Published in final edited form as:

Aust N Z J Psychiatry. 2016 January ; 50(1): 74–81. doi:10.1177/0004867415579919.

Toward Understanding the Heterogeneity in OCD: Evidence from narratives in adult patients

Gerrit I Van Schalkwyk¹, Ish P Bhalla¹, Matthew Griep¹, Benjamin Kelmendi¹, Larry Davidson^{1,2}, and Christopher Pittenger^{1,3,4,5,†}

¹Department of Psychiatry, Yale University

²Yale Program for Recovery and Community Health, Yale University

³Department of Psychology, Yale University

⁴Child Study Center, Yale University

⁵Interdepartmental Neuroscience Program, Yale University

Abstract

Background—Current attempts at understanding the heterogeneity in OCD have relied on quantitative methods. The results of such work point towards a dimensional structure for OCD. Existing qualitative work in OCD has focused on understanding specific aspects of the OCD experience in greater depth. However, qualitative methods are also of potential value in furthering our understanding of OCD heterogeneity by allowing for open-ended exploration of the OCD experience and correlating identified subtypes with patient narratives.

Aims—We explored variations in patients' experience prior to, during, and immediately after performing their compulsions.

Method—Semi-structured interviews were conducted with 20 adults with OCD, followed by inductive thematic analysis. Participant responses were not analyzed within the context of an existing theoretical framework, and themes were labeled descriptively.

Results—The previously dichotomy of 'anxiety' vs 'incompleteness' emerged organically during narrative analysis. In addition, we found that some individuals with OCD utilize their behaviors as a way to cope with stress and anxiety more generally. Other participants did not share this experience and denied finding any comfort in their OC behaviors. The consequences of attention difficulties were highlighted, with some participants describing how difficulty focusing on a task could influence the need for it to be repeated multiple times.

Conclusions—The extent to which patients use OCD as a coping mechanism is a relevant distinction with potential implications for treatment engagement. Patients may experience

[†]Correspondence: 34 Park Street, W315, New Haven, CT 06519, 203-974-7675, Christopher.pittenger@yale.edu.

Disclosures

The authors have no financial relationships of relevance to this work to disclose. This work was supported by R01MH091861 (CP) and by a pilot grant research grant from the State of Connecticut (GIVS). We gratefully acknowledge the efforts of the staff of the Yale OCD Research Clinic, especially Suzanne Wasylink, who supported the recruitment and clinical characterization of the patients in this study

ambivalence about suppressing behaviors that they have come to rely upon for management of stress and anxiety, even if these behaviors represent symptoms of a psychiatric illness.

Keywords

Obsessive-compulsive disorder; anxiety; attention; phenomenology

Introduction

Obsessive compulsive disorder (OCD) is a heterogeneous disorder and is increasingly described as having a dimensional structure (Bloch et al., 2008; Lochner et al., 2008; Mataix-Cols and Rauch, 1999). Although obsessions and compulsions are found across multiple contexts, the content of these experiences and the patterns in which they occur exhibit marked variability (Lochner et al., 2008). This complexity was recognized at least as early as the time of Freud, who described OCD as existing on a spectrum with neurosis and psychosis (Stein and Stone, 1997). The heterogeneity of the condition is supported by the observation that not all patients with OCD respond to medication or particular psychological therapies (Mataix-Cols and Rauch, 1999), as well as by inconsistencies in neurobiological research (Alvarenga et al., 2012; Lochner et al., 2008; Mataix-Cols et al., 2004). It has been argued that both basic science and translational research in OCD would benefit from the identification of more homogenous OCD subtypes which are more likely to have a shared pathophysiology and genetic basis (Mataix-Cols et al., 2005; Radosky and Taylor, 2005). Phenomenological subtypes have been shown to correlate with other clinically relevant characteristics and may inform individualized treatment (Jakubovski et al., 2011; Kichuk et al., 2013; Landeros-Weisenberger et al., 2010; Sookman et al., 2005).

