions of OCD. Data regarding knowledge of OCD were collected through a New York statewide telephone survey (N = 806). Results indicated that those who had never heard of OCD were more likely to be ethnic minorities, have a lower income, and less education. Most participants described OCD either in terms of compulsions or in terms of perfectionism. Almost half (46.5%) of participants did not think there is a difference between someone with OCD and someone who is obsessive–compulsive. These findings are consistent with previous literature regarding race and treatment seeking behaviors.

Keywords Obsessive compulsive disorder · Mental health literacy · Obsessive compulsive personality disorder

Obsessive compulsive disorder (OCD) is a serious and costly mental health problem, as well as a leading cause of disability in industrialized countries worldwide (World Health Organization 1992). OCD is characterized by obsessions, which are persisting intrusive thoughts, and compulsions, which are corresponding behaviors aimed to alleviate distress associated with the thoughts. For example, common obsessions include thoughts of contamination and pathological doubt, while common compulsions include washing and counting (Pinto et al. 2006). Although many individuals engage in some of these behaviors, with OCD, these behaviors become excessive and impairing to daily functioning (Murray and Lopez 1996). In addition, epidemiological studies report that 2.3% of adults have a lifetime OCD diagnosis (Ruscio et al. 2008), which is a much greater rate than previously assumed. Despite the significant negative impairment in work, social, and family functioning (Coles et al. 2013), it takes on average 7.5 years for those with OCD who do seek treatment to receive services (Himle et al. 2008).

Research in service utilization indicates that many individuals living with OCD do not seek treatment for the disorder (Johnson and Coles 2013; Shapiro 1984). Separate studies have found low rates, with estimates that only 25% of those with OCD receive adequate treatment in the United States (Hantouche et al. 1995), and rates have been found to be even lower in Britain with only 14% in treatment (Torres et al. 2007). It is plausible that individuals are unaware that their obsessive–compulsive tendencies are indicators of a diagnosable mental disorder until the symptoms are severe, as a positive association has been found between seeking treatment and obsessive–compulsive symptoms (Mayerovitch et al. 2003). In other words, individuals with more severe symptoms that have a greater impact on daily functioning are also more likely to seek assistance.

A possible contributor to the delay and lack of service utilization is that the public has poor knowledge about mental health broadly (Angermeyer and Dietrich 2006; Furnham and Buck 2003), including those with OCD. For example, in a study examining mental health literacy for OCD, the researchers found that only 33% of respondents correctly identified symptoms in a vignette as OCD, but 72.3% identified the problems to be related to mental illness (Coles et al. 2013). In a similar vignettes study with adolescents, results showed that 84.3% of participating adolescents correctly identified the ordering symptoms as OCD, but only 23.5% correctly identified the aggressive intrusions as OCD (Garcia-Soriano and Roncero 2017). More adolescents viewed the individual in the aggression-OCD vignette as having

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schizophrenia or depression, indicating that the participants did not know the various dimensions of OCD. These findings, along with others (Furnham et al. 2011), indicate that many individuals can recognize when someone is experiencing mental health difficulties, but have difficulty naming the specific disorder, in this case OCD. The inability to identify OCD symptoms may contribute to the lack or delay of treatment.

Research on the demographic factors of those who are more likely to engage in treatment seeking behaviors are mixed. One study found that older, European-American females were more likely to seek treatment (Williams et al. 2012) whereas another found that, unmarried, younger individuals were more likely (Cullen et al. 2008). Race is also an important demographic variable to consider in relation to treatment seeking-behavior. Previous studies have noted that recruitment of ethnic minorities into OCD research and clinical studies have often been unsuccessful, and African Americans have often been underrepresented (Coles et al. 2013; Himle et al. 2008; Williams et al. 2010). In a review of almost two dozen clinical trials regarding OCD treatment, only 5.4% of participants were ethnic minorities (Williams et al. 2010), suggesting that ethnic minorities may be less likely to seek and attend treatment. When examining differences in knowledge and beliefs about OCD between four ethnic groups: White British, Black African, Black Caribbean, and Indian; Fernández de la Cruz et al. (2016) found that White British parents had a significantly better understanding of OCD than Black African and Indian parents. Also, compared to ethnic minority parents, White British parents believed OCD would have a greater negative impact on their children and that treatment could be helpful (Fernández de la Cruz et al. 2016).

