How is Shame Related to Obsessive-Compulsive Disorder?

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████████████████████

The School of Psychology, Faculty of Health and Medical Sciences, University of Adelaide,

Adelaide, South Australia, 5000

Corresponding author: ████████

Abstract

Shame is an overwhelming emotion in which one views themselves negatively (internal shame) or believes that others see them in a negative light (external shame). Higher levels of shame have been associated with mental health concerns such as anxiety and depression. Research suggests that shame is linked to Obsessive-Compulsive Disorder (OCD); however, there is limited evidence exploring this relationship. This study explored the relationship between types of shame (internal shame and external shame) and OCD symptomology and severity. Adult participants recruited from Facebook and a University population took part in an online survey measuring OCD symptom severity, OCD dimensions, internal shame, external shame, depression and anxiety. Measures of internal shame and external shame were positively correlated with OCD symptoms, OCD profiles, depression and anxiety. Hierarchical regression analyses showed that both internal and external shame are related to OCD symptom severity when controlling for depression and anxiety. Internal and external shame were positively correlated with all four OCD symptom dimensions, and the harm dimension was more strongly correlated with shame than other profiles. The findings suggest that shame may be an important factor to address when providing intervention for people with OCD.

Keywords: Obsessive-Compulsive Disorder, Shame, Internal Shame, External Shame, Depression, Anxiety

Current research suggests that shame and Obsessive-Compulsive Disorder are positively linked (Weingarden & Renshaw, 2014). However, the literature in this area is limited. Varieties of shame may be differentially related to anxiety and depression, which are commonly comorbid with OCD (Cândea & Szentagotai-Tătar, 2018; Kim et al., 2011), however there does not appear to be any current research investigating how different types of shame identified in the literature are related to OCD symptom severity. As both OCD and shame have links with depression and anxiety, it is not clear how shame, OCD, and depression and anxiety are associated. This study will attempt to address this gap in the research, which may have implications for treatment of OCD, in that it may be desirable to address shame explicitly when providing psychological interventions for OCD.

Obsessive-Compulsive Disorder (OCD) as defined in the DSM-5 is characterised by experiencing obsessions and compulsions (American and Psychiatric Association, 2013). Obsessions include undesirable and repetitive thoughts or images, and compulsions are actions performed in an attempt to alleviate these obsessions. Research suggests that there are four symptom dimensions of OCD: contamination, harm, taboo thoughts and symmetry (Abramowitz et al., 2010; Wetterneck et al., 2014). Obsessions about contamination often lead to compulsions such as handwashing and cleaning. Obsessions about causing harm and making mistakes are often paired with compulsions that involve constantly checking that the harm obsession did not take place and that the mistake was not made. The taboo thoughts profile includes obsessions about experiencing intrusive thoughts regarding religion, sex, and violence, and are often associated with compulsions regarding mental rituals, avoidance of places and situations, and/or repeating special routines in an attempt to get rid of the thought. Finally, obsessions regarding symmetry and order often lead to compulsions like rearranging and having an order for things. Studies have found that some profiles show less symptom reductions after OCD interventions than others. Namely, Berman et al. (2019) suggested that

taboo obsessions are associated with less symptom reduction following Exposure with Response Prevention. Chase et al.'s (2015) study measuring treatment outcome differences based on symptom dimensions for a clinical OCD group showed no significant differences. However, they reported that the taboo thoughts dimension had significantly greater severity both at admission and discharge than the other symptom profiles. Therefore, it is important to investigate factors such as shame that may contribute to OCD symptom severity as targeting this emotion during intervention may help to increase symptom reduction across the OCD dimensions.

Shame is a common emotion characterised as a self-focussed, overwhelming negative view of oneself, that differs from guilt (Tangney et al., 1992). Research has found that shame is linked to a number of negative interpersonal experiences such as increased irritability, suspiciousness, resentment, anger and the blaming of others for negative events (Boudewyns et al., 2013; Tangney et al., 1992). Two particular types of shame identified in the literature include internal shame and external shame. Internal shame involves a negative view of oneself and includes the tendency to have global negative self-judgments about being bad, inferior and imperfect (Matos et al., 2021; Matos et al., 2014). In contrast, external shame relates to the belief that others view us negatively (Matos et al., 2021). This type of shame is concerned with the opinion and judgments that others may make of us (Gilbert, 2014; Goss et al., 1994). External shame has also been labelled 'stigma awareness', where one is aware that they might be judged by others if their actions are revealed (Cândea & Szentagotai-Tătar, 2018). Research has found that external shame is associated with greater maladaptive outcomes than internal shame, such as increased depression and social anxiety (Cândea & Szentagotai-Tătar, 2018; Kim et al., 2011). Goffnett et al.'s (2020) study investigating interventions to reduce shame showed that Cognitive Behavioural Therapy, mindfulness strategies and Acceptance and Commitment therapy have shown to lead to shame reduction.

Other authors have found that increases in self-compassion may help to reduce internal and external shame (Callow et al., 2020; Sedighimornani et al., 2019).

Current literature, albeit limited, has shown a positive relationship between shame and OCD (Szentágotai-Tătar et al., 2020; Weingarden & Renshaw, 2014). In their conceptual review of shame and Obsessive-Compulsive Related Disorders, Weingarden and Renshaw (2014) reported positive links between shame and OCD symptoms in both clinical and nonclinical samples (Fergus et al., 2010; Tangney and Dearing, 2002). For example, Becker et al.'s (2013) comparison study reported greater levels of general shame in the OCD group versus the non-clinical controls. In this experimental study the two groups were required to rate their levels of shame following positive, negative or ambiguous performance feedback on a task. The OCD group rated themselves as experiencing higher levels of shame compared to the non-clinical group after receiving both ambiguous and negative feedback, with medium ($r = .39$) to large effects ($r = .45$). Another study found that in a sample of South Korean participants (Kim et al., 2013), those with an OCD diagnosis reported significantly higher scores on the defectiveness/shame subscale on the Young Schema Questionnaire, version 3, compared with the non-clinical group. This study reported a large effect size ($d = 1.69$), and the results remained significant after controlling for depression, suggesting that the presence of shame in OCD is not due to comorbid depression. This suggests that shame contributes to OCD independently of depression and that this may be an important factor to consider during OCD treatment as this may lead to reductions in OCD symptoms.

Based on previous findings, a positive relationship with shame and OCD is supported; however, there does not appear to be current research investigating internal and external shame with OCD in particular. It is important to understand how these types of shame relate to OCD as targeting these types of shame in OCD treatment may lead to improved treatment outcomes.

Previous studies have made an attempt to explain the relationship between OCD and shame by using a cognitive-behavioural framework. Previous authors have proposed that certain obsessions and compulsions may trigger shame, where compulsions are performed in an attempt to alleviate this distressing emotion (Szentágotai-Tătar et al., 2020; Valentiner & Smith, 2008). This cognitive-behavioural perspective originates from Valentiner and Smith's (2008) study which investigated the relationship between shame-proneness, obsessions and thought-action fusion (TAF; the belief that the thoughts we have are morally equivalent to acting on these thoughts) in predicting compulsions. The cognitive-behavioural framework of OCD and shame suggests that people with OCD may experience symptom-based shame based on their obsessions, which leads them to perform compulsions. Therefore, focussing on shame reduction in people with OCD may lead to a reduced desire to perform compulsions and might reduce OCD symptom severity.

While the literature regarding the relationship between shame and OCD is limited, the research about the relationship between shame and different OCD profiles is even more so. However, this may be an important link in understanding the role that shame plays in the development and maintenance of OCD. Previous studies have found the taboo thoughts profile and the responsibility for harm profile to be more stigmatised and shamed than the contamination and symmetry dimension (Cole & Warman, 2019; Durna et al., 2019; Simonds & Thorpe, 2003). McCarty et al.'s (2016) study looked at the differences in stigma and recognition in the OCD profiles. The study required participants to view vignettes on different OCD dimensions. The results found that the taboo thoughts and responsibility for harm vignettes were less likely to be recognised as OCD and that participants held more stigma towards these profiles than the contamination and symmetry profile; and these findings have been supported by similar studies (Homonoff & Sciutto, 2019; Simonds & Thorpe, 2003).

Although studies have often found the taboo thoughts dimension to be related to shame, Wetterneck et al. (2014) found that shame proneness was significantly correlated with both the harm ($r = 0.41$) and symmetry ($r = 0.35$) dimensions of OCD and had nonsignificant correlations with the contamination ($r = 0.10$) and taboo thoughts ($r = 0.14$) dimensions. Wetterneck et al. (2014) suggested that harm is correlated with shame-proneness due to the negative self-evaluation one might have if they believe they have harmed others and also the interpretation that they will be more stigmatised and judged by others for having obsessions and compulsions related to the harm profile. They theorised that the correlation between shame and symmetry may be due to the similarity between symmetry and perfectionism, as perfectionism has a strong link with shame. Overall, research findings are equivocal regarding which OCD profiles are most associated with shame, which is important to explore as it may be more important to address shame in people with certain symptom profiles. Furthermore, it is important to explore how these types of shame may relate to OCD profiles as it may be essential to understand how shame is manifesting (i.e., whether it is due to one judging themselves or due to one believing others are judging them), as this may have implications for the treatment approach.

