



## The overlap between OCD and PTSD: Examining self-reported symptom differentiation



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### ABSTRACT

The role of stressful precipitating events has long been recognized in the genesis of obsessive-compulsive disorder (OCD). Posttraumatic stress disorder (PTSD) also necessitates the experience of a traumatic event (PTSD criterion A). Research has demonstrated a high degree of comorbidity between these two conditions. However, few studies have examined symptom overlap as a potential cause for this co-occurrence. Thus, the purpose of the present study was to examine symptom endorsement and overlap between OCD and PTSD using a sample of trauma exposed veterans. Veterans were administered self-report assessments, including the Dimensional Obsessive-Compulsive Scale (DOCS) and the PTSD Checklist for DSM-5 (PCL-5), as part of a routine clinical care at a Veteran's Administration hospital. Based on self-report assessment of clinical cut scores, 81% of participants met for probable PTSD and 74% for probable OCD. In addition, a series of chi square analyses revealed frequent overlap of endorsement across items with similar content. There is significant overlap between PTSD and OCD symptoms, and patients may find it difficult to differentiate between them on self-report measures. As such, caution should be used when using self-report solely to assess PTSD and OCD, particularly in traumatized samples.

### 1. Introduction

Posttraumatic stress disorder (PTSD) was officially recognized by the American Psychological Association in 1980 with the third edition of the *Diagnostic and Statistical Manual of Mental Disorders* (DSM; American Psychiatric Association, 1980). Unlike other psychological syndromes, PTSD was the first condition to be etiologically linked to the experience of a traumatic event. Although there have been numerous alterations to the definition of PTSD over time, the concept that exposure to a potentially stressful or traumatic event precedes the development of emotional, cognitive, and behavioral symptoms has persisted. As currently conceptualized in the *DSM-5*, PTSD is a complex condition comprised of 20 symptoms classified across four distinct domains including: intrusion; avoidance; negative alterations in cognitions and mood (NACM); and arousal and reactivity symptoms (American Psychiatric Association, 2013). Consistent with the initial conceptualization, these symptoms are defined in terms of their association with a distinct traumatic event that is believed to be the root cause of the disorder.

Although PTSD is the only mental disorder to necessitate the experience of a traumatic event, it is not the only psychological condition known to stem from traumatic or stressful life experiences. Indeed, the role of such precipitating events has long been recognized in the origins of obsessive-compulsive disorder (OCD; Cromer et al., 2007; de Silva and Marks, 1999; Janet and Raymond, 1976). OCD is a heterogeneous psychiatric condition characterized by recurrent and persistent thoughts and/or images (i.e., obsessions) that bring about significant distress/impairment, as well as repetitive behaviors (i.e., compulsions) aimed at neutralizing or reducing the associated anxiety (American Psychiatric Association, 2013). Although the specific content of obsessions and compulsions will vary by individual, researchers examining the dimensional structure of OCD have discovered several symptom dimensions that appear to be fairly constant over time. These include contamination obsessions along with washing compulsions, responsibility for harm obsessions coupled with checking compulsions, symmetry obsessions and ordering compulsions, and unacceptable thought obsessions (e.g., sexual, religious, or violent in nature) accompanied by neutralizing compulsions (e.g., thought suppression;

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Abramowitz et al., 2010).

Over the last few decades, a small, albeit growing, body of literature has amassed demonstrating a connection between OCD and PTSD. Indeed, numerous case studies have documented the co-occurrence of these disorders following exposure to a traumatic event (de Silva and Marks, 2001; Gershuny et al., 2003; Pitman, 1993). Other research has demonstrated a high degree of comorbidity between the two conditions. For example, Gershuny et al. (2008) assessed history of traumatic experiences and current PTSD in individuals seeking services for treatment resistant OCD. Results revealed that 82% of the sample reported a history of trauma, with over 39% meeting diagnostic criteria for PTSD. Nacasch et al. (2011) systematically examined the prevalence of OCD in a sample of combat and terror related PTSD patients. The authors found that 41% of patients with PTSD were also diagnosed with OCD, further highlighting the link between these two disorders. Such findings were recently consolidated in an OCD-PTSD Fact Sheet (Fletcher et al., 2018), which reports that one in four individuals with PTSD also experience OCD.