One factor influencing the delay to seek treatment is to what extent that individual views his/her own symptoms as an exaggeration of 'normal' behavior (Furnham and Buck 2003). Specifically, one such issue is whether they are perceived as part of one's personality or part of an illness. Traditionally, obsessive compulsive personality disorder (OCPD; APA 2013) symptoms, such as orderliness, are valued within society, but other OCPD symptoms, such as refusing to delegate and being miserly, can annoy others. Even orderliness and perfectionism, two characteristics of people with OCPD, can cause problems when too extreme (Costa and McCrae 2008). Additionally, describing someone as 'obsessive–compulsive' can allude to symptoms of OCPD. A focus on symmetry and incompleteness may be shared features between OCD and OCPD. The obsessions and compulsions associated with an OCD diagnosis may be viewed more negatively in terms of distress than OCPD symptoms (Koutoufa and Furnham 2014a, b). This may be due to a lack of mental health literacy regarding OCPD and a perceived notion that symptoms of OCPD are beneficial, particularly in work environments. For instance, the OCPD trait over-attention to detail exists on a spectrum, and could be downplayed so the individual would be considered very observant, or it could be interpreted in a more extreme manner, that the individual is "obsessive" with minute details. The names of OCD and OCPD can inherently lead to confusions, as the only distinguishing term is "personality". Naming and labels associated with mental disorders has important implications for public understanding and perception of the illness (Martin et al. 2000). The similarity between OCD and OCPD has often led to incorrect diagnoses, and there appear to be mixed results on whether OCD symptoms as a child can lead to adult OCPD or vice versa, indicating that the two disorders may co-occur (Mancebo et al. 2005). Both psychiatric disorders are fairly common, with lifetime OCD rates ranging from 1.5 to 3%. One study found a 7.8% OCPD community prevalence rate, which would make it the most common personality disorder in the United States (APA 2013; Grant et al. 2012).

Given that mental health literacy is an important first step towards receiving appropriate care, we sought to understand more about the public's awareness and perceptions of OCD. We attempt to replicate previous studies and extend the methodology by using a free response format in our survey, in which we inquired New York State residents about their demographic information and what they thought "obsessive–compulsive" meant and how that may differ from OCD. In line with previous research, we hypothesized that ethnic minority, less educated, and low-income individuals would have less recognition of OCD and its associated symptoms, along with greater difficulty describing OCD and distinguishing it from someone is "obsessive–compulsive."

Methods

Participants

Data were collected from 806 adults with a mean age of 48.69 (SD = 17.63) and range from 18 to 93. Almost half (47%) of participants were male. Table 1 provides demographic information regarding race, income, and education.

Procedure

The survey was conducted via phone by The Stony Brook University Center for Survey Research. Phone numbers were obtained using a list-assisted method of random-digit-dialing. To increase the representativeness of the sample, population weights were created based on estimates for six demographic variables drawn from the 2010 US Census American Community Survey (sex, education, race, region, income, and age). Participants over 18 and with the nearest birthday

Table 1 Participant demographics

Demographics	Percentages	*n*
Race		
White	67.4	543
Black/African American	16.8	136
Hispanic/Latino	3.9	32
Asian	0.4	3
Pacific Islander	2.1	17
Native American or Alaskan Native	4.5	36
Don't know	2.6	21
Refused	2.5	20
Income		
< $20,000	24.2	195
$20,000–$34,999	11.6	94
$35,000–$59,999	16.0	129
$60,000–$79,999	11.5	92
$80,000–$99,999	10.8	87
$100,000–$119,000	11.3	91
$120,000–$149,999	1.9	15
≥ $150,000	3.8	31
Don't know	1.9	15
Refused	7.2	58
Education		
< High school graduate	11.8	95
High school graduate	24.9	200
Some college, no degree	17.7	143
Associate degree (occupational/academic)	9.2	74
Bachelor's degree (BA, AB, BS)	20.0	161
Master's degree	11.8	95
Professional school degree (J.D., M.D.)	1.1	9
Doctorate (Ph.D., Ed.D., Sc.D)	1.3	10
Something else	1.4	11
Don't know	0	0
Refused	0.8	7

N = 808

in selected households were asked to participate. Up to eight calls were made at each household phone number. To ensure a representative sample, individuals initially unwilling to participate were solicited a second time for their participation. Out of all eligible participants who were reached by an interviewer (N = 2243), 41% completed the interview.

In the present study, responses to three questions related to public awareness and perceptions of OCD were examined. The questions were as follows: (1) "Sometimes people are said to be 'obsessive–compulsive.' What do you think this means? There is no one perfect answer," (2) "Have you ever heard of obsessive compulsive disorder?", (3) "As far as you know, is a person with obsessive–compulsive disorder different from someone who you would describe as obsessive–compulsive? In what ways do they differ?"

Data Analysis

Open-ended responses were coded and categorized by the survey collection team at Stony Brook University's Center for Survey Research (see Tables 2, 3). Each open-ended response received one code to indicate the primary sentiment/content of the response. Twenty percent of these coded items were then re-coded by our researchers to ensure inter-rater reliability. The average inter-rater reliability was good (Kappa = .71).