One aspect that makes it difficult to determine if shame is independently related to OCD is due to the associations both OCD and shame share with depression. OCD is often paired with comorbid disorders like depression (Besiroglu et al., 2007; Mondal & Kumar, 2020; Wetterneck et al., 2020). Research has found that up to 50% of people with OCD also experience Major Depressive Disorder (MDD) and 17% experience comorbid Dysthymic Disorder (Crino & Andrews, 1996; Yap et al., 2012). Both Torres et al. (2015) and Tükel et al. (2002) found that MDD was the most common comorbid disorder with OCD. Many studies have found evidence to suggest a causal model between OCD and comorbid major depression, where people with OCD are at a greater risk of developing depression

(Tadayonnejad et al., 2020; Yap et al., 2012). Studies have also shown the link between OCD and depressive symptomology. One of the earlier studies in this area is a prospective longitudinal study investigating the nature of OCD and comorbid depressive symptoms at admission, a 6-month follow up and then 12 months after the first follow up (Zitterl et al., 2000). The results showed that many patients with OCD had comorbid depression at admission and at a 6-month follow up. However, by the final follow up reductions in obsessive and compulsive symptoms, based on treatments targeting OCD symptomology, seemed to show parallel reductions in depressive symptoms. This finding supports the idea that depressive symptoms occur secondary to OCD.

Many studies have also found a link between types of shame (internal and external shame) and depression. Balsamo et al. (2015) reported that external shame was significantly positively correlated with two measures of depression: the Beck Depression Inventory-II ($r =$ .45) and the Teate Depression Inventory ($r =$ .47). Proeve et al.'s (2018) study also showed that external shame was significantly positively correlated with depressive symptoms and stress. Callow et al.'s (2020) study also suggested that external shame was positively correlated with the depression subscale of the Depression and Anxiety Stress Scales (DASS 21). In addition, a meta-analysis shows that external shame is more strongly linked to depressive symptoms than internal shame (Kim et al., 2011). Their review found a positive correlation between external shame and depressive symptoms, with a large effect size ($r =$ .56), compared with a moderate effect size for internal shame ($r =$ .42). As depression is linked to both types of shame and OCD it is important to establish if the relationship between shame and OCD is due to the presence of depression, or whether shame shares an independent relationship with OCD. This has implications for treatment for people with OCD as it may be important to target shame specifically to aid in reducing OCD symptoms and severity.

The relationship between OCD and shame is also unclear due to both being related to anxiety. OCD was classified previously in the DSM-III, DSM-III-R and the DSM-IV diagnostic manuals as an anxiety disorder (Diagnostic and Statistical Manual of Mental Disorders 3rd ed.; DSM-III; American Psychiatric Association, 1980; American Psychiatric Association, 1987; American Psychiatric Association, 1994). The basis for this grouping was that obsessions create distress, discomfort and anxiety, while compulsions are an attempt to alleviate this anxiety (Krzanowska & Kuleta, 2017; Tükel et al., 2002). The DSM-5 now classifies OCD under the new category of Obsessive Compulsive and Related Disorders (OCRDs) (American Psychiatric Association, 2013), as there is evidence to suggest that these disorders differ to anxiety disorders in presentation both behaviourally and psycho-pathologically. Research shows that anxiety disorders and OCRDs vary in comorbidity, progression of illness, genetic risk factors, cognitive and emotional processing, intervention approaches and pharmacological treatment (Van Ameringam et al., 2014). However, while there are distinct differences between OCD and anxiety disorders, studies have found that patients with OCD often have comorbid anxiety disorders. Tükel et al. (2002) reported that up to 40% to 60% of people with OCD also meet diagnostic criteria for another anxiety disorder. In particular OCD has been found to be comorbid with Panic Disorder, Simple Phobia, Social Phobia and Generalised Anxiety Disorder (Reddy et al., 2020; Tükel et al., 2002; Welkowitz et al., 2000). In addition, OCD has been found to be associated with symptoms of anxiety, which overall reduces one's quality of life (Remmerswaal et al., 2020).

The relationship between OCD and anxiety disorders and symptoms may be explained by the Intolerance of Uncertainty (IU). IU is a trait where one perceives uncertainty to be negative and dangerous and has been found to be an important factor in OCD and GAD (Pinciotti et al., 2021). IU has been found to be related to all of the OCD symptom dimensions and has also been associated with OCD checking behaviours (Lopez et al., 2016;

Pinciotti et al., 2021). López-Solà et al. (2016) identified IU as a potential explanation for OCD symptoms being a risk factor for developing panic disorder and symptoms of GAD. They explained this by suggesting that IU is a shared trait in OCD, panic disorder and GAD, meaning that people with OCD experience IU (through checking behaviours and obsessional thoughts), which makes room for anxiety and worry.

Studies have also found both internal shame and external shame to relate to symptoms of anxiety and anxiety disorders (Szentágotai-Tătar et al., 2020), including Social Anxiety Disorder and Generalised Anxiety Disorder (Fergus et al., 2010; Matos et al., 2013). Cândea and Szentagotai-Tătar's (2018) meta-analysis showed that external shame seems more strongly correlated with Social Anxiety Disorder than internal shame. Another study investigating the association between external shame and depression and anxiety found that external shame was positively correlated with the anxiety subscale of the DASS 21 (Callow et al., 2020). The relationship between shame and anxiety and shame and OCD makes it difficult to determine whether shame co-occurs with OCD due to their relationship with anxiety. This is important to investigate as if shame shares an independent relationship with OCD it may be an important emotion to target during intervention and may lead to greater OCD symptom reduction.

1.1 Aims and hypotheses

As previous research suggests an association between OCD and shame this study attempts to explore this association further with three research questions. The first aim of this study is to investigate whether increased shame (internal shame and external shame) is associated with increased OCD symptoms. The second aim is to investigate the relationship between internal and external shame with OCD, depression and anxiety, given that both shame and OCD are associated with depression and anxiety symptoms. In particular this research question aims to discover whether shame will be significantly associated with

severity in OCD symptoms, when controlling for depression and anxiety. The third aim of

this study is to investigate how shame relates to the four OCD symptom profiles. This study

uses a non-clinical sample, a common approach for investigating OCD symptoms in previous

literature. The findings for these questions may help to address whether strategies for

managing shame in conjunction with effective OCD intervention (like Exposure and

Response Prevention) may be more beneficial in reducing OCD symptom severity.

2. Method

2.1 Participants

The sample comprised 208 participants, of whom 65 withdrew early. With the

incomplete responses excluded, the final sample was 143 participants. Of these, there were

101 females (70.6%), 41 males (28.7%) and 1 who preferred not to disclose their gender

(.70%). Participants' ages ranged from 19-66 ($M = 39.34$, $SD = 15.81$), and 22 did not specify

their age. Participants' highest level of formal education ranged from currently in high school

(N=2), graduated high school (N=15), completing TAFE or another technical diploma (N=8),

finishing their undergraduate degree (N=49) or completing a postgraduate degree (N=65).

Participants mostly spoke English as their first language (N=126) (88.1%), but others

reported French (N=1), Guajarati (N=1), Hindi (N=1), Mandarin Chinese (N=1), Malayam

(N=1), Sinhalese (N=2), Tamil (N=2), and Telugu (N=1) as their first language, and 5 people

did not specify.

2.2 Procedure

The study was approved by The Human Research Ethics Sub-Committee, School of

Psychology at the University of Adelaide. Participants were recruited using the Unified

website through University of Adelaide, and through Facebook. Participants completed an

online survey via Qualtrics. Participants were eligible if they had both a good command of

English and were aged at least 18 years. This was checked by the investigator. Participants were made aware that participation in the survey was voluntary and of their right to withdraw at any time.

The approximate 20-minute survey asked participants to report on their demographic information (age, gender, highest education level, first language, country of birth) and to complete self-report measurements of OCD symptoms and dimensions, internal shame, external shame, symptoms of depression and symptoms of anxiety.

2.3 Measures

Yale Brown Obsessive Compulsive Scale (Y-BOCS; Goodman et al., 1989).

The Yale Brown Obsessive Compulsive Scale (Y-BOCS) measures symptom severity of obsessions and compulsions over 10 items. Participants rate items on a 5-point Likert scale, where higher ratings indicate greater symptom severity and disturbance on obsessions and compulsions respectively. Higher total scores (ranging from 0-40) suggest greater overall OCD symptom severity. Storch et al. (2015) determined clinical cut-off scores for the Y-BOCS in an adult sample where 0-13 = mild symptoms, 26-34 = moderate symptoms and 35-40 = severe symptoms. The Y-BOCS demonstrated good internal consistency ($\alpha = 0.89$). The Y-BOCS shows good test-retest reliability ranging between .81 to .97.

Dimensional Obsessive-Compulsive Scale (DOCS; Abramowitz et al., 2010*)*

The Dimensional Obsessive-Compulsive Scale (DOCS) is a 20-item self-report measure that investigates the level of distress from obsessions and compulsions using four themes of OCD; contamination, harm, taboo thoughts and symmetry. The scale includes five items per dimension and asks participants to report on the approximate amount of time they spend occupied by obsessions and compulsions, avoidance, related distress, impact on functioning and difficulty ignoring obsessions and resisting compulsions. Participants rate items on a 5-point Likert scale ranging from 0 (no symptoms) to 4 (extreme symptoms).

Abramowitz et al.'s study (2010) indicated that a cutoff score of 21 correctly classified 70% of people with OCD and 70% of participants with other anxiety disorders. They also found that a cutoff score of 18 correctly classified 78% of people with OCD and 78% of nonclinical adults. The DOCS shows high internal consistency ranging from 0.90 to 0.94 (Wetterneck et al., 2014), and shows strong internal consistency within the subscales for contamination ($\alpha = 0.96$), harm ($\alpha = 0.93$), taboo thoughts ($\alpha = 0.93$) and symmetry ($\alpha = 0.95$).

Experience of Shame Scale (ESS; Andrews et al., 2002).