One possibility for the high degree of co-occurrence between these two disorders is symptom similarity. Indeed, as noted by Solomon et al. (1991), OCD and PTSD share certain clinical features. According to the OCD-PTSD Fact Sheet (Fletcher et al., 2018) the disorders share three symptoms: unwanted thoughts and memories; repetitive behaviors aimed at reducing distress; and avoidance of stimuli to control intrusive thoughts. Consistent with the notion of symptom overlap, Huppert et al. (2005) examined the relationship between OCD and PTSD symptoms in 128 OCD patients and 109 PTSD patients. Experts in OCD and PTSD independently rated items on OCD and PTSD self-report measures for degree of overlap. Results revealed that after controlling for corresponding symptoms the relationship between OCD and PTSD was no longer significant, supporting the presence of a relationship that is largely accounted for by symptom overlap. However, few studies outside of Huppert et al. (2005) have examined symptom overlap as a potential cause for the co-occurrence of disorders and none have done so in the context of DSM-5 based definitions and conceptualizations of the disorders.

Equally as important, no studies to date have examined the overlap between PTSD and OCD using a sample of trauma exposed veterans. Notably, research has shown that in addition to PTSD (Richardson et al., 2010), veterans may be at particular risk for developing OCD. Indeed, multiple case studies have described OCD symptoms in veterans following trauma (Fostick et al., 2012; Sasson et al., 2005). In addition, prevalence rates of OCD among veterans have been found to be comparable to (Gros et al., 2013), or even higher than, rates in the general population (Miller et al., 2008). For example, in a recent study examining the relationships between perfectionism and OCD symptom dimensions within a small sample of rural veterans ( $N = 67$ ), Raines et al. (2019) found that 67% of their sample reported clinically significant OCD symptoms (as indicated by scoring at or above the clinical cut score on an OCD self-report measure). Taken together, these findings suggest that OCD may be underrecognized in veterans and more importantly an ideal population from which to examine potential symptom overlap between OCD and PTSD.

To this end, the purpose of the current study was to examine the associations between OCD and PTSD symptoms using an outpatient sample of veterans and scales that more accurately assess the constructs of interest. In particular, OCD was assessed using the Dimensional Obsessive-Compulsive Scale (DOCS), a measure designed to more reliably assess the four most commonly replicated OCD symptom dimensions (Abramowitz et al., 2010). PTSD was assessed using the PTSD Checklist for DSM-5 (PCL-5; Weathers et al., 2013b), a measure designed to assess each of the DSM-5 PTSD symptom criteria. Consistent with the extant literature, it was hypothesized that PCL-5 and DOCS total scores would be highly correlated. It also was hypothesized that OCD subscales regarding responsibility for harm obsessions and checking compulsions and unacceptable thought obsessions and

neutralizing compulsions would be most highly correlated with the PCL-5 total score. Finally, OCD and PTSD scale items were paired on content similarity. It was hypothesized that endorsement across paired items would be elevated.

## 2. Methods

### 2.1. Participants and procedures

The sample included 117 veterans presenting to a Military Sexual Trauma (MST) clinic at a large Southeastern Veterans Affairs (VA) hospital to receive psychological services. As a part of their intake evaluation, veterans completed a clinical interview and brief battery of self-report questionnaires to assist with diagnostic clarification and treatment planning. Given that the data were collected as part of routine clinical care, informed consent was not obtained. However, the VA Institutional Review Board approved use of these data for research purposes.

Veterans were primarily female (74%), African American (64%), and had a mean age of 45.1 ( $SD = 12.0$ ). Regarding education, 56.4% of the sample completed some college or vocational school, followed by completing college (22.2%), postgraduate degree (10.3%), high school (6.8%), and some graduate school (3.4%), with 0.9% completing less than high school. In terms of military characteristics, 44% of the sample served in the Army followed by Navy (17.9%), Air Force (13.7%), Marines (12.8%), National Guard (7.7%), and Coast Guard (0.9%), with 3.4% serving in more than one branch.

Index traumas were derived using the Criterion A face page of the PCL-5. After identifying the worst event (i.e., a very stressful experience involving actual or threatened death, serious injury or sexual violence), veterans were asked to read a list of symptoms and indicate their level of distress as it relates to each within the past month. Within this MST sample, the index traumas identified for the purposes of ascertaining PTSD symptoms were as follows: 83.8% MST, 3.4% childhood physical or sexual abuse, 3.4% combat, 2.6% major disaster or fire, 1.7% serious accident, 1.7% witnessing someone killed or abused, and 3.4% other (e.g., natural disaster).