Chi squared tests of independence were used to test the relation between categorical participant characteristics (sex, race, income, and education) and responses. T-tests were conducted to test whether responses differed by age of participant. Given a wide variety of codes given for the open-ended questions, binary groups were created and compared participants who provided the most frequent response to those who did not (i.e. all other responses). Multiple logistic regressions were then performed to determine whether each demographic characteristic uniquely predicted presence of the most frequent response for each question. For each multiple logistic regression model, all demographic characteristics were entered as predictors of the binary response to one question (presence or absence of most frequent response).

Results

Refer to Table 2 for percent of participants who provided the most frequent response by demographic category.

Definition of Obsessive–Compulsive

A wide variety of responses were given regarding what obsessive–compulsive is with no one answer being given by more than 20% of the sample. OCD versus OCPD consistent definitions were determined by the study team based on findings from the literature regarding OCD and OCPD traits. Interestingly, 20% of the sample described 'obsessive–compulsive' in terms that are typically associated with OCPD (i.e. perfectionism, eccentric personality, and perseverative, see Table 4). Overall, the most frequent replies described 'obsessive–compulsive' based on compulsions (i.e. repetitive, uncontrollable behaviors; 18.7%) or perfectionism (12.1%; see Table 4). Regarding potential demographic variable related to these responses, individuals with more education and higher incomes were found to be significantly more likely to define OCD based on the presence of compulsions (education: X^2 (1, 805) = 17.24, $p < .00$; income: X^2 (1, 733) = 10.04, $p < .00$). Significant differences based on race (X^2 (1, 807) = .01, $p = .94$), age (t (246.31) = −.352, $p = .72$), or sex (X^2 (1, 806) = .66, $p = .42$) in the proportion of respondents describing OCD based on compulsions

Table 2 Demographic categories based on participants' responses regarding awareness and perceptions of OCD

	Group	Definition of obsessive–compulsive			Recognition	Distinction	How they differ
		Don't know what obsessive–compulsive means	Obsessive–compulsive = compulsions	Obsessive- compulsive = perfectionism	Heard of OCD	A person with OCD ≠ a person who is obsessive–compulsive	OCD is more severe than obsessive–compulsive
Race	Caucasian (n = 543)	14.2	18.8	10.3	88.9*	38.3	13.6*
	Other (n = 263)	19[T]	18.6	15.6*	81	40.2	7.6
Income	< $60,000 (n = 418)	8.2*	14.4	13.6	80.6	39.8	9.3
	> $60,000 (n = 316)	22	23.5*	9.8	94.4*	39.4	16.1*
Education	≤ HS (n = 530)	20.9*	14.5	10.8	81.5	38.1	9.2
	≥ College (n = 276)	5.8	26.5*	14.5	95.6*	40.3	16.4*
Sex	Male (n = 379)	16.1	19.8	14.2[T]	86.2	34.3	12.9
	Female (n = 427)	15.3	17.6	10.1	86.4	42.8*	10.8

The above represents percentages of those who endorsed the items. The category Minorities includes participants who identified as African-American, Hispanic/Latino, Asian, Pacific Islander, and Native American/Alaskan native

*$p < .05$

Table 3 Income and education by race

Demographic	Race	
	Caucasian (%)	Ethnic minority (%)
Income $60,000 +	44.4	40.2
Obtained college education	35.1	32.2

were not found. A logistic regression with all demographic variables found that education, but not income uniquely predicted whether respondents described obsessive–compulsive based on compulsions (see Table 6). Ethnic minorities were also more likely to describe OCD as perfectionistic tendencies than Caucasian participants (X^2 (1, 806) = 4.66, $p = .03$). There was a nonsignificant trend of sex suggesting that a higher proportion of males may describe OCD based

Table 4 The meaning of "obsessive–compulsive"

Response	Percent
OCD consistent definitions	
Repetitive, uncontrollable behaviors, compulsions	18.7
'Obsessive'; 'compulsive'	8.7
Anxiety; compulsions relieve anxiety	4.4
Uncontrollable thoughts; obsessions	3.5
OCPD consistent definitions	
Perfectionism; demanding that everything be just so; must be in control	12.1
Fixated; focused; perseverates	6.1
Eccentric personality; not a disease; an overblown diagnosis	1.8
OCD and OCPD consistent definitions	
A mental illness that causes dysfunction	8.0
Obsessive cleaning, hand-washing	3.0
Extreme emotion; lack of control	2.6
Someone who needs treatment	1.7
Other	10.2
Don't know	15.7
Refused	3.5

N = 806. Survey responses were open-ended, and individual responses were categorized

on perfectionism than females (X^2 (1, 806) = 3.31, p = .07). There were no age (t (752) = − .48, p = .63), education (X^2 (1, 806) = 2.39, p = .12), or income (X^2 (1, 734) = 2.50, p = .11) differences in the description of OCD as perfectionism. Refer to Table 6 for odds ratios of these variables.