Factor analyses have largely converged on a dimensional structure for the major qualitative symptom types of OCD. A meta-analysis of 21 factor analyses of the Yale-Brown Obsessive Compulsive Scale – Symptom Checklist (YBOCS-SC) (Goodman, 1989) identified a four-factor model which was able to capture most of the heterogeneity in OCD (Bloch et al., 2008). Other work has correlated specific subtypes with specific genetic polymorphisms (Cavallini and Bella, 2002; Lochner et al., 2008), treatment response (Landeros-Weisenberger et al., 2010), clinical course (Kichuk et al., 2013), insight (Jakubovski et al., 2011), and neurobiological correlates (Alvarenga et al., 2012; Mataix-Cols et al., 2004). Other models have emphasized distinct areas of heterogeneity, such as the presence or absence of tics (Leckman et al., 1994), the presence or absence of cognitive distortions (Abramowitz et al., 2005), and, more recently, the prominence of anxiety symptoms. It has been suggested that there may be a dichotomy between patients who have a prominent experience of anxiety during their obsessions and those who experience what has been described as a ‘sense of incompleteness’ (Pietrefesa and Coles, 2009; Summerfeldt, 2004). In the latter case, the experience of incompleteness is what drives compulsions, in a manner distinct from compulsions that are driven by anxiety that can either precede obsessions, or be a by-product of obsessional thinking. The validity of incompleteness as a distinct motivator for OC symptoms has been supported by a recent meta-analysis (Taylor et al., 2014). Other recent work highlights subtypes of OCD experience related to the varied and multiple roles of compulsions - which most commonly serve to manage the anxiety related

to an obsession, or to obtain a 'just right' feeling (Starcevic et al., 2011). Although an increasing number of valid models for capturing the heterogeneity of OCD exist, further work is needed to determine how to best capture those aspects of this heterogeneity that are pathophysiologically meaningful and clinically relevant.

The potential for rigorous qualitative methods to contribute to our understanding of OCD heterogeneity in adults has been little explored. What qualitative work has been done has attempted to better characterize some unique subtypes of the OCD experience, such as the concept of 'mental contamination' (Coughtrey et al., 2012), or why individuals engage in reassurance seeking (Kobori et al., 2012). As highlighted by these studies, methods that allow for the systematized consideration of patient narratives are of potentially significant value, for a number of reasons. Firstly, they allow for open-ended exploration of the OCD experience. Existing scales were developed based largely on the observations of experienced clinicians; although these instruments have proven to be of significant value, a more systematic approach to narrative analysis may reveal additional descriptive constructs. In addition, given the significant comorbidity between OCD and other disorders, the need to explore symptoms not specifically associated with OCD is significant. Qualitative methods may facilitate a better understanding of the relationship between various OCD symptoms by allowing participants to describe patterns of co-occurrence. By conducting qualitative research as our understanding of OCD subtypes grows, we can improve our ability to reliably detect emerging subtypes within complex patient narratives, which remain the primary source of data in clinical encounters.

In this study, we applied qualitative methods to adult patients' descriptions of their symptoms in order to gain a better understanding of what patients are experiencing just prior to acting out their compulsions, and how their experience changes immediately following the completion of the compulsion. Our approach mirrors that of Coughtrey et al, who described the features of 'mental contamination' using this method (Coughtrey et al., 2012). However, we focus on a different aspect of the OCD experience. Understanding the period prior to acting on compulsions is a particularly appropriate focus for qualitative investigation, as it reflects a highly subjective aspect of the OCD experience that remains incompletely understood, and not adequately covered by existing quantitative instruments. We sought to use patient narratives to characterize this aspect of the OCD experience, without specific hypothesis about how these experiences would be described. The aims of our study were to determine whether patient narratives are consistent with existing models of the OCD experience, identify ways in which they may differ, and describe any possible dimensions of this experience that had not previously been reported.

Methods

All study procedures were approved by the Yale Human Investigations Committee. We conducted semi-structured interviews with 20 adults currently enrolled in the Yale OCD Research Clinic, based at the Connecticut Mental Health Center (CMHC). Participants were recruited from the pool of patients attending the clinic over a two-month period in a purposive fashion, so as to ensure a balance of genders and ages. For detailed demographic information of our sample, see Table 1. After complete description of the study, participants

gave written informed consent. Inclusion criteria were a diagnosis of OCD as determined by an experienced doctoral-level clinician and confirmed by SCID-IV. Participants were included whether or not they were in any treatment. Interviews were recorded, transcribed, and analyzed by the authors IB, MG, and GVS using QSR nVivo (QSR International, 2014).