The Experience of Shame Scale (ESS) is a 25-item self-report questionnaire consisting of eight properties of shame: four areas of characterological shame (personal habits, manner with others, sort of person [you are] and personal ability), three areas of behavioural shame (doing something wrong, saying something stupid, and failure in competitive situations) and bodily shame (feeling ashamed of [your] body or any part of it). Participants rate each item on a 4-point Likert-type scale, which ranges from 1 (*not at all*) to 4 (*very much*). Participants rate each item based on their attitude in the last year, e.g. "*Have you tried to cover up or conceal any of your personal habits?*". The ESS has high internal consistency ($\alpha = .92$), and test-retest reliability over a period of 11 weeks ($r = .83$) and has also demonstrated good construct validity on characterological, behavioural and bodily shame. (Vizin et al., 2016).

Other as Shamer Scale (OAS; (Goss et al., 1994).

The Other as Shamer Scale (OAS) is an 18-item scale that measures levels of external shame (Balsamo et al., 2014). The OAS asks participants to rate items based on how they believe others perceive them. Items are rated on a 5-point Likert-type scale, where participants are asked to rate from 0 (*never*) to 4 (*almost always*) based on the frequency that they experience particular events (Goss et al., 1994). For example, one item asks participants to what extent they feel "*Other people see [them] as small and insignificant*" (Balsamo et al., 2014). The scale has high internal consistency ($\alpha = .94$) (Goss et al., 1994). Confirmatory

factor analysis represents a hierarchical model with OAS as a second-order factor and inferiority, emptiness and mistake as three-first order factors (Balsamo et al., 2014).

Penn State Worry Questionnaire (PSWQ; Meyer et al., 1990).

The Penn State Worry Questionnaire (PSWQ) is a 16-item scale that measures the presence, engagement with and level of distress associated with worries. This 5-point Likert scale ranges from 1 (*Not very typical of me*) to 5 (*Very typical of me*). The level of worry is determined by summing the participants' responses into a total score. This scale has shown high internal consistency ranging from 0.91 to 0.97 in eight different studies and has also demonstrated high test-retest reliability, convergent validity and divergent validity (Meyer et al., 1990). The PSWQ has been shown to accurately differentiate Generalised Anxiety Disorder from other anxiety disorders using a clinical sensitivity score of 50 (Stanley et al., 2003). The PSWQ has also shown to effectively distinguish from those with OCD (Brown et al., 1992).

Center for Epidemiologic Studies Depression Scale – Revised (CESD-R; Eaton et al., 2004; Radloff, 1977)

The Center for Epidemiologic Studies Depression Scale – Revised (CESD-R) is the revised version of the Center for Epidemiologic Studies Depression Scale (Eaton et al., 2004; Radloff, 1977), comprising 20 items about how often participants have felt a certain way (i.e., "*I felt sad*") on a 5-point Likert scale ranging from 0 (*Not at all/Less than 1 day*) to 4 (*Nearly every day for two weeks*), where higher scores indicate greater levels of depressive symptoms. Van Dam and Earleywine (2011) assessed the psychometric properties of the CESD-R in the general population and found high internal consistency ($\alpha = .92-.93$), strong factor loadings and convergent and divergent validity. The CESD-R also has a strong clinical cut-off point at 16 which helps to classify depressed participants.

2.4 Design and Analysis

This was a correlational study. IBM Statistical Package for the Social Sciences (SPSS) Statistics 27 was used to perform data analysis. Pearson's correlations were conducted to investigate research questions one, two and three. Hierarchical multiple regression analysis was conducted to further explore the second research question. Using G*Power, a priori analysis indicated that a sample size of 98 would be sufficient to detect a significant effect with 6 predictors using a power of .80, an alpha of .05 and a medium effect size ($f^2 = 0.15$).

3. Results

Analysis of histograms, kurtosis and skew revealed that the Y-BOCS, DOCS, ESS, OAS and PSWQ were normally distributed. The CESD-R was positively skewed, so bootstrapping was used in results to account for normality (Psaradakis & Vávra, 2020). Visual inspection of scatterplots indicated that these measures were linearly related.

Table 1 includes descriptive statistics for the measures used in the study. There was high internal consistency as shown in Table 1. On average participants experienced a mild level of OCD symptoms and severity of symptoms, depressive symptoms and anxiety symptoms.

Independent samples *t*-tests of gender differences revealed no significant differences (shown in Appendix A) across all measures except for the PSWQ $t(137) = -2.78$, $p = .006$, where females ($M = 50.86$) had significantly higher scores than males ($M = 43.7$).

Age was significantly negatively correlated with the Y-BOCS ($r = -.32$, 95% *CI* -.47, -.18), DOCS ($r = -.18$, 95% *CI* -.35, -.004), ESS ($r = -.49$, 95% *CI* -.62, -.34), OAS ($r = -.33$, 95% *CI* -.45, -.17), CESD-R ($r = -.38$, 95% *CI* -.54, -.22) and PSWQ ($r = -.38$, 95% *CI* = -

.53, -.21) based on 1000 bootstrapping resamples with bias corrected and accelerated confidence intervals.

The results showed significant group education differences with OCD symptoms, internal shame and depression. One-way ANOVAS showed scores for Y-BOCS $F(3, 135) = 2.88$, $p = .038$, ESS $F(3, 132) = 5.93$, $p = .001$ and the CESD-R, $F(3, 130) = 2.70$, $p = .047$, decreased with higher education levels, while there were no significant group differences between education level and scores on the DOCS, OAS or PSWQ (see Appendix B). Tukey's HSD determined that the Y-BOCS contained significant differences between being in Highschool/being a Highschool Graduate ($M = 11.65$, $SD = 7.02$) and completing a Postgraduate degree ($M = 8.35$, $SD = 5.97$); the ESS showed significant difference between completing an Undergraduate degree ($M = 57.46$, $SD = 16.28$) and completing a Postgraduate degree ($M = 46.05$, $SD = 13.18$). Tukey's HSD based on 1000 bootstrap samples determined that the CESD-R showed significant differences between completing High School ($M = 15.12$, $SD = 15.19$) and a Postgraduate degree ($M = 7.41$, $SD = 11.22$).

3.1 Tests of Research Questions 1 and 2: Bivariate Relationships of Measures

OCD symptom severity as measured using the Y-BOCS was significantly positively correlated with internal shame and external shame, and internal shame had a stronger correlation than external shame.

Both internal shame and external shame were associated with anxiety and depression. Pearson's correlations showed a moderate correlation between internal shame and depression and a strong correlation between internal shame and anxiety. Pearson's correlations revealed a moderate correlation between external shame with depression and anxiety. *Table* 2 shows the correlations for the Y-BOCS, DOCS, ESS, OAS, CESD-R and PSWQ.

Table 1

Internal Consistency, Means, Standard Deviations and Confidence Intervals for Measures of OCD Symptoms, OCD Dimensions, External Shame, Internal Shame, Depression and Anxiety

Measures	α	Mean	SD	95% Confidence Interval for ICC	
				Lower Bound	Upper Bound
Y-BOCS	.88	8.32	5.94	.84	.91
DOCS	.90	10.92	8.12	.87	.92
ESS	.96	51.40	15.5	.94	.97
OAS	.95	19.85	12.95	.94	.96
CESD-R	.94	9.61	11.62	.92	.95
PSWQ	.94	48.76	14	.93	.96

Notes: Y-BOCS = Yale-Brown Obsessive-Compulsive Scale, DOCS = Dimensional Obsessive-Compulsive Scale, ESS = Experience of Shame Scale, OAS = Other as Shamer Scale, CESD-R = Center for Epidemiologic Studies Depression Scale – Revised, PSWQ = Penn State Worry Questionnaire

Table 2

Summary of Correlations for Scores on Y-BOCS, DOCS, ESS, OAS, CESD-R and PSWQ with 1000 resamples and bias corrected confidence intervals

	1	2	3	4	5	6
1. Y-BOCS						
2. DOCS	.62**					
	[.51, .71]					
3. ESS	.61**	.49**				
	[.49, .72]	[.35, .61]				
4. OAS	.51**	.46**	.68**			
	[.33, .65]	[.26, .62]	[.59, .77]			
5. CESD-R	.52**	.41**	.57**	.53**		
	[.39, .63]	[.24. .56]	[.45, .68]	[.39, .67]		
6. PSWQ	.61**	.42**	.66**	.58**	.58**	
	[.50, .71]	[.26, .57]	[.56, .75]	[.45, .69]	[.44, .69]	

Notes: Y-BOCS = Yale-Brown Obsessive-Compulsive Scale, DOCS = Dimensional Obsessive-Compulsive Scale, ESS = Experience of Shame Scale, OAS = Other as Shamer Scale, CESD-R = Center for Epidemiologic Studies Depression Scale – Revised, PSWQ = Penn State Worry Questionnaire,

*** p<0.01*

3.2 Research Question Two: Linear Hierarchical Regression

A three-stage hierarchical multiple regression was conducted with the Y-BOCS as the dependent variable. Age, gender and education levels were entered at the first stage of the regression to control for demographic influences. The CESD-R and PSWQ were entered at the second stage, and the OAS or the ESS was entered at the final stage. Table 3 shows the summary of the hierarchical regression analysis for variables including external shame predicting the Y-BOCS derived from 1000 resamples and bias corrected confidence intervals.

The hierarchical multiple regression revealed that in the first Model, demographic factors including age, gender and education level contributed significantly to the regression model, $F(5, 108) = 3.94$, $p = < .005$) and accounted for 15.4% of the variance in OCD symptoms on the Y-BOCS. In the second model, where the CESD-R and PSWQ were introduced, this explained 43.4% of the variance, and significantly contributed to the regression model, $F(2, 106) = 11.59$, $p < .001$).