Only a small proportion of respondents reported that they did not know what obsessive–compulsive meant (15.8%). Those who did not attend college (X^2 (1, 807) = 31.25, p < .00) and those with a lower income (X^2 (1, 734) = 25.33, p < .00) were more likely to report not knowing what obsessive–compulsive meant. There were no age (t (148.68) = − .37, p = .71) or sex (X^2 (1, 805) = .11, p = .74) differences in responding "I don't know"; however there was a trend towards a greater proportion of ethnic minorities reporting that they did not know what obsessive–compulsive meant (X^2 (1, 806) = 3.12, p = .08) compared to Caucasians. A logistic regression controlling for all demographic variables found that income and education uniquely predicted whether respondents described obsessive–compulsive based on compulsions (see Table 6).

Recognizing the Term OCD

The majority of participants reported having heard of OCD, with only 13.6% stating that they had never heard of OCD. Chi square tests indicated that Caucasians responded "yes" to the question of "Have you heard of OCD?" more frequently than ethnic minorities (i.e. African-American, Hispanic/Latino, Asian, Pacific Islander, Native American/Alaskan native; X^2 (1, 804) = 9.40, p < .00). Additionally, those who were college educated (X^2 (1, 804) = 30.45, p < .00) and those with a higher income (i.e. greater than $60,000; X^2 (1, 731) = 31.96, p < .00) were more likely to have heard of OCD than those without a college education and those with an income less than $60,000. For a distribution of income and education by race refer to Table 3. Additionally, participants who were older (M = 55.35, SD = 21.05) were less likely to have heard of OCD than participants who were younger (M = 47.57, SD = 16.78; t(126.25) = 3.60, p < .00). Finally, no significant differences in the recognition of OCD based on sex (X^2 (1, 804) = .003, p = .95) were observed. A logistic regression controlling for all demographic variables confirmed that race, income, and education each uniquely predicted whether a participant had heard of OCD (see Table 6). Therefore, racial differences were not an artifact solely driven by income and education.

Distinction from 'Obsessive–Compulsive'

In regards to whether or not respondents believed there was a difference between OCD and 'obsessive–compulsive', respondents were relatively split. Specifically, 43.8% responded 'yes', 46.5% responded 'no', and 9.7% reported being unsure if there is a difference. Regarding potential variables of differentiating OCD versus 'obsessive compulsive', females were more likely than males to believe that there was a difference between someone with OCD and someone who is obsessive–compulsive (X^2 (1, 613) = 4.69, p = .03, 42.8% females, 34.3% males). No significant differences were observed according to race (X^2 (1, 612) = .20, p = .65), age (t (414.49) = .05, p = .96), education (X^2 (1, 614) = .270, p = .60), or income (X^2 (1, 568) = .01, p = .92) regarding the distinction between OCD and obsessive–compulsive. A logistic regression controlling for all demographic variables did not find that any variables uniquely predicted whether respondents thought OCD was different than being "obsessive–compulsive" (see Table 6).

In What Ways do OCD and 'Obsessive Compulsive' Differ?

Individuals who reported there was a difference between OCD and "obsessive–compulsive" were asked to elaborate on those differences, and 39.5% referenced the magnitude of symptoms/degree of dysfunction as being the delineating factor (see Table 5). No other specific criteria for distinguishing OCD versus 'obsessive compulsive' were given by more than 10% of the sample. Of the remaining criteria reported, distinctions were made between OCD being a 'real' illness compared to a personality trait and between whether or not the symptoms are diagnosable/warrant treatment.

Potential differences in variables were examined for individuals who reported differentiating the two conditions based on severity. Those who were Caucasian (X^2 (1, 806) = 6.24, p = .01), college educated (X^2 (1, 806) = 8.95, p < .00), and with a higher income (X^2 (1, 734) = 7.76, p < .00) were more likely to report severity as the differentiating characteristic

Table 5 The difference between an individual with OCD and an individual who is obsessive–compulsive for those who thought there was a difference

Responses	Percent
Magnitude of symptoms, degree of dysfunction	39.5
Clinical versus information definition	5.3
Illness versus personality trait; OCD is a 'real' illness	6.2
For one, the person is diagnosed/seeking treatment	6.7
OCD is too broadly, inappropriately used; everyone has OCD	1.7
Mentions specific symptoms that characterize the difference (e.g., anxiety)	4.6
Vague statements; no clear difference; 'it depends'	16.5
Other	6.3
Don't know; refused	13.2