We employed inductive thematic analysis, whereby the data were subject to repeated rounds of coding during which themes were allowed to emerge organically (Quinn Patton, 2001). The use of this analytical approach allowed us to organize the data without imposing an existing descriptive or explanatory framework. This, in combination with the use of open-ended questions (See Figure 1), maximized our ability to give voice to the perspectives of our participants. The coding process was initially completed by IB and MG and subsequently reviewed by GVS in order to ensure validity of the analysis. Themes were organized into hierarchies, with related themes being grouped together, and descriptive titles being given to groups in order to highlight the ways themes were related (for example, where participants described various degrees of relief experienced after completing compulsions, these were together under the parent theme of ‘spectrum of relief’). In the description of our results, emphasis is given to themes that emerged consistently across the sample.

Results

20 subjects (10 male) with a primary DSM-IV diagnosis of OCD provided long and detailed narratives about their subjective experience of having OCD. Details of participants’ demographic characteristics, comorbidities, and OCD severity are given in Table 1. Age was 36.35 ± 13.7 years (mean $\pm$ SD); Y-BOCS total score was 28.1 ± 4.8 ; Y-BOCS obsession subscale was 14.0 ± 2.8 , and Y-BOCS compulsion subscale was 14.2 ± 2.3 .

Narratives are best organized according to three themes. Firstly, we highlight examples in which participants manifested acute subjective discomfort that resolved after the completion of a compulsion, consistent with the prevalent conceptualizations of OCD. We draw attention to significant ways in which some participants found their experiences to deviate from this model. The second theme discusses the interrelationship between OCD and more generalized anxiety symptoms. The final theme that emerged from this material relates to the role of attentional difficulties in worsening symptoms.

Variations on a traditional model

OCD is codified in the DSM-5 as consisting of obsessions which individuals may attempt to ignore, suppress, or neutralize through completion of an associated compulsions (American Psychiatric Association, 2013). In our study, participants described a variety of ways in which they experienced their obsessions as provoking profound distress and reported that this distress could only be resolved by acting out their compulsions:

“Yeah. I mean, I can feel the tension building. The anxiety. I can feel my heart racing a little bit more. Especially when the playroom is really messy -- I’ve got to have -- the Legos have to be with the Legos, the superheroes have to be with the superheroes, and the ice cream shop needs to be -- you know. When things are all

over the floor in disarray, my heart races, and I feel overwhelmed. And I need to put things back in the right place. And then once they're in the right place, then I feel a sigh of relief. My heart slows down to a normal pace, and the anxiety goes away." – Participant 6

However, few participants provide such complete narratives of the process. Although most participants alluded to some feeling of anxiety in the period preceding their compulsions, this was not always described in the same way. Some participants described an experience akin to the development of a panic attack, including muscle tension and a sense of impending catastrophe. A less extreme experience was one in which participants felt activities or behaviors were somehow incomplete if not done according to a specific ritual:

"I don't necessarily associate something really bad happening, but three is a very bad number. Four is a good number. So if I do something in threes, I can't let it go. It's got to be four. I won't let something finish off at three. It's got to be four. But I don't so much have a specific fear that X will happen if I leave it at three and don't complete through number four. It just doesn't feel right." – Participant 5

In addition, there appeared to be a "spectrum of relief" characterizing the period immediately after the compulsion (See Figure 2).

Participants describing 'partial relief' highlighted a variety of ways in which something might reduce the full sense of relief they may have expected. These included the idea that as they came to realize the effects OCD had on their lives, their relief would be short-lived and paired with the distressing recognition that they were reinforcing a bad habit. Other participants simply emphasized how, over time, although anxiety remained distressing during their obsessions, their compulsions had steadily become less effective at providing relief over time. Nevertheless the continued to engage in compulsive behaviors.

The relationship with general anxiety

Participants described in great detail the interaction between OCD and general anxiety or stress, above and beyond that specifically associated with obsessions. It was unanimously noted that increased stress and anxiety would worsen their OCD:

"I think that under high-stress times for specific reasons, that the OCD definitely becomes more pronounced and more noticeable." – Participant 5

In discussing these experiences, participants provided contrasting narratives about how their OCD would in turn affect their generalized anxiety or stress levels. Six participants framed the execution of compulsions as a coping mechanism, which could improve their overall mood and reduce anxiety from sources beyond their obsessions:

"If it's been a tough day, a lot is going on, maybe some interactions didn't go the way I would have liked them to, I could think of it being very relaxing to like watch a movie and flip through my binder making sure that all the donut holes are fixed. Because it's something like I can control and fix and make better while some of these more complicated things, and a personal reaction, you can almost never know and know how did you come across." – Participant 15