Primary diagnoses were determined at intake via clinician administered interviews. In particular, PTSD diagnoses were determined using a gold standard PTSD assessment, the Clinician Administered PTSD Scale for the DSM-5 (Weathers et al., 2013a), while all other diagnoses (i.e., depression, anxiety, etc.) were determined using unstructured clinical questions. Given that these assessments were completed as part of routine clinical care, no inter-rater reliability data were collected. Further, severity records or item level data were not retained in the patient records. The following primary diagnoses were assigned at intake: 56.4% received a Trauma-and Stressor-Related Disorder, 17.1% Depressive Disorder, 12.8% Personality Disorder, 8.5% Anxiety Disorder, and 2.6% Substance-Related and Addictive Disorder, with 2.6% missing data due to a failure to complete the intake appointment. Although no participant received a primary OCD diagnosis, 7.7% of the sample met for a secondary OCD diagnosis. Further, an additional 14.7% of the sample met for a secondary Trauma-and Stressor-Related Disorder diagnosis.

### 2.2. Measures

*Dimensional Obsessive-Compulsive Scale* (DOCS; Abramowitz et al., 2010). The DOCS is a 20-item self-report questionnaire designed to assess the most reliably replicated dimensions of OCD. In addition to a total score, the measure yields four subscales including: contamination concerns, responsibility for harm, unacceptable thoughts, and symmetry concerns. Veterans were asked to rate each item using a five-point Likert-type scale ranging from zero to four, with higher scores reflecting increased symptom severity. The DOCS has been found to have strong psychometric properties (Abramowitz et al., 2010). In the

present study, the DOCS subscales demonstrated excellent internal consistency (contamination  $\alpha = 0.90$ , responsibility for harm  $\alpha = 0.94$ , unacceptable thoughts  $\alpha = 0.90$ , and symmetry  $\alpha = 0.93$ ).

*Patient Health Questionnaire* (PHQ-9; Kroenke et al., 2001). The PHQ-9 is a nine-item self-report questionnaire designed to measure depression related symptomatology (Kroenke et al., 2001). Respondents are asked to read a list of symptoms and indicate how often they have been bothered by each symptom within the past two weeks, using a four-point Likert-type scale ranging from 0 (Not at all) to 3 (Nearly every day). Total scores can range from 0 to 27 with higher scores reflecting increased depression symptom severity. The PHQ-9 has been demonstrated to have strong psychometric properties (Kroenke et al., 2001). In the current study, the PHQ-9 total score demonstrated good internal consistency (Cronbach  $\alpha = 0.85$ ).

*Posttraumatic Stress Disorder Checklist for DSM-5 with Criterion A* (PCL-5; Weathers et al., 2013b). PCL-5 with Criterion A is a 20-item self-report questionnaire designed to measure past month DSM-5 PTSD symptom criteria in relation to the worst event experienced. Items are rated using a five-point Likert-type scale ranging from zero (Not at all) to four (Extremely). The PCL-5 has been demonstrated to have strong psychometric properties (Bovin et al., 2015). In the current study, the PCL-5 total score demonstrated excellent internal consistency (Cronbach's  $\alpha = 0.93$ ). Additionally, all symptom clusters demonstrated good to acceptable internal consistency: intrusion ( $\alpha = 0.89$ ); avoidance ( $\alpha = 0.75$ ); NACM ( $\alpha = 0.86$ ); and arousal and reactivity ( $\alpha = 0.76$ ).

**Data analytic plan**

First, rates of PTSD, OCD, and co-occurring PTSD/OCD were examined via clinical cut scores on self-report measures. Second, a series of correlations were calculated for the PCL-5 total score and DOCS total score, as well as DOCS subscale scores (i.e., DOCS category 1- contamination concerns, DOCS category 2 - responsibility for harm, DOCS category 3 - unacceptable thoughts, and DOCS category 4 - symmetry concerns).

Third, consistent with prior research (Huppert et al., 2005) DOCS and PCL-5 items were paired for similarity in item content (Table 1). Pairings were completed independently by one expert psychologist in PTSD and one expert psychologist in OCD using the self-report measures. Of note, both individuals have considerable experience in diagnosing and treating patients with OCD and PTSD (> 10 years) and have published extensively in their respective areas. Finally, using a series of chi square analyses, differences in endorsement rates were compared across paired PCL-5 and DOCS items.