The final model introduced the measure of external shame, which accounted for 46.2% of the variance in the Y-BOCS, and significantly contributed to the regression model, $F(1, 105) = 11.27$, $p < .001$). In the final model the CESD-R was no longer a specific predictor, indicating that the external shame measure is contributing to variance in OCD severity independently of depression.

Table 4 shows the summary of the hierarchical regression for variables including internal shame predicting the Y-BOCS based off of 1000 resamples and bias corrected confidence intervals.

The hierarchical multiple regression revealed that in the first Model, demographic factors including age, gender and education level contributed significantly to the regression model, $F(5, 107) = 3.68$, $p < .005$) and accounted for 14.7% of the variance in OCD symptoms on the Y-BOCS. In the second model, where the CESD-R and PSWQ were

introduced, this explained 42.5% of the variance, and significantly contributed to the regression model, $F(7, 105) = 11.07, p < .001$.

The final model introduced the measure of internal shame, which accounted for 49.7% of the variance in the Y-BOCS, and significantly contributed to the regression model, $F(8, 104) = 12.83, p < .001$. Similarly to the previous regression by the final model, the CESD-R was no longer a predictor of OCD symptom severity, indicating that internal shame contributes to variance in OCD symptom severity independently of depression.

Table 3

Summary of Hierarchical Regression Analysis for Variables (demographic variables, depression and anxiety measures and external shame measure) predicting Y-BOCS

	Variable	*Unstandardized Coefficients*		Standardised Coefficient
		B	*SE B*	β
Model 1	(Constant)	12.55 [9.38, 15.86]	1.96	
	Age	-.12 [-.19, -.05]	.04	-.31**
	Gender	.80 [-1.40, 3.10]	1.17	.06
	Education 1	-1.62 [-4.30, 1.23]	1.69	-.12
	Education 2	-.91 [-2.57, .88]	.96	-.10
	Education 3	-.05 [-1.88, 1.73]	.99	.01
	Model 2			
Model 2	(Constant)	-1.13 [-6.59, 3.63]	2.59	
	Age	-.03 [-.09, .03]	.04	-.07
	Gender	-.62 [-2.47, 1.41]	.99	-.05
	Education 1	-2.04 [-3.93, -.18]	1.42	-.15
	Education 2	.17 [-1.42, 1.51]	.82	.02
	Education 3	.21 [-1.37, 1.68]	.83	.03

		B [95% CI]	SE	β
	CESD-R	.12 [-.01, .20]	.05	.20*
	PSWQ	.20 [.12, .28]	.04	.48**
	Model 3			
Model 3	(Constant)	-1.05 [-6.71, 4.02]	2.53	
	Age	-.02 [-.08, .04]	.03	-.06
	Gender	-.78 [-2.51, 1.21]	.98	-.06
	Education 1	-1.93 [-3.85, .09]	1.39	-.14
	Education 2	-.06 [-1.53, 1.34]	.81	-.05
	Education 3	.01 [-1.62, 1.45]	.82	.00
	CESD-R	.07 [-.06, .16]	.05	.13
	PSWQ	.16 [.08, .25]	.04	.39**
	OAS	.11 [.00, .20]	.05	.22*

*Note*s: CESD-R = Center for Epidemiologic Studies Depression Scale – Revised, PSWQ = Penn State Worry Questionnaire, OAS = Other as Shamer Scale

Model 1, R^2 = .15, adjusted R^2 = .12, Model 2, R^2 = .43, adjusted R^2 = .40, Model 3, R^2 = .46, adjusted R^2 = .42.

*$p \leq .05$, **$p \leq .01$

Table 4

Summary of Hierarchical Regression Analysis for Variables (demographic variables, depression and anxiety measures and internal shame measure) predicting Y-BOCS

	Variable	*Unstandardized Coefficients*		Standardised Coefficient
		B	*SE B*	β
Model 1	(Constant)	12.30 [9.38, 15.86]	1.99	
	Age	-.11 [-.19, -.05]	.04	-.29**
	Gender	.91 [-1.40, 3.10]	1.18	.07
	Education 1	-1.71 [-4.30, 1.23]	1.69	-.12
	Education 2	-.76 [-2.57, .88]	.97	-.08
	Education 3	-.16 [-1.88, 1.73]	1	.02
	Model 2			
Model 2	(Constant)	-1.16 [-6.59, 3.63]	2.60	
	Age	-.03 [-.09, .03]	.04	-.07
	Gender	-.56 [-2.47, 1.41]	1	-.44
	Education 1	-2.09 [-3.93, -.18]	1.42	-.15
	Education 2	.23 [-1.42, 1.51]	.83	.03

	Education 3	.17 [-1.37, 1.68]	.84	.02
	CESD-R	.11 [-.01, .20]	.05	.20*
	PSWQ	.20 [.12, .28]	.04	.48**
	Model 3			
Model 3	(Constant)	-5.78 [-6.71, 4.02]	2.72	
	Age	-.00 [-.08, .04]	.03	-.01
	Gender	-.04 [-2.51, 1.21]	.95	-.00
	Education 1	-2.22 [-3.85, .09]	1.34	-.16
	Education 2	-.62 [-1.53, 1.34]	.81	-.07
	Education 3	.40 [-1.62, 1.45]	.79	.05
	CESD-R	.05 [-.06, .16]	.05	.09
	PSWQ	.11 [.08, .25]	.04	.26**
	ESS	.16 [.00, .20]	.04	.42**

*Note*s CESD-R = Center for Epidemiologic Studies Depression Scale – Revised, PSWQ = Penn State Worry Questionnaire, ESS = Experience of Shame Scale

Model 1, R^2 = .15, adjusted R^2 = .12, Model 2, R^2 = .43, adjusted R^2 = .40, Model 3, R^2 = .50, adjusted R^2 = .46.

*p ≤ .05, **p ≤ .01*

3.3 Research Question Three: Bivariate Relationships of Shame and OCD Profiles

The final research question aimed to explore how shame would correlate with the OCD symptom profiles. Internal shame was significantly correlated with the Harm profile of OCD, as was external shame. Table 5 shows the correlations between the OCD symptoms profiles with measures of internal and external shame.

Steiger's (1980) method for comparing elements of a correlation matrix was used to determine whether one type of shame had stronger correlations with OCD symptom profiles. The results showed no significant differences between the OAS and ESS on symptom profile measures.

However, this analysis showed significant differences between shame with specific OCD profiles. A 2-tailed *p*-test showed statistically significant differences when comparing the OAS-Harm profile with the OAS-Taboo Thoughts profile, $z = -1.98$, $p = .048$ and the OAS-Contamination profile with the OAS-Harm profile, $z = 2.04$, $p = .041$. A 2-tailed *p*-test showed statistically significant differences when comparing the ESS-Contamination profile with the ESS-harm profile, $z = -3.29$, $p = .001$.

Table 5

Summary of Correlations for Scores on the subscales of the DOCS (Contamination, Harm, Symmetry and Mindfulness) and shame measures,

with 1000 resamples and bias corrected confidence intervals

	ESS	OAS
1. Contamination	.17* [.00,.31]	.25** [.03, .43]
2. Harm	.46** [.30, .60]	.43** [.23, .58]
3. Taboo Thoughts	.34** [.16, .50]	.27** [.11, .44]
4. Symmetry	.32** [.18, .44]	.35** [.18, .49]

Notes: ESS = Experience of Shame Scale, OAS = Other as Shamer Scale, Contamination (N = 143), Harm (N = 142), Taboo Thoughts (N = 141), Symmetry (N=141)

* p<0.05, **p<0.01

4. Discussion

This study investigated the relationship between types of shame with symptoms of OCD, and how shame contributes to symptom severity in OCD. The first aim of this study was to investigate whether increased shame was associated with increased OCD symptom severity. Although to our knowledge previous studies have not investigated the relationship between OCD symptom severity and types of shame specifically, our results support previous findings that increases in shame are associated with increases in OCD symptoms (Weingarden & Renshaw, 2014). These findings could be explained using Valentiner and Smith's (2008) cognitive-behavioural framework suggesting that the relationship between OCD and shame is due to the thought-action fusion (TAF). Although this idea was formulated with respect to shame more generally, it could also arguably apply to specific types of shame. For example, if someone has the thought about causing harm to someone else, it may to them feel morally equivalent to actually performing this obsession and bring about internal and/or external shame, causing compulsions to be performed in an attempt to alleviate this distress.

Furthermore, the relationship between types of shame and OCD symptoms may be linked to whether compulsions are overt or covert. Covert obsessions may be linked to higher rates in external shame as one may be more aware of others observing and judging their obsessions, whereas overt obsessions may relate to more negative views of oneself, leading to increased internal shame.

As depression and anxiety have associations with both shame and OCD, the second aim of this study was to explore the relationship between types of shame with OCD, depression and anxiety. Specifically, this research question investigated whether shame contributes to OCD symptom severity, when controlling for depression and anxiety. The

results suggest that both internal and external shame significantly contribute to OCD symptom severity, independently of depression and anxiety. This implies that the relationship between OCD and shame is not just due to their mutual relationship with anxiety and depression.

These findings indicate that it is important to target shame when providing interventions for OCD, as this suggests that shame is uniquely related to OCD. As shame seems to have an independent relationship with OCD this indicates that the presence of shame is associated with worse OCD symptom severity. This provides further support that it may be important to focus on reducing types of shame during intervention for people with OCD as this may result in greater reductions in the severity of OCD symptoms and improvements in quality of life.

The final research question explored how types of shame relate to the OCD profiles: symmetry, contamination, responsibility for harm and taboo thoughts. The results showed significant correlations between the different OCD profiles and types of shame, indicating that increases in internal and external shame are associated with increases in different OCD dimension symptomology.