One participant described how they would seek out triggers (such as finding a dirty mirror) so that they could experience the stress relieving qualities of performing their compulsions. Another participant who was particularly pre-occupied with cleaning and orderliness described how after getting into arguments with her father, she would “*organize my hair products or something*”, describing this behavior as “*basically like my escape*”. In other cases participants saw their compulsions as a way to take their mind off of other difficult things:

“Just like fulfilling any sort of need can take your mind off of things. But some people cook, some people listen to music, I guess it would be along the same lines as that.” – Participant 4

These participants therefore appeared to see their OCD as a coping mechanism, or as one participant described, a ‘*guilty pleasure*’, and although there was heterogeneity in exactly how this was described, the unifying theme was a sense that their compulsive behaviors had some stress management functioning in their lives.

Ten participants shared a different perspective:

“I guess my compulsions are difficult to perform, I guess because they are related to perfecting, and perfection is unattainable. They never completely relieve me of my anxiety. So, when I engage in them, it feels like it’s out of necessity. It’s not something that I find any comfort in.” – Participant 8

Although some participants with this view felt that their compulsions were successful in reducing the acute anxiety associated with their obsessions, they did not feel they had the same impact on more general anxiety. In some cases participants said that although they “*felt good*” after acting out their compulsions, they did not consider them to be a coping mechanism, and would not seek them out on purpose. Here again we therefore see a spectrum of views regarding the extent to which patients’ compulsions had adaptive functions, as summarized in Figure 3:

Of further interest, some participants who had used their compulsions as coping mechanisms found that these compulsions would not always be associated with obsessions, or at least not with obsessions or OCD-related triggers of which they were aware. For example, a participant whose OCD centered around cleanliness would block out weekends when she could spend the entire time cleaning, and would experience this as un-precipitated by specific triggers or obsessions. She described how “*I think I would be happy*” if she was able to do this uninterrupted. This perceived phenomenon of compulsions performed voluntarily, in the absence of obsessions, as a general anxiety regulatory mechanism has not been extensively described.

The effects of attention

A small number of participants drew attention to the effects of attention on their OCD symptoms. This included two distinct ideas. Firstly, some participants described having significant difficulties with attention generally, and described how this exacerbated their OCD:

“If I can concentrate, it registers. It clicks as done and I can move on. If I cannot concentrate, if you know, I can’t focus in on it, which is a giant problem, my mind just wanders. I get distracted. My mind just wanders and it’s exhausting. It almost hurts to think, because my head is just so foggy.” – Participant 16

This participant went on to describe her obsession with cleanliness, and how failure to sustain attention during a cleaning task would lead to her forgetting which sections she had cleaned, which led to her having to repeat the task multiple times. Of interest, this participant felt that stimulants had been extremely helpful in controlling her symptoms in the past. In a similar vein, another participant described having ritual ‘mental checklists’ he would need to complete, and if these were long he would be at risk of losing focus, forgetting where he was in the ritual and having to restart multiple times. Yet another participant described how if his checking routine were interrupted, he would be anxious about whether he had completed specific tasks:

“I spray a lot of air freshener and I do -- like when I left today, going -- I go into the bedroom and I’ll look around and I’ll go, ‘One, two, three, one, two, three.’ Nobody ever notices, but I’ll just look around. My number is three, so I go, ‘One, two, three.’ I look in each room. Now, if I was to leave the house really suddenly, my whole day is -- I sometimes force myself to walk away, but the whole day, ‘What if I left the stove on? What if I left this? What if I did that?’” - Participant 12

A second idea related to attention was the sense that by sustaining attention during daily activities, patients could avoid obsessive thoughts. Some participants had utilized this knowledge as a way to cope with their OCD, and would try and maximize the time they were engaged in conversations or other stimulating tasks. One participant who had both OCD and trichotillomania described how he was able to avoid thoughts of hair pulling during our interview by being “*kind of more focused -- like in the zone on what we’re doing in the moment.*”. In a similar vein, another participant described:

“I have to clean my hands. I have to wash my hands. I have to be clean. That’s always a thought. There’s also a difference -- so like if I’m in my home or my own room, then my symptoms actually increase. I’ll have more symptoms of OCD. I’ll get more anxious. I’ll think about it more. If I’m at someone else’s house, my symptoms -- like the thought is there, but how I react decreases. I’m more relaxed and I’m willing to -- I can almost ignore it, in a way.” – Participant 11

Other participants highlighted the issue by pointing out how when they were alone or unoccupied their obsessive thoughts would act to fill the void.