**3. Results**

Based on self-report assessment clinical cut scores, 81% of the sample met for probable PTSD, 74% for probable OCD, with 60% meeting for both. Next, the relationships between PCL-5 total scores and DOCS total and subscale scores was investigated using Pearson product-moment correlation. Results revealed there was a strong positive correlation between PCL-5 and DOCS total scores,  $r = 0.60$ ,  $p < .001$ . Notably, these findings remained significant, even after statistically controlling for self-report depression symptom severity ( $r = 0.48$ ,  $p < .001$ ). Further, there was a strong correlation between PCL-5 total scores and DOCS subscales scores: contamination concerns ( $r = 0.32$ ;  $p = .002$ ); responsibility for harm; ( $r = 0.55$ ;  $p < .001$ ); unacceptable thoughts ( $r = 0.71$ ;  $p < .001$ ); and symmetry concerns ( $r = 0.42$ ;  $p < .001$ ). Albeit weaker, findings remained significant when controlling for self-report depression symptom severity (contamination concerns  $r = 0.27$ ,  $p = .014$ ; responsibility for harm  $r = 0.46$ ,  $p < .001$ ; unacceptable thoughts  $r = 0.55$ ,  $p < .001$ ; and symmetry concerns  $r = 0.29$ ,  $p = .009$ ).

Finally, a series of zero order correlations and Chi square test for independence were conducted to explore the relationship between PCL-

**Table 1**  
Paired PCL-5 and DOCS items for comparison.

PCL-5		DOCS	
Item	Description	Item	Description
1	Repeated, disturbing, and unwanted memories of the stressful experience.	6	Thinking about the possibility of harm or disasters and engaging in checking or efforts to get reassurance.
4	Feeling very upset when something reminded you of the stressful experience.	11	Unwanted unpleasant thoughts with behavioral or mental actions to deal with them.
6	Avoiding memories, thoughts, or feelings related to the stressful experience.	13	Unwanted or unpleasant thoughts come to your mind against your will, how distressed or anxious do you become.
7	Avoiding external reminders of the stressful experience.	10	Disregarding thoughts about possible harm or disasters and refraining from checking or reassurance seeking.
17	Being super alert or watchful or on guard.	15	Disregarding unwanted unpleasant thoughts and refraining from using behavioral or mental acts to deal with them.
		7	Avoiding situations so that you do not have to check for danger or worry about possible or disasters.
		12	Avoiding situations, place, objects or other reminders that trigger unwanted or unpleasant thoughts.
		6	Thoughts about the possibility of harm or disasters and engaging in checking or efforts to get reassurance.

Note. PCL-5 = PTSD Checklist for DSM-5; DOCS = Dimensional Obsessive-Compulsive Scale.

**Table 2**  
Means, standard deviations, and zero-order correlations for all self-report variables used in the current analyses.

	1	2	3	4	5	6	7	8	9	10	11	12
1. PCL-5 Item 1	–											
2. PCL-5 Item 4	.67***	–										
3. PCL-5 Item 6	.52***	.56***	–									
4. PCL-5 Item 7	.47***	.51***	.61**	–								
5. PCL-5 Item 17	.37***	.34***	.23*	.30**	–							
6. DOCS Item 6	.31**	.22*	.11	.20*	.41***	–						
7. DOCS Item 7	.28**	.23*	.06	.28*	.45***	.72***	–					
8. DOCS Item 10	.33***	.27**	.05	.22**	.45***	.67***	.75***	–				
9. DOCS Item 11	.44**	.44***	.26**	.25**	.37***	.45***	.43***	.52***	–			
10. DOCS Item 12	.48***	.44***	.27**	.37***	.29**	.45***	.51***	.52***	.59**	–		
11. DOCS Item 13	.42***	.49***	.18	.35***	.40***	.45***	.55***	.62***	.59***	.71***	–	
12. DOCS Item 15	.41***	.43***	.17	.29**	.34***	.48***	.55***	.57***	.58***	.62***	.72***	–
Mean	3.04	3.28	3.34	3.27	3.04	1.83	2.14	2.01	2.44	2.84	2.73	2.40
SD	1.08	.94	.88	1.01	1.17	1.21	1.27	1.31	1.12	1.07	1.05	1.08

Note.  
\*\*\*  $p < .001$ ,  
\*\*  $p < .010$ ,  
\*  $p < .05$ .

**Table 3**  
Results of Chi square analyses on paired PCL-5 and DOCS items.

Item				
PCL-5	DOCS	% endorsement	Chi Square	$p$
1	6	60.7	10.16	.001
1	11	80.5	26.83	.000
4	13	85.6	10.59	.001
6	10	59.3	1.00	.317
6	15	78.9	4.62	.032
7	7	67.9	2.97	.085
7	12	84.8	22.76	.000
17	6	61.6	14.62	.000

Note. PCL-5 = PTSD Checklist for DSM-5; DOCS = Dimensional Obsessive-Compulsive Scale.