Our results reflected Wetterneck et al.'s (2014) previous study, however our study had stronger correlations for the harm profile with types of shame. While this study replicated to an extent the effect in Wetterneck et al.'s (2014) article for the symmetry profile with the measure of external shame, it also showed a slightly lower correlation between internal shame and symmetry. The present results also showed a significant correlation with both types of shame and the taboo thoughts and contamination dimension of OCD, which contradicts previous findings where there were nonsignificant correlations for these measures (Wetterneck et al., 2014).

The third research question also explored whether the OCD dimensions had stronger links with types of shame than others. While there were no significant differences between external shame and internal shame with OCD profiles, the harm profile had stronger links with internal and external shame when compared to other symptom profiles. In particular, both internal and external shame seemed to share stronger links with the harm dimension compared with the contamination dimension, and external shame also seemed to be more strongly related to the harm profile than the taboo-thoughts profile.

These findings may be explained by the cognitive-behavioural framework of shame and OCD. For example, if someone has a harm obsession (i.e., a thought about harming another) the thought-action fusion (TAF) suggests that they will equate this to actually carrying out the obsessional thought and feel as if they have committed the harmful act. This belief may then lead to thoughts about being defective or a bad person, which may help to explain the link between OCD and the defectiveness/shame schema. Additionally, as the harm profile is less recognised by the wider community as OCD and is more stigmatised by others, this may lead people with these profiles to internalise their experiences in fear that they are a bad person for having these thoughts and/or that they will be misunderstood by others. If people are aware that they are more likely to be judged by others based on their obsessions they may experience greater external shame (stigma awareness). These may have serious implications for treatment as people may not share their obsessions and/or compulsions with their therapist in the fear of being judged meaning that specific symptoms are not being targeted in treatment, or they may not seek help in the first place. Addressing shame for people with these obsessions may help people view themselves in a more compassionate manner and lead to less self-criticism. Further, this may help to normalise the experiences associated with the harm obsession and in particular this may help people to feel

less judged by others, and to be more forthcoming with information in therapy, leading to better treatment outcomes.

Overall, these findings suggest that shame, and more specifically internal and external shame, may be an important aspect to consider when providing treatment for OCD, and particularly for the harm dimension. It may be useful to focus on strategies to reduce these types of shame in conjunction with a widely used OCD intervention such as Exposure and Response Prevention (ERP). By using shame-reduction strategies, such as CBT (tailored to shame), mindfulness exercises and/or Compassion Focussed Therapy, combined with ERP this may lead to greater decreases in OCD symptom severity than by using ERP alone. This approach may help to reduce the distress that accompanies shame when obsessions occur and as a result people may pay less attention to obsessions and may be less likely to perform compulsions.

This study had several limitations. First, the sample was a convenience sample recruited through the University of Adelaide Unified website and through Facebook. Therefore, the majority of participants are Australian ($N = 74.8\%$) raising concerns with respect to the extent to which this sample could be said to be representative of the wider population, as well as how applicable these findings may be in other cultures.

Second, all measures on this study were self-report measures making room for bias and error in the results. There is a chance that participants rated items in a socially desirable way, affecting the overall accuracy of the results.

Another limitation is that this study did not fully assess other comorbidities (types of anxiety, depression), and rather only measured symptoms of these disorders. This study used the PSWQ, which largely measures symptoms of Generalised Anxiety Disorder and therefore it is unclear the extent to which these findings can be generalised to other anxiety disorders that are associated with OCD such as Social Anxiety Disorder and Panic Disorder.

Another limitation is that this study did not measure stigma, which has commonly been linked to OCD and might have helped to explain some of the findings in this study (Fennell & Liberato, 2007; McCarty et al., 2016). Including a measure of stigma in this study might have helped to understand if the relationship between shame and OCD dimensions can be further explained by stigma as it is commonly linked to the individual OCD profiles and shame.

The overall findings add weight to the current literature as it helps to understand the relationship between OCD and shame. In particular this study suggests that shame contributes to OCD symptom severity, independently of factors such as depression. Further, this study suggests that it may be particularly useful to target internal and external shame during OCD treatment for all symptom profiles, but particularly those with obsessions and compulsions relating to the harm dimension. This study should be replicated with a clinical sample to see if it generalises to a clinical population. Overall, this study suggests that it may be useful to treat shame through treatment approaches such as Compassion-Focussed Therapy in conjunction with interventions such as ERP or Cognitive Behavioural Therapy to effectively reduce OCD symptoms and severity. The implied negative impact that types of shame have on exacerbating OCD symptoms deserves further attention.

References

Abramowitz, J. S., Deacon, B. J., Olatunji, B. O., Wheaton, M. G., Berman, N. C., Losardo, D., Timpano, K. R., McGrath, P. B., Riemann, B. C., Adams, T., Björgvinsson, T., Storch, E. A., & Hale, L. R. (2010). Assessment of Obsessive-Compulsive Symptom Dimensions: Development and Evaluation of the Dimensional Obsessive-Compulsive Scale. *Psychological assessment, 22*(1), 180-198. https://doi.org/10.1037/a0018260

Andrews, B., Qian, M., & Valentine, J. D. (2002). Predicting depressive symptoms with a new measure of shame: The Experience of Shame Scale. *British journal of clinical psychology, 41*(1), 29-42. https://doi.org/10.1348/014466502163778

Balsamo, M., Macchia, A., Carlucci, L., Picconi, L., Tommasi, M., Gilbert, P., & Saggino, A. (2015). Measurement of External Shame: An Inside View. *Journal of personality assessment, 97*(1), 81-89. https://doi.org/10.1080/00223891.2014.947650

Becker, M. P. I., Nitsch, A. M., Schlösser, R., Koch, K., Schachtzabel, C., Wagner, G., Miltner, W. H. R., & Straube, T. (2014). Altered emotional and BOLD responses to negative, positive and ambiguous performance feedback in OCD. *Social cognitive and affective neuroscience, 9*(8), 1127-1133. https://doi.org/10.1093/scan/nst095

Berman, N. C., Summers, B. J., Weingarden, H., & Wilhelm, S. (2019). Positive affect and imaginal exposure processes in patients with taboo obsessions. *Journal of obsessive-compulsive and related disorders, 23*, 100474. https://doi.org/10.1016/j.jocrd.2019.100474

Besiroglu, L., Uguz, F., Saglam, M., Agargun, M. Y., & Cilli, A. S. (2007). Factors associated with major depressive disorder occurring after the onset of obsessive-compulsive disorder. *Journal of Affective Disorders, 102*(1), 73-79. https://doi.org/https://doi.org/10.1016/j.jad.2006.12.007

Boudewyns, V., Turner, M. M., & Paquin, R. S. (2013). Shame-Free Guilt Appeals: Testing the

    Emotional and Cognitive Effects of Shame and Guilt Appeals. *Psychology & marketing,*

    30(9), 811-825. https://doi.org/10.1002/mar.20647

Brown, T. A., Antony, M. M., & Barlow, D. H. (1992). Psychometric properties of the Penn state

    worry questionnaire in a clinical anxiety disorders sample. *Behaviour Research and Therapy,*

    30(1), 33-37. https://doi.org/10.1016/0005-7967(92)90093-V

Callow, T. J., Moffitt, R. L., & Neumann, D. L. (2020). External shame and its association with

    depression and anxiety: the moderating role of self-compassion. *Australian Psychologist,*

    56(1), 70-80. https://doi.org/10.1080/00050067.2021.1890984

Cândea, D.-M., & Szentagotai-Tătar, A. (2018). Shame-proneness, guilt-proneness and anxiety

    symptoms: A meta-analysis. *Journal of Anxiety Disorders, 58*, 78-106.

    https://doi.org/10.1016/j.janxdis.2018.07.005

Chase, T., Wetterneck, C. T., Bartsch, R. A., Leonard, R. C., & Riemann, B. C. (2015). Investigating

    Treatment Outcomes Across OCD Symptom Dimensions in a Clinical Sample of OCD

    Patients. *Cognitive behaviour therapy, 44*(5), 365-376.

    https://doi.org/10.1080/16506073.2015.1015162

Cole, J. L., & Warman, D. M. (2019). An examination of Continuum Beliefs Versus Biogenetic

    beliefs in reducing stigma toward violent intrusive thoughts in OCD. *Journal of obsessive-*

    compulsive and related disorders, 23, 100478. https://doi.org/10.1016/j.jocrd.2019.100478

Crino, R. D., & Andrews, G. (1996). Obsessive-compulsive disorder and axis I comorbidity. *Journal*

    of Anxiety Disorders, 10(1), 37-46. https://doi.org/https://doi.org/10.1016/0887-

    6185(95)00033-X

Diagnostic and statistical manual of mental disorders : DSM-III. (1980). (3rd edition. ed.).

    American Psychiatric Association.

Diagnostic and statistical manual of mental disorders : DSM-III-R. (1987). (3rd ed., rev ed.).

   American Psychiatric Association.

Diagnostic and statistical manual of mental disorders : DSM-IV. (1994). (4th ed. ed.). American

   Psychiatric Association.

Diagnostic and statistical manual of mental disorders : DSM-5. (2013). (Fifth edition. ed.).

   American Psychiatric Association.

Durna, G., Yorulmaz, O., & Aktaç, A. (2019). Public stigma of obsessive compulsive disorder and

   schizophrenic disorder: Is there really any difference? *Psychiatry research, 271*, 559-564.

   https://doi.org/https://doi.org/10.1016/j.psychres.2018.12.065

Eaton, W. W., Smith, C., Ybarra, M., Muntaner, C., & Tien, A. (2004). Center for Epidemiologic

   Studies Depression Scale: Review and Revision (CESD and CESD-R). In *The use of

   psychological testing for treatment planning and outcomes assessment: Instruments for

   adults, Volume 3, 3rd ed.* (pp. 363-377). Lawrence Erlbaum Associates Publishers.