Discussion

In our qualitative study of adults with OCD, participants described a number of processes that were consistent with existing literature and conceptualizations of OCD, but also highlighted several salient aspects of their experience that have not been widely noted in the literature.

Anxiety and incompleteness

The first major theme related to the subjective experience of participants just prior to acting out their compulsions. Some participants described a classic experience of significant anxiety during their obsessions, which resolved soon after the completion of their compulsions. But a significant number of participants rejected this characterization, and described an experience more resonant with the idea of ‘incompleteness’ – a concept that has received considerable recent attention in the literature (Summerfeldt, 2004; Taylor et al., 2014). Of particular interest was the range of experiences that characterized the period directly after the completion of the compulsion. Some participants had the expected experience of relief. For others, relief was short-lived owing to their compulsions being immediately followed by a period of reflection, which led to them feeling guilty about their OCD symptoms and having given in to their obsessions. And still a further category of experience was participants reported feeling no relief at all – a phenomenon that some attributed to being ‘desensitized’ to the effects of their compulsions. Together these findings characterize the spectrum of relief experiences (which has not previously been described in detail) in our sample.

These distinctions may have relevance to cognitive-behavioral therapy. The standard therapeutic approach of symptom provocation and response prevention entails triggering and tolerating anxiety until it extinguishes. Individuals who are conscious of an experience of reflection and guilt after engaging in a compulsion may be easier to engage in such a treatment strategy. Conversely, in individuals who experience no relief of anxiety after compulsions, some other motivator (such as an S-R habit (Gillan and Robbins, 2014; Gruner et al., 2015)) must be driving them; in this case, extinction of the anxiety-compulsion association may be less efficacious.

OCD and anxiety

Several observations emerged with regards to the relationship between OCD and anxiety. It is notable that participants for the most part emphasized the distinction between their ‘anxiety’ and ‘OCD’, and were thus comfortable describing interactions between these two experiences. Many participants described a relationship between increased anxiety or stress and worsening OCD symptoms. This relationship has been described previously but has not been studied in detail in the context of OCD; it is perhaps analogous to the better-documented effect of stress as a precipitant of symptoms in tic disorders (Conelea et al., 2011).

Of particular interest, however, was the distinction between participants who had found ways to utilize their compulsions as a method for coping with anxiety more generally, and those for whom their compulsions served only as yet another source of stress. The former perspective was raised by six participants, who did not constitute a specific subgroup in terms of OCD severity or diagnostic comorbidity. Furthermore, although we did not have systematic data on OCD subtype, in the course of their interviews these participants described a range of OCD behaviors. It is important to emphasize that the ‘anxiety’, which participants described ‘coping’ with in these descriptions, was not simply the anxiety induced by their obsessions – rather, participants described situations in which they would

rely on their compulsions as a way to cope with more complex problems in their lives, such as relationship issues. In some cases participants would do this in an overt way by seeking out specific triggers. More commonly, participants were simply able to note that when they had a bad day they would find themselves engaging in their compulsions, and that this would make them feel better. This theme points to a cohesive model for a relationship between OCD and other experiences of anxiety, which warrants further study. Although this finding is novel and potentially significant, it should be considered preliminary and requires replication and more quantitative analysis in a larger sample.

OCD and attention

A final theme of interest was the relationship between OCD and attention. The first finding in this regard was that inattention would often lead to worsening OCD symptoms, as participants would struggle to focus during the completion of their compulsions; failures of attention frequently required them to restart the process. The participant who reported this experience most clearly was also diagnosed with hoarding disorder, and this finding therefore echoes existing literature describing a significant ADHD comorbidity in this population (Frost et al., 2011). Other work has highlighted comorbid OC behaviors (including but not restricted to hoarding) in children with ADHD (Moll et al., 2000). The contribution of our study is the generation of a hypothesis by which these diagnoses may interact – specifically, that inattention influences the capacity for some individuals to remember whether they have done their compulsions correctly, leading to worsening OC symptoms. A better understanding of the relationship between OCD and ADHD may have significant clinical implications; for example, it might help identifying a subgroup of patients who are responsive to stimulants.