N = 239. Survey responses were open-ended, and individual responses were categorized

Table 6 Logistic regression results and odds ratios of demographic characteristics and participant awareness and perceptions of OCD

	Statistic	Definition of obsessive–compulsive			Recognition	Distinction	How they differ
		Don't know what "obsessive–compulsive" means	Obsessive–compulsive = compulsions	Obsessive- compulsive = perfectionism	Heard of OCD	A person with OCD ≠ a person who is obsessive–compulsive	OCD is more severe than obsessive–compulsive
Race (white or other)	*B*	−.19	−.00	−.68**	.87***	.10	.59*
	SE B	.23	.21	.24	.25	.20	.28
	OR	.83	1.00	.51	2.39	1.10	1.80
Income (< or > $60,000)	*B*	−.96**	.36	−.71*	.78***	.13	.35
	SE B	.28	.23	.29	.32	.20	.27
	OR	.38	1.43	.49	2.18	1.14	1.42
Education (< HS or > College)	*B*	−1.06**	.55*	.72*	1.36***	−.11	.41
	SE B	.33	.23	.28	.39	.21	.27
	OR	.35	1.72	2.05	3.88	.90	1.51
Sex (male or female)	*B*	.27	.11	.57*	−.16	.22	.24
	SE B	.21	.20	.24	.24	.18	.24
	OR	1.31	1.11	1.76	.86	1.24	1.27
Age	*B*	−.00	.00	.01	−.03***	−.00	−.02*
	SE B	.01	.01	.01	.01	.01	.01
	OR	1.00	1.00	1.01	.97	1.00	.98

The table represents unique effect of each demographic variable on a "yes" response for the corresponding response category

B unstandardized beta, *SE B* standard error of beta, *OR* odds ratio for a "yes" response. *Other* African-American, Hispanic/Latino, Asian, Pacific Islander, and Native American/Alaskan native

*$p < .05$; **$p < .01$; ***$p < .00$

compared to all other responses. Additionally those who responded this way were younger than those who did not ($t(752) = 2.49$, $p = .01$). There were no significant sex (X^2 (1, 807) = .87, $p = .35$) differences among those who referenced symptom severity in their response. Potential distinguishing variables were not tested for the remaining criteria due to the limited sample sizes. A logistic regression controlling for all demographic variables found that race and age uniquely predicted whether respondents thought OCD was more severe than being "obsessive–compulsive" (see Table 6).

Discussion

The results of this study support our initial hypotheses. About 20% of the sample described "obsessive–compulsive" in terms of OCPD traits (e.g. perfectionism, eccentric personality, and perseverates). Regarding the description of OCD, the three most frequent types of responses were those where the participant described OCD as repetitive and uncontrollable compulsions, described OCD as perfectionism, or answered "I don't know". The participants who described OCD in terms of compulsions were most likely to be college educated and have higher incomes; however, after controlling for all demographic variables, education level remained as the only significant predictor of this response type. Ethnic minorities and males were more likely to define OCD as a tendency to have everything perfect, and after controlling for all demographic variables, lower incomes and higher levels of education emerged as additional significant predictors of this response. Also corresponding with our hypotheses, ethnic minority participants were less likely to know what it meant to be obsessive–compulsive, along with those with low income and who did not attend college. Additionally, of the 13.6% of respondents who had not heard of OCD, they were more likely to be ethnic minorities, have a lower income, and less education. These results remained even after controlling for all other demographic variables. Almost half (46.5%) of participants did not think there is a difference between someone with OCD and someone who is 'obsessive–compulsive', and females were more likely than males to respond that there is a difference. In making the distinction, the most common response (39.5%) referenced the magnitude of symptoms and degree of dysfunction, inferring that those with more severe obsessions and compulsions would be those more likely to be diagnosed with OCD.

A significant motivator for this study was the imperative to get a large, diverse group of participants in order to gain a better understanding of what the general public thinks of the term "obsessive compulsive." This study randomly selected

participants from NYS, whereas prior studies on the mental health literacy of OCD were limited to specific groups of individuals (Coles et al. 2013; Fernández de la Cruz, et al. 2016). Likewise, we decided that open-ended responses for defining obsessive–compulsive would provide us with the respondents' perspective, as providing response options could sway what the participants really think of when hearing "obsessive–compulsive". Open-ended responses allow us to learn what people think of OCD, the specific words they choose to describe it, and what misconceptions may exist, so we can do a better job at teaching others about the disorder and refuting any common misconceptions.