Fennell, D., & Liberato, A. S. Q. (2007). Learning to Live with OCD: Labeling, the Self, and

   Stigma. *Deviant behavior, 28*(4), 305-331. https://doi.org/10.1080/01639620701233274

Fergus, T. A., Valentiner, D. P., McGrath, P. B., & Jencius, S. (2010). Shame- and guilt-proneness:

   Relationships with anxiety disorder symptoms in a clinical sample. *Journal of Anxiety

   Disorders, 24*(8), 811-815. https://doi.org/10.1016/j.janxdis.2010.06.002

Gilbert, P. (2014). The origins and nature of compassion focused therapy. *British journal of clinical

   psychology, 53*(1), 6-41. https://doi.org/10.1111/bjc.12043

Goffnett, J., Liechty, J. M., & Kidder, E. (2020). Interventions to reduce shame: A systematic

   review. *Journal of Behavioral and Cognitive Therapy, 30*(2), 141-160.

   https://doi.org/10.1016/j.jbct.2020.03.001

Goodman, W. K., Price, L. H., Rasmussen, S. A., Mazure, C., Fleischmann, R. L., Hill, C. L.,

   Heninger, G. R., & Charney, D. S. (1989). The Yale-Brown Obsessive Compulsive Scale: I.

Development, Use, and Reliability. *Archives of General Psychiatry, 46*(11), 1006-1011. https://doi.org/10.1001/archpsyc.1989.01810110048007

Goss, K., Gilbert, P., & Allan, S. (1994). An exploration of shame measures—I: The other as Shamer scale. *Personality and individual differences, 17*(5), 713-717. https://doi.org/10.1016/0191-8869(94)90149-X

Homonoff, Z., & Sciutto, M. J. (2019). The effects of obsession type and diagnostic label on OCD stigma. *Journal of obsessive-compulsive and related disorders, 23*, 100484. https://doi.org/10.1016/j.jocrd.2019.100484

Kim, J. E., Lee, S. W., & Lee, S. J. (2013). Relationship between early maladaptive schemas and symptom dimensions in patients with obsessive-compulsive disorder. *Psychiatry research, 215*(1), 134-140. https://doi.org/10.1016/j.psychres.2013.07.036

Kim, S., Thibodeau, R., & Jorgensen, R. S. (2011). Shame, Guilt, and Depressive Symptoms: A Meta-Analytic Review. *Psychological Bulletin, 137*(1), 68-96. https://doi.org/10.1037/a0021466

Krzanowska, E., & Kuleta, M. (2017). From anxiety to compulsivity – a review of changes to OCD classification in DSM-5 and ICD-11. *Archives of psychiatry and psychotherapy, 19*(3), 7-15. https://doi.org/10.12740/APP/76150

López-Solà, C., Fontenelle, L. F., Bui, M., Hopper, J. L., Pantelis, C., Yücel, M., Menchón, J. M., Alonso, P., & Harrison, B. J. (2016). Aetiological overlap between obsessive–compulsive related and anxiety disorder symptoms: Multivariate twin study. *British journal of psychiatry, 208*(1), 26-33. https://doi.org/10.1192/bjp.bp.114.156281

Matos, M., Galhardo, A., Moura-Ramos, M., Steindl, S. R., Bortolon, C., Hiramatsu, Y., Baumann, T., Yiu, R. X. Q., & Ferreira, C. (2021). Measuring shame across five countries: dimensionality and measurement invariance of the external and internal shame scale. *Current Psychology*. https://doi.org/10.1007/s12144-021-02019-5

Matos, M., Pinto-Gouveia, J., & Gilbert, P. (2013). The Effect of Shame and Shame Memories on Paranoid Ideation and Social Anxiety. *Clinical psychology and psychotherapy, 20*(4), 334-349. https://doi.org/10.1002/cpp.1766

Matos, M., Pinto-Gouveia, J., Gilbert, P., Duarte, C., & Figueiredo, C. (2015). The Other As Shamer Scale – 2: Development and validation of a short version of a measure of external shame. *Personality and individual differences, 74*, 6-11. https://doi.org/10.1016/j.paid.2014.09.037

McCarty, R. J., Guzick, A. G., Swan, L. K., & McNamara, J. P. H. (2016). Stigma and recognition of different types of symptoms in OCD. *Journal of obsessive-compulsive and related disorders, 12*, 64-70. https://doi.org/10.1016/j.jocrd.2016.12.006

Meyer, T. J., Miller, M. L., Metzger, R. L., & Borkovec, T. D. (1990). Development and validation of the penn state worry questionnaire. *Behaviour Research and Therapy, 28*(6), 487-495. https://doi.org/10.1016/0005-7967(90)90135-6

Mondal, A., & Kumar, M. (2020). Role of comorbid depressive symptoms on the cognitive deficits in obsessive compulsive disorder. *Industrial psychiatry journal, 29*(2), 302-309. https://doi.org/10.4103/ipj.ipj_73_19

Pinciotti, C. M., Riemann, B. C., & Abramowitz, J. S. (2021). Intolerance of uncertainty and obsessive-compulsive disorder dimensions. *Journal of Anxiety Disorders, 81*, 102417. https://doi.org/https://doi.org/10.1016/j.janxdis.2021.102417

Proeve, M., Anton, R., & Kenny, M. (2018). Effects of mindfulness-based cognitive therapy on shame, self-compassion and psychological distress in anxious and depressed patients: A pilot study. *Psychology and psychotherapy, 91*(4), 434-449. https://doi.org/10.1111/papt.12170

Psaradakis, Z., & Vávra, M. (2020). Normality tests for dependent data: large-sample and bootstrap approaches. *Communications in statistics. Simulation and computation, 49*(2), 283-304. https://doi.org/10.1080/03610918.2018.1485941

Radloff, L. S. (1977). The CES-D Scale:A Self-Report Depression Scale for Research in the General

    Population. *Applied Psychological Measurement, 1*(3), 385-401.

    https://doi.org/10.1177/014662167700100306

Reddy, Y. C., Sudhir, P., Manjula, M., Arumugham, S., & Narayanaswamy, J. (2020). Clinical

    Practice Guidelines for Cognitive-Behavioral Therapies in Anxiety Disorders and Obsessive-

    Compulsive and Related Disorders. *Indian journal of psychiatry, 62*(8), 230-250.

    https://doi.org/10.4103/psychiatry.IndianJPsychiatry_773_19

Remmerswaal, K. C. P., Batelaan, N. M., Hoogendoorn, A. W., van der Wee, N. J. A., van Oppen,

    P., & van Balkom, A. J. L. M. (2020). Four-year course of quality of life and obsessive–

    compulsive disorder. *Social Psychiatry and Psychiatric Epidemiology, 55*(8), 989-1000.

    https://doi.org/10.1007/s00127-019-01779-7

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

Singh, S., Wetterneck, C. T., Williams, M. T., & Knott, L. E. (2016). The role of shame and

    symptom severity on quality of life in Obsessive-Compulsive and Related Disorders. *Journal

    of obsessive-compulsive and related disorders, 11*, 49-55.

    https://doi.org/10.1016/j.jocrd.2016.08.004

Sedighimornani, N., Rimes, K. A., & Verplanken, B. (2019). Exploring the Relationships Between

    Mindfulness, Self-Compassion, and Shame. *SAGE open, 9*(3), 215824401986629.

    https://doi.org/10.1177/2158244019866294

Stanley, M. A., Diefenbach, G. J., Hopko, D. R., Novy, D., Kunik, M. E., Wilson, N., & Wagener, P.

    (2003). The Nature of Generalized Anxiety in Older Primary Care Patients: Preliminary

    Findings. *Journal of psychopathology and behavioral assessment, 25*(4), 273-280.

    https://doi.org/10.1023/A:1025903214019

Steiger, J. H. (1980). Tests for comparing elements of a correlation matrix. *Psychological Bulletin,*
87(2), 245-251. https://doi.org/10.1037/0033-2909.87.2.245

Storch, E. A., De Nadai, A. S., Conceição do Rosário, M., Shavitt, R. G., Torres, A. R., Ferrão, Y.
A., Miguel, E. C., Lewin, A. B., & Fontenelle, L. F. (2015). Defining clinical severity in
adults with obsessive–compulsive disorder. *Comprehensive psychiatry, 63*, 30-35.
https://doi.org/10.1016/j.comppsych.2015.08.007

Szentágotai-Tătar, A., Nechita, D.-M., & Miu, A. C. (2020). Shame in Anxiety and Obsessive-
Compulsive Disorders. *Current psychiatry reports, 22*(4), 16-16.
https://doi.org/10.1007/s11920-020-1142-9

Tadayonnejad, R., Wilson, A. C., Corlier, J., Lee, J. C., Ginder, N. D., Levitt, J. G., Wilke, S. A.,
Marder, K. G., Krantz, D., Bari, A. A., Feusner, J. D., Pouratian, N., & Leuchter, A. F.
(2020). Sequential multi-locus transcranial magnetic stimulation for treatment of obsessive-
compulsive disorder with comorbid major depression: A case series. *Brain stimulation, 13*(6),
1600-1602. https://doi.org/10.1016/j.brs.2020.10.003

Tangney, J. P., & Dearing, R. L. (2002). Gender differences in morality. In *The psychodynamics of*
gender and gender role. (pp. 251-269). American Psychological Association.
https://doi.org/10.1037/10450-007