5 and DOCS paired items. Results revealed frequent overlap of endorsement across paired items with similar content. Table 2 shows the item level correlations for PTSD and OCD items. Table 3 shows the rates of positive endorsement for paired items, along with the chi square values and levels of significance.

#### 4. Discussion

The current investigation sought to examine symptom overlap between OCD and PTSD using an outpatient sample of veterans and self-report scales that more accurately assess the constructs of interest. Consistent with our predictions, we found that self-report symptom total scores were highly correlated. In addition, we found that OCD dimensions centering around themes similar to those found in PTSD (i.e., responsibly for harm, unacceptable thoughts which are often violent or sexual in nature) were highly correlated. These findings are consistent with theories to suggest that unwanted thoughts and memories; engaging in repetitive behaviors to reduce distress; and avoidance of stimuli to control images are the constructs with the most overlap (Fletcher et al., 2018). Moreover, these findings are consistent with research demonstrating a high degree of co-occurrence and comorbidity across these disorders (de Silva and Marks, 2001; Gershuny et al., 2008; Nacasch et al., 2011).

We also found that symptoms of OCD and PTSD that have been posited in the literature to have overlapping or similar content were in fact endorsed in conjunction with one another. Veteran patients endorsed all pairs except PTSD related avoidance (internal and external) when it was coupled with OCD avoidance of thoughts and situations where checking may ensue. This may be because those with PTSD do

not attempt to refrain from using checking behaviors, and in fact, use these as a coping mechanism. Indeed, PTSD is said to be maintained by a number of cautionary techniques (e.g., checking behaviors) used to reduce or control threat (Ehlers and Clark, 2000). For example, Ehling et al. (2008) prospectively investigated the role of checking behaviors in the development of PTSD using a sample of motor vehicle accident survivors. The authors found that various precautionary behaviors including checking the position of traffic explained the development of PTSD six months post-trauma above and beyond symptom levels at two weeks. Consistent with this notion, we found PTSD related hypervigilance to be highly endorsed in conjunction with OCD checking but not avoidance of checking.

The current study has important clinical implications worth noting. Diagnosticians may be able to distinguish nuances in PTSD and OCD. Namely that 1). PTSD-related intrusions are past focused whereas OCD intrusions are future focused, and 2). PTSD involves avoidance of painful memories and OCD involves avoidance of feared consequences. However, the results from this study confirm those from previous research, that experts view commonly used self-report measures as having significant overlap in item content (Huppert et al., 2005), and patients are often unable to make distinctions between symptoms. Thus, relying on self-report measures to assess these disorders, particularly in traumatized samples, is not sufficient. Instead, clinicians must look to the function of the behavior/symptom to differentiate OCD from PTSD related symptoms (Fletcher et al., 2018) and confirm diagnoses with clinician-based interviews. More specifically, the results underscore the importance of having PTSD intrusion and avoidance linked to a specific traumatic event (Franklin et al., 2019).

As with any investigation, the current study has several limitations worth noting. The most notable is the use of a convenient sample of veterans presenting for mental health treatment. In addition, the use of an MST sample may limit generalizability, as in the VA, MST does not necessarily require a PTSD criterion A stressor be present. Past research has suggested that the overlap in PTSD and OCD self-report measures for those without confirmed diagnoses, may be due to an underlying common factor (Huppert et al., 2005). In this project, the gold standard interview was used for PTSD (CAPS-5), but not for OCD. Thus, the results should be replicated in a sample where PTSD criterion A is confirmed and in samples where clinician-diagnosed PTSD and OCD data is available. For example, structured clinical interviews to ascertain OCD including the Clinician Administered Y-BOCS would be useful in this regard (Goodman et al., 1989). In addition, due to the cross-sectional nature inferences regarding causality cannot be determined. This is especially important, given the possibility that OCD symptoms were present prior to the index trauma. Indeed, this is a struggle not only in

this study, but with conducting retrospective PTSD research more broadly. Most individuals have multiple traumatic events across their lifespan (Kilpatrick et al., 2013), thus making it difficult to determine whether symptoms would develop in absence of trauma. Prospective studies are needed to determine the temporal relationships between trauma exposure and the development of OCD and PTSD.

Despite these limitations, the current study adds to the small, albeit growing, body of literature examining factors that may account for the co-occurrence between OCD and PTSD. To our knowledge, this study is the first to explore symptom overlap using an outpatient sample of veterans and self-report scales that more accurately assess the constructs of interest. Given the significant overlap, caution should be used when using self-report solely to assess PTSD and OCD particularly in traumatized samples.

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## Declaration of Competing Interest

None.

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## Supplementary materials

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