Our findings are consistent with previous literature on public knowledge related to mental health. A follow up to our study could be related to treatment engagement specifically, regarding race, as race consistently emerged as an important variable in our study. For example, Williams et al. (2012) noted that, compared to European Americans, African Americans have less knowledge about where they can seek help, which could be related to the stigma associated with discussing mental illness. In a review of clinical trials for OCD treatment, only 1.3% of individuals in treatment were African American (Williams et al. 2010). There are various postulations as to why ethnic minority groups do not frequently access OCD treatment, and research is scarce in attempting to understand why this occurs. Williams et al. (2010) investigated some of these reasons, finding that distrust of a larger mental health system was a major factor. Other factors included financial and language barriers, inaccessibility to clinics, and cultural beliefs. Others cited differences in perception of symptoms and poor mental health literacy as reasons for the lack of ethnic minority participation in OCD treatment (Fernández de la Cruz et al. 2016; Coles et al. 2013), as well as wanting to handle it on their own, being unaware of where to find help, or being afraid of the stigma related to receiving treatment (Simonds and Thorpe 2003; Williams et al. 2012). These factors may be associated with the postponement of treatment, and subsequent consequences of greater symptom severity and impairment (Williams et al. 2012).

Relatedly, our findings further support the link between higher education, income, and OCD identification. In the present study, those with higher education and income levels were more likely to have awareness OCD. Similarly, Coles and colleagues found that those with higher education and income were more likely to correctly identify OCD (Coles et al. 2013). Additionally, results from the present study align with evidence that those with lower education have significantly lower odds of recognizing OCD than those with higher education (Chong et al. 2016). Given that insight and poor mental health literacy is thought to predict health care service utilization (Beşiroğlu et al. 2004; Fernández de la Cruz et al. 2016; García-Soriano et al. 2014), our results also correspond with prior findings that those with higher SES may be more likely to seek treatment for OCD than those with moderate to low SES (Demet et al. 2010; Goodwin et al. 2002). Our study was able to investigate the impact of both education and income and found that education was more associated with the recognition of OCD than income (i.e. 2.73 vs. 3.46 Odds Ratios).

The ability to properly identify and analyze symptoms plays a critical role when seeking appropriate treatment, so one can receive an accurate diagnosis. Trying to distinguish OCD from features of OCPD or subclinical OCD can be one such challenge for the public, as suggested by our results. When inquiring about the meaning of 'obsessive–compulsive', respondents may have been referencing features of OCD or OCPD. Almost half of our sample (46.5%) reported that they thought there was no difference between someone with OCD and someone who is 'obsessive–compulsive'. This may be a result of poor knowledge of the differentiating characteristics between OCD, subclinical OCD, and OCPD, as previous studies have suggested low identification rates for OCD (Coles et al. 2013; Garcia-Soriano and; Roncero 2017; McCarty et al. 2017) and OCPD (Furnham et al. 2011; Furnham and Winceslaus 2012). Additionally, of those who thought there was a difference between someone with OCD versus someone who is 'obsessive–compulsive', the primary difference was in the magnitude of symptoms and degree of dysfunction (39.5%), yet severity and dysfunction are included in the diagnostic criteria for both OCD and OCPD. Interestingly, when we asked to define OCD, the third most endorsed answer was perfectionism, and when Koutoufa and Furnham (2014a) asked participants to identify the problem in a vignette of an individual with OCPD, the most frequently endorsed response was perfectionism and the third most endorsed response was OCD. These findings support the notion that the public is generally unsure of the differences between these two disorders. Although some may deem the differences between these disorders subtle, it is important to identify these differences in order to receive an appropriate treatment plan. Those with OCD have pharmacological treatment options, such as certain selective serotonin reuptake inhibitors (SSRIs), including fluoxetine, and behavioral therapies, including exposure therapy. Research in OCPD treatments suggests that supportive-expressive psychodynamic therapy and cognitive therapy may alleviate distress (Mancebo et al. 2005), and a community sample of adults significantly preferred cognitive-behavioral therapy (CBT) to other treatment options (Koutoufa and Furnham 2014b). In contrast to OCD, there currently are no pharmacological treatments for OCPD (Mancebo et al. 2005). We believe that better education into these two disorders will prevent misdiagnoses, and therefore, provide more effective treatments.

This study is not without limitations. The current study was limited geographically, in that it only surveyed individuals from New York State, which is a more highly educated and wealthier state than many others (Bureau 2011). It would be beneficial to investigate the awareness and perceptions of those across the United States, and even on an international scale. Additionally, self-selection in participants' choice of responding could have factored into the results. Furthermore, we understand that having participants describe 'obsessive–compulsive' can allude to symptoms of OCD or OCPD. Unfortunately, we were unable to ascertain a specific disorder the participants were envisioning, and future studies may be able to investigate and differentiate perceptions of OCD and OCPD. Future research should focus on public interventions in order to increase mental health literacy, perhaps starting with youth in the school systems. Clearly more work is necessary to increase the public's knowledge and awareness of OCD.