Tangney, J. P., Wagner, P., & Gramzow, R. (1992). Proneness to Shame, Proneness to Guilt, and
Psychopathology. *Journal of abnormal psychology (1965), 101*(3), 469-478.
https://doi.org/10.1037/0021-843X.101.3.469

Torres, A. R., Fontenelle, L. F., Shavitt, R. G., Ferrão, Y. A., do Rosário, M. C., Storch, E. A., &
Miguel, E. C. (2015). Comorbidity variation in patients with obsessive–compulsive disorder
according to symptom dimensions: Results from a large multicentre clinical sample. *Journal*
of Affective Disorders, 190, 508-516. https://doi.org/10.1016/j.jad.2015.10.051

Tükel, R., Polat, A., Özdemir, Ö., Aksüt, D., & Türksoy, N. (2002). Comorbid conditions in obsessive-compulsive disorder. *Comprehensive psychiatry, 43*(3), 204-209. https://doi.org/10.1053/comp.2002.32355

Valentiner, D. P., & Smith, S. A. (2008). Believing that Intrusive Thoughts Can be Immoral Moderates the Relationship Between Obsessions and Compulsions for Shame-prone Individuals. *Cognitive therapy and research, 32*(5), 714-720. https://doi.org/10.1007/s10608-007-9179-1

Van Ameringen, M., Patterson, B., & Simpson, W. (2014). DSM-5 OBSESSIVE-COMPULSIVE AND RELATED DISORDERS: CLINICAL IMPLICATIONS OF NEW CRITERIA. *Depression and anxiety, 31*(6), 487-493. https://doi.org/10.1002/da.22259

Van Dam, N. T., & Earleywine, M. (2010). Validation of the Center for Epidemiologic Studies Depression Scale—Revised (CESD-R): Pragmatic depression assessment in the general population. *Psychiatry research, 186*(1), 128-132. https://doi.org/10.1016/j.psychres.2010.08.018

Vizin, G., Urbán, R., & Unoka, Z. (2016). Shame, trauma, temperament and psychopathology: Construct validity of the Experience of Shame Scale. *Psychiatry research, 246*, 62-69. https://doi.org/10.1016/j.psychres.2016.09.017

Weingarden, H., & Renshaw, K. D. (2014). Shame in the obsessive compulsive related disorders: A conceptual review. *Journal of Affective Disorders, 171*, 74-84. https://doi.org/10.1016/j.jad.2014.09.010

Weingarden, H., Renshaw, K. D., Wilhelm, S., Tangney, J. P., & DiMauro, J. (2016). Anxiety and Shame as Risk Factors for Depression, Suicidality, and Functional Impairment in Body Dysmorphic Disorder and Obsessive Compulsive Disorder. *The journal of nervous and mental disease, 204*(11), 832-839. https://doi.org/10.1097/NMD.0000000000000498

Welkowitz, L. A., Struening, E. L., Pittman, J., Guardino, M., & Welkowitz, J. (2000). Obsessive-Compulsive Disorder and Comorbid Anxiety Problems in a National Anxiety Screening Sample. *Journal of Anxiety Disorders, 14*(5), 471-482. https://doi.org/10.1016/S0887-6185(00)00034-7

Wetterneck, C. T., Leonard, R. C., Adams, T. G., Riemann, B. C., Grau, P., & Franklin, M. E. (2020). The effects of depression on the treatment of OCD in a residential sample. *Bulletin of the Menninger Clinic, 84*(Supplement A), 12-33. https://doi.org/10.1521/bumc.2020.84.suppA.12

Wetterneck, C. T., Singh, S., & Hart, J. (2014). Shame proneness in symptom dimensions of obsessive-compulsive disorder. *Bulletin of the Menninger Clinic, 78*(2), 177-190. https://doi.org/10.1521/bumc.2014.78.2.177

Yap, K., Mogan, C., & Kyrios, M. (2012). Obsessive-compulsive disorder and comorbid depression: The role of OCD-related and non-specific factors. *Journal of Anxiety Disorders, 26*(5), 565-573. https://doi.org/https://doi.org/10.1016/j.janxdis.2012.03.002

Zitterl, W., Demal, U., Aigner, M., Lenz, G., Urban, C., Zapotoczky, H. G., & Zitterl-Eglseer, K. (2000). Naturalistic Course of Obsessive Compulsive Disorder and Comorbid Depression. *Psychopathology, 33*(2), 75-80. https://doi.org/10.1159/000029124

Contribution Statement

DR was responsible for study design, data-collection, analysis and interpretation and manuscript drafts; MP contributed to study design, analysis and assisted with data interpretation, manuscript draft and revisions; JB contributed to the study design, manuscript draft and revisions.

Appendices

Appendix A

Independent samples *t*-test used to indicate significant gender differences on the various measures revealed nonsignificant differences between males and females on the Y-BOCS $t(142) = -.79$, $p = .43$, DOCS $t(142) = .09$, $p = .93$, ESS $t(139) = -1.11$, $p = .27$,

Appendix B

One-way ANOVA revealed no significant group differences for education level and scores on the DOCS $F(3, 135) = .60$, $p = .62$; the OAS $F(3, 131) = .09$, $p = .97$ and the PSWQ $F(3, 130) = 1.78$, $p = .15$.

Appendix C (Instruction to Authors)

JOURNAL OF OBSESSIVE-COMPULSIVE AND RELATED DISORDERS

ELSEVIER

TABLE OF CONTENTS

DESCRIPTION

Journal of Obsessive-Compulsive and Related Disorders (JOCRD) is an international journal that publishes high quality research and clinically-oriented articles dealing with all aspects of **obsessive-compulsive disorder** (OCD) and related conditions (**OC spectrum disorders**; e.g., **trichotillomania**, **hoarding**, **body dysmorphic disorder**). The journal invites studies of clinical and non-clinical (i.e., student) samples of all age groups from the fields of psychiatry, psychology, neuroscience, and other medical and health sciences. The journal's broad focus encompasses **classification**, **assessment**, **psychological** and **psychiatric treatment**, **prevention**, **psychopathology**, **neurobiology** and **genetics**. Clinical reports (descriptions of innovative treatment methods) and book reviews on all aspects of OCD-related disorders will be considered, as will theoretical and review articles that make valuable contributions.

Suitable topics for manuscripts include:

The boundaries of OCD and relationships with OC spectrum disordersValidation of assessments of obsessive-compulsive and related phenomenaOCD symptoms in diverse social and cultural contextsStudies of neurobiological and genetic factors in OCD and related conditionsExperimental and descriptive psychopathology and epidemiological studiesStudies on relationships among cognitive and behavioral variables in OCD and related disordersInterpersonal aspects of OCD and related disordersEvaluation of psychological and psychiatric treatment and prevention programs, and predictors of outcome.

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Obsessive-compulsive disorder, Misophonia, Anxiety, Neurobiology, Deep Brain Stimulation
Guy Doron, Interdisciplinary Center Herzliya Baruch Ivcher School of Psychology, Herzliya, Israel
Clinical Psychology, OCD and related disorders, mHealth
Darin Dougherty, Massachusetts General Hospital Department of Psychiatry, Boston, Massachusetts, United States of America
OCD, Neuroimaging, Neuromodulation
Brian A. Fallon, Columbia University, New York, New York, United States of America
OCD, Hypochondriasis, Illness Anxiety Disorder, Neuropsychiatric Lyme Disease
Jeanne Fama, Harvard Medical School, Boston, Massachusetts, United States of America
Lara Farrell, Griffith University School of Applied Psychology Mount Gravatt Campus, Mount Gravatt, Australia
Developmental psychopathology, assessment and treatment of child anxiety, obsessive-compulsive and related disorders
Jamie D. Feusner, University of California Los Angeles, Los Angeles, California, United States of America
Body dysmorphic disorder, obsessive-compulsive disorder
Naomi Fineberg, University of Hertfordshire, Hatfield, United Kingdom
Obsessive compulsive and related disorders, Trial design, Clinical psychopharmacology, Neurocognitive models
Christopher A. Flessner, Kent State University Department of Psychological Services, Kent, Ohio, United States of America
OCD, hair pulling, skin picking, BFRB, parenting
Leonardo Fontenelle, Federal University of Rio de Janeiro Institute of Psychiatry, RIO DE JANEIRO, Brazil
Obsessive-Compulsive and Related Disorders
Martin E. Franklin, University of Pennsylvania Department of Psychiatry, Philadelphia, Pennsylvania, United States of America
Randy O. Frost, Smith College, Northampton, Massachusetts, United States of America
Hoarding, Obsessive-Compulsive Disorder, Perfectionism
Michael G. Wheaton, Barnard College, New York, New York, United States of America
David H. Gleaves, University of South Australia, Adelaide, South Australia, Australia
Jon Grant, The University of Chicago, Chicago, Illinois, United States of America
Benjamin Greenberg, Brown University Warren Alpert Medical School, Providence, Rhode Island, United States of America
Jessica Grisham, University of New South Wales, Sydney, New South Wales, Australia
OCD, hoarding, imagery
Eric Hollander, Albert Einstein College of Medicine, Bronx, New York, United States of America
Mujgan Inozu, Hacettepe University, Ankara, Turkey
OCD, Cultural Vulnerability Factors in OCD, VR Studies in OCD
Ryan Jacoby, Massachusetts General Hospital Department of Psychiatry, Boston, Massachusetts, United States of America
Obsessive Compulsive Disorder (OCD), Exposure and Response Prevention (ERP), Intolerance of Uncertainty, Repetitive Negative Thinking
Nancy J. Keuthen, Massachusetts General Hospital Department of Psychiatry, Boston, Massachusetts, United States of America
Trichotillomania, Excoriation Disorder, OCD
Sumant Khanna, Psychiatric Centre, Haryana, India
Vahid Khosravani, Shahid Beheshti University of Medical Sciences, Tehran, Iran
OCD and Other Psychiatric Disorders
Lorrin Koran, Stanford University Medical Center Department of Psychiatry and Behavioral Sciences, Stanford, California, United States of America
OCD, Compulsive Buying, Skin Picking, Gadolinium Deposition Disease
Jun Soo Kwon, Seoul National University, Seoul, South Korea
OCD, High risk, Schizophrenia
Michael Kyrios, Flinders University, Adelaide, Australia
Christine Lochner, Stellenbosch University Department of Psychiatry, Tygerberg, South Africa
OCD, OCRD, body-focused repetitive behaviors, trichotillomania
Luana Marques, Massachusetts General Hospital - Harvard Medical School Center for Nervous System Repair, Boston, Massachusetts, United States of America
Dean McKay, Fordham University Department of Psychology, Bronx, New York, United States of America
Anxiety disorders, obsessive compulsive related disorders, cognitive-behavior therapy
Gabriele Melli, Behavioural and Cognitive Psychology and Psychotherapy Institute, Firenze, Italy
OCD, mental contamination, disgust, assessment
Ross G. Menzies, University of Technology Sydney Graduate School of Health, Ultimo, New South Wales, Australia
Mediation of OCD, origins and maintenance of the disorder, cognitive and behavioural interventions, automated online CBT