Compliance with Ethical Standards

Conflict of interest The authors declare that they have no conflict of interest.

References

Angermeyer, M. C., & Dietrich, S. (2006). Public beliefs about and attitudes towards people with mental illness: A review of population studies. *Acta Psychiatrica Scandinavica, 113*(3), 163–179. Retrieved from http://search.ebscohost.com/login.aspx?direct=true&db=cmedm&AN=16466402&site=ehost-live.

APA, A. P. A. (2013). *Diagnostic and Statistical Manual of Mental Disorder: DSM-5* (Vol. 5). Washington, DC: American Psychiatric Publishing.

Beşiroğlu, L., Çilli, A. S., & Aşk, R. (2004). The predictors of health care seeking behavior in obsessive-compulsive disorder. *Comprehensive Psychiatry, 45*(2), 99–108.

Bureau, U. S. C. (2011). Binghamton, New York quick facts. Retrieved from http://quickfacts.census.gov/qfd/states/36/3606607.html.

Chong, S. A., Abdin, E., Picco, L., Pang, S., Jeyagurunathan, A., Vaingankar, J. A., … Subramaniam, M. (2016). Recognition of mental disorders among a multiracial population in Southeast Asia. *BMC Psychiatry, 16*(1), 121.

Coles, M. E., Heimberg, R. G., & Weiss, B. D. (2013). The public's knowledge and beliefs about obsessive compulsive disorder. *Depression and Anxiety, 30*(8), 778–785.

Costa, P. T., & McCrae, R. R. (2008). The revised neo personality inventory (neo-pi-r). *The SAGE Handbook of Personality Theory and Assessment, 2*(2), 179–198.

Cullen, B., Samuels, J. F., Pinto, A., Fyer, A. J., McCracken, J. T., Rauch, S. L., … Bienvenu, O. J. (2008). Demographic and clinical characteristics associated with treatment status in family members with obsessive-compulsive disorder. *Depression and Anxiety, 25*(3), 218–224.

Demet, M. M., Deveci, A., Taşkin, E. O., Dündar, P. E., Ermertcan, A. T., Demet, S. M., … Öztürkcan, S. (2010). Risk factors for delaying treatment seeking in obsessive-compulsive disorder. *Comprehensive Psychiatry, 51*(5), 480–485. https://doi.org/10.1016/j.comppsych.2010.02.008.

Fernández de la Cruz, L., Kolvenbach, S., Vidal-Ribas, P., Jassi, A., Llorens, M., Patel, N., … Mataix-Cols, D. (2016). Illness perception, help-seeking attitudes, and knowledge related to obsessive–compulsive disorder across different ethnic groups: A community survey. *Social Psychiatry and Psychiatric Epidemiology, 51*(3), 455–464.

Furnham, A., Abajian, N., & McClelland, A. (2011). Psychiatric literacy and personality disorders. *Psychiatry Research, 189*(1), 110–114.

Furnham, A., & Buck, C. (2003). A comparison of lay-beliefs about autism and obsessive-compulsive disorder. *International Journal of Social Psychiatry, 49*(4), 287–307.

Furnham, A., & Winceslaus, J. (2012). Psychiatric literacy and the personality disorders. *Psychopathology, 45*(1), 29–41.

García-Soriano, G., & Roncero, M. (2017). What do Spanish adolescents think about obsessive-compulsive disorder? Mental health literacy and stigma associated with symmetry/order and aggression-related symptoms. *Psychiatry Research, 250*, 193–199.

García-Soriano, G., Rufer, M., Delsignore, A., & Weidt, S. (2014). Factors associated with non-treatment or delayed treatment seeking in OCD sufferers: A review of the literature. *Psychiatry Research*. Retrieved from http://www.sciencedirect.com/science/article/pii/S0165178114005848.

Goodwin, R., Koenen, K., & Hellman, F. (2002). Help seeking and access to mental health treatment for obsessive-compulsive disorder. *Acta Psychiatrica*. Retrieved from http://onlinelibrary.wiley.com/doi/10.1034/j.1600-0447.2002.01221.x/full.

Grant, J. E., Mooney, M. E., & Kushner, M. G. (2012). Prevalence, correlates, and comorbidity of DSM-IV obsessive-compulsive personality disorder: Results from the national epidemiologic survey on alcohol and related conditions. *Journal of Psychiatric Research, 46*(4), 469–475.