Euripedes Miguel, University of Sao Paulo, São Paulo, Brazil
Obsessive-Compulsive Disorder, Tourette Syndrome, Developmental Psychiatry
Steffen Moritz, University Medical Center Hamburg-Eppendorf Department of Psychiatry and Psychotherapy, Hamburg, Germany
Obsessive-compulsive disorder (OCD), Body-focused repetitive behavior (BFRB), Gambling, Delusions, Psychosis
Richard Moulding, Deakin University School of Psychology, Burwood, Australia
OCD, Anxiety, CBT, Treatment, Emotion Regulation
Tanya K. Murphy, University of South Florida Department of Pediatrics, St. Petersburg, Florida, United States of America
OCD and Tourette Disorder, Assessment and Medical Treatment, PAN/PANDAS
Gerald Nestadt, Johns Hopkins Medicine Department of Psychiatry and Behavioral Sciences, Baltimore, Maryland, United States of America
Epidemiology and Genetics
Bunmi Olatunji, Vanderbilt University, Nashville, Tennessee, United States of America
OCD, Anxiety, ERP, CBT
Patricia van Oppen, VU University Medical Center/GGZinGeest (VUMC), Amsterdam, Netherlands
Anxiety symptoms/diagnoses, specific instrument validation, intiating new intervention studies in primary care and secondary care and treatment and assessement of obsessive compulsive disorders
David Pauls, Harvard Medical School, Boston, Massachusetts, United States of America
Katharine Phillips, Weill Cornell Medicine Department of Psychiatry, New York, New York, United States of America
Body dysmorphic disorder, Olfactory reference disorder
John Piacentini, University of California Los Angeles Department of Psychiatry and Biobehavioral Sciences, Los Angeles, California, United States of America
Pediatric OCD and Spectrum, Tourette's, and Anxiety Disorders, Randomized controlled trials, treatment mechanisms
Christine Purdon, University of Waterloo Department of Psychology, Waterloo, Ontario, Canada
Obsessive compulsive disorder, Anxiety, Cognitive behaviour therapy, CBT, Worry, Obsessions, Compulsions
Adam S. Radomsky, Concordia University, Montréal, Quebec, Canada
OCD, anxiety disorders, experimental psychopathology, cognitive therapy, CBT, treatment development.
Eric G. C. Rassin, Erasmus University Rotterdam, Rotterdam, Netherlands
Decision making, Bias, Thought control
Scott L. Rauch, McLean Hospital, Belmont, Massachusetts, United States of America
Neuroimaging, OCD, PTSD, Telehealth
Lillian Reuman, Stonehill College, Faculty of Psychology, Easton, Massachusetts, United States of America
Peggy Richter, University of Toronto, Toronto, Ontario, Canada
Obsessive-Compulsive Disorder, Anxiety Disorders, Hoarding Disorder, Trichotillomania, CBT, Pharmacogenetics, Homogenetics, Pharmacology, Pharmacotherapy, OCD, Perinatal OCD
Bradley Riemann, Rogers Behavioral Health Oconomowoc Main Campus, Oconomowoc, Wisconsin, United States of America
OCD, ERP, Treatment predictors and treatment outcomes
Karen Rowa, McMaster University and St. Joseph's Healthcare Hamilton, Anxiety Treatment and Research Clinic, Hamilton, Ontario, Canada
Obsessive compulsive disorder, anxiety disorders, hoarding disorder, cognitive behavioral therapy, social anxiety disorder
Paul M. Salkovskis, University of Oxford Department of Experimental Psychology, Oxford, United Kingdom
OCD, Cognitive Behavioural Theory, Hoarding
Claudio Sica, University of Florence Department of Health Sciences, Firenze, Italy
Clinical Psychology, OCD, Anxiety Disorders, Personality Disorders, Assessment, Questionnaire development
Jedidiah Siev, Swarthmore College, Department of Psychology, Swarthmore, Pennsylvania, United States of America
OCD, scrupulosity
Gregoris Simos, University of Macedonia, Thessaloniki, Greece
OCD, Anxiety Disorders, CBT, Psychopathology, Emotion Regulation, Intolerance of Uncertainty, Assessment
H. Blair Simpson, New York State Psychiatric Institute, New York, New York, United States of America
Vladan Starcevic, The University of Sydney Nepean Clinical School, Discipline of Psychiatry, Penrith, Australia
Phenomenology of obsessive-compulsive disorder (OCD), nosology, pharmacological treatment of OCD, illness anxiety disorder/hypochondriasis, compulsivity and impulsivity
Dan J. Stein, University of Cape Town Department of Psychiatry and Mental Health, Cape Town, South Africa

Nosology, neurobiology, and treatment of OCRDs

Gail Steketee, Boston University School of Social Work, Boston, Massachusetts, United States of America
Hoarding behavior, hoarding disorder, obsessive compulsive spectrum disorders, OCD

Eric Storch, Baylor College Of Medicine Menninger Department of Psychiatry and Behavioral Sciences, Houston, Texas, United States of America
Obsessive-Compulsive disorder

Laura J. Summerfeldt, Trent University, Peterborough, Ontario, Canada

Berta Summers, University of North Carolina Wilmington, Wilmington, North Carolina, United States of America

Steven Taylor, The University of British Columbia Department of Psychiatry, Vancouver, British Columbia, Canada
Psychology of pandemics, anxiety disorders, obsessive-compulsive disorders, posttraumatic stress disorder, health anxiety

Johanna Thompson-Hollands, Boston Medical Center Department of Psychiatry, Boston, Massachusetts, United States of America
PTSD, family interventions, social support, accommodation, Veterans

Kiara R. Timpano, Miami University Department of Psychology, Oxford, Ohio, United States of America
Anxiety, OC spectrum, Hoarding Disorder, Cognitive Risk

David Veale, King's College London, Department of Psychology, England, United Kingdom
Genital body image, Body dysmorphic disorder

Hilary Weingarden, Harvard Medical School, Boston, Massachusetts, United States of America

Stephen P. Whiteside, Mayo Clinic Arizona Department of Psychiatry and Psychology, Scottsdale, Arizona, United States of America
Child and adolescent, Anxiety, OCD, exposure therapy, technology

Sabine Wilheln, Massachusetts General Hospital Department of Psychiatry, Boston, Massachusetts, United States of America
OCD, Body Dsymoprhic Disorder, Digital health, Smartphone based treatment

Monnica Williams, University of Ottawa School of Psychology, Ottawa, Ontario, Canada
OCD, PTSD, Cultural Diversity, Racism

Douglas Woods, Marquette University Department of Psychology, Milwaukee, Wisconsin, United States of America
Behavior therapy,   OC-spectrum disorders, trichotillomania,   tic disorders, Tourette disorder, excoriation disorder

Kevin D. Wu, Northern Illinois University Department of Psychology, Dekalb, Illinois, United States of America
Obsessive-compulsive disorder, assessment

Chencheng Zhang, Shanghai Jiao Tong University School of Medicine and Ruijin Hospital, Center for functional neurosurgery, Shanghai, China

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Article structure
Introduction
State the objectives of the work and provide an adequate background, avoiding a detailed literature survey or a summary of the results. If the focus of the paper is on a disorder other than OCD (as defined in DSM-IV.TR), provide a rationale for including the disorder as an obsessive-compulsive related disorder (see Editorial Guidance section).

Methods

Provide sufficient detail to allow the work to be reproduced. Methods already published should be indicated by a reference: only relevant modifications should be described.

Theory/calculation

A Theory section should extend, not repeat, the background to the article already dealt with in the Introduction and lay the foundation for further work. In contrast, a Calculation section represents a practical development from a theoretical basis.

Results

Results should be clear and concise.

Discussion

This should explore the significance of the results of the work, not repeat them. Avoid extensive citations and discussion of published literature. Be sure to include limitations of the present study and suggestions for future research.

Conclusions

The main conclusions of the study may be presented in a short Conclusions section, which may stand alone or form a subsection of a Discussion or Results and Discussion section.

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1. Theoretical and Research Basis for the Treatment
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3. Assessment (what instruments were used [and justification if needed])
4. Case Conceptualization (discuss the clinician's thinking about the case and the treatment selection)
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