Hantouche, E. G., Bouhassira, M., Lancrenon, S., Ravily, V., & Bourgeois, M. (1995). Prevalence of obsessive-compulsive disorders in a large French patient population in psychiatric consultation. *L'Encephale, 21*(5), 571–580.

Himle, J. A., Muroff, J. R., Taylor, R. J., Baser, R. E., Abelson, J. M., Hanna, G. L., … Jackson, J. S. (2008). Obsessive-compulsive disorder among African Americans and blacks of Caribbean descent: Results from the national survey of American life. *Depression and Anxiety, 25*(12), 993–1005.

Johnson, E. M., & Coles, M. E. (2013). Failure and delay in treatment-seeking across anxiety disorders. *Community Mental Health Journal, 49*, 668–674. https://doi.org/10.1007/s10597-012-9543-9.

Koutoufa, I., & Furnham, A. (2014a). Mental health literacy and obsessive–compulsive personality disorder. *Psychiatry Research, 215*(1), 223–228.

Koutoufa, I., & Furnham, A. (2014b). Psychiatric literacy: Lay beliefs of obsessive–compulsive personality disorder. *Counselling Psychology Quarterly, 27*(3), 277–289. https://doi.org/10.1080/09515070.2014.897598.

Mancebo, M. C., Eisen, J. L., Grant, J. E., & Rasmussen, S. A. (2005). Obsessive compulsive personality disorder and obsessive compulsive disorder: Clinical characteristics, diagnostic difficulties, and treatment. *Annals of Clinical Psychiatry, 17*(4), 197–204.

Martin, J., Pescosolido, B., & Tuch, S. (2000). Of fear and loathing: The role of'disturbing behavior,'labels, and causal attributions in shaping public attitudes toward people with mental illness. *Journal of Health and Social Behavior*. Retrieved from http://www.jstor.org/stable/2676306.

Mayerovitch, J. I., du Fort, G. G., Kakuma, R., Bland, R. C., Newman, S. C., & Pinard, G. (2003). Treatment seeking for obesessive-compulsive disorder: Role of obsessive-compulsive disorder symptoms and comorbid psychiatric diagnoses. *Comprehensive Psychiatry, 44*, 162–168

McCarty, R. J., Guzick, A. G., Swan, L. K., & McNamara, J. P. (2017). Stigma and recognition of different types of symptoms in OCD. *Journal of Obsessive-Compulsive and Related Disorders, 12*, 64–70.

Murray, C. J., & Lopez, A. D. (1996). *Global health statistics*. Boston, MA: Harvard School of Public Health Publishers.

Pinto, A., Mancebo, M. C., Eisen, J. L., Pagano, M. E., & Rasmussen, S. A. (2006). The brown longitudinal obsessive compulsive study: Clinical features and symptoms of the sample at intake. *Journal of Clinical Psychiatry, 67*(5), 703–711.

Ruscio, A. M., Stein, D. J., Chiu, W. T., & Kessler, R. C. (2008). The epidemiology of obsessive-compulsive disorder in the national comorbidity survey replication. *Molecular Psychiatry, 15*(1), 53–63.

Shapiro, S. (1984). Utilization of health and mental health services: Three Epidemiologic Catchment Area sites. *Archives of General Psychiatry, 41*(10), 971–978. Retrieved from http://search.proquest.com/docview/616999004?accountid=14168.

Simonds, L. M., & Thorpe, S. J. (2003). Attitudes toward obsessive-compulsive disorders–an experimental investigation. *Social Psychiatry and Psychiatric Epidemiology, 38*(6), 331–336. https://doi.org/10.1007/s00127-003-0637-0.

Torres, A. R., Prince, M. J., Bebbington, P. E., Bhugra, D. K., Brugha, T. S., Farrell, M., … Singleton, N. (2007). Treatment seeking by individuals with obsessive-compulsive disorder from the British Psychiatric Morbidity Survey of 2000. *Psychiatric Services, 58*(7), 977–982.

Williams, M., Domanico, J., Marques, L., Leblanc, N. J., & Turkheimer, E. (2012). Barriers to treatment among African Americans with obsessive-compulsive disorder. *Journal of Anxiety Disorders, 26*(4), 555–563.

Williams, M., Powers, M., Yun, Y.-G., & Foa, E. (2010). Minority participation in randomized controlled trials for obsessive–compulsive disorder. *Journal of Anxiety Disorders, 24*(2), 171.

Williams, M., Proetto, D., Casiano, D., & Franklin, M. E. (2012). Recruitment of a hidden population: African Americans with obsessive–compulsive disorder. *Contemporary Clinical Trials, 33*(1), 67–75.

World Health Organization. (1992). International statistical classification of diseases and related health problems. 10th revision, Geneva: World Health Organization