In metacognitive accounts of OCD, repeated checking has been associated with reduced confidence in memories (Van Den Hout and Kindt, 2004). While this differs from what our patients described to us, which focused more on the experience of attention wandering than on retrospective doubt, it is possible that these two accounts are getting at the same underlying construct. It will be interesting to contrast these two perspective in future work.

The second idea was that by being able to sustain attention on day-to-day activities, participants were able to reduce the overall extent of their OC symptoms. This finding is similar to what has previously been described in Tourette's disorder, where investigators have noted that engaging in activities that require sustained attention or fine motor control (such as playing an instrument) often results in transient resolution of tics (Swain et al., 2007).

Limitations

This is a small, qualitative study; our findings should be thought of as pointing to areas for further investigation rather than as conclusive in and of themselves. Our 20 subjects are clinically heterogeneous (they represented 20 consecutive patients with primary OCD seen in our clinic and were not otherwise selected). It is inherent to our qualitative methodology that statements about the frequency of different themes in the population cannot be made – because we allowed themes to emerge from the narratives, our findings are dictated by our

patients' report. Quantitative understanding of the prevalence and clinical importance of these themes would require a larger, quantitative study in which the themes were specified *a priori* and evaluated using validated instruments. Qualitative studies such as this one should be thought of as preliminary to such follow-up investigations.

Conclusion

We have replicated findings from quantitative studies, most notably in finding narrative data supporting the dichotomy of anxiety versus incompleteness. This would suggest that this construct is ecologically valid and worthy of ongoing investigation. Our finding that participants may experience a spectrum of relief following completion of their compulsions is a broadening of our existing understanding of OCD phenomenology, generating the hypothesis that over time, compulsions may become habits. This may have significant implications for standard cognitive-behavioral therapy approaches, which typically presume that compulsions are motivated by a desire to reduce anxiety or discomfort. Our findings related to the interaction between OCD and attention is consistent with existing literature on attention in hoarding disorder and Tourette syndrome. The contribution of our findings in this regard is to highlight examples in which similar interactions occurred in relation to primary OC symptoms, and to describe a potential mechanism for this interaction.

Our most significant novel finding is that individuals with OCD vary in their ability to utilize execution of their compulsions as a coping mechanism for anxiety from other sources. Our data suggest a spectrum of experiences, ranging from participants who would actively seek out OCD triggers to cope with stress and generalized anxiety, to those who found that their OCD had no value in this regard. If replicated, such a finding could have implications for psychotherapeutic approaches to OCD, as patients who have found adaptive uses for their OCD may be less motivated for challenging therapies that have the potential to increase anxiety in the short term. In addition, this finding highlights how illness behaviors may take on changing significance and instrumental function over time, in a way not well captured by usual conceptions of signs and symptoms in this disorder.

References

- Abramowitz J, McKay D, Taylor S. Special series subtypes of obsessive-compulsive disorder: introduction. *Behavior Therapy*. 2005
- Alvarenga, PG.; do Rosário, MC.; Batistuzzo, MC., et al. *Journal of psychiatric research*. Vol. 46. Elsevier Ltd; 2012. Obsessive-compulsive symptom dimensions correlate to specific gray matter volumes in treatment-naïve patients; p. 1635-42.
- American Psychiatric Association. *DSM-5*. 2013.
- Bloch MH, Landeros-Weisenberger A, Rosario MC, et al. Meta-analysis of the symptom structure of obsessive-compulsive disorder. *The American journal of psychiatry*. 2008; 165(12):1532–42. [PubMed: 18923068]
- Cavallini M, Di Bella D. Exploratory factor analysis of obsessive-compulsive patients and association with 5-HTTLPR polymorphism. *American journal of ...* 2002; 353(May 2001)
- Conelea, Ca; Woods, DW.; Brandt, BC. *Behaviour research and therapy*. Vol. 49. Elsevier Ltd; 2011. The impact of a stress induction task on tic frequencies in youth with Tourette Syndrome; p. 492-7.
- Coughtrey AE, Shafran R, Lee M, et al. It's the feeling inside my head: a qualitative analysis of mental contamination in obsessive-compulsive disorder. *Behavioural and cognitive psychotherapy*. 2012; 40(2):163–73. [PubMed: 22189473]

- Frost RO, Steketee G, Tolin DF. Comorbidity in hoarding disorder. *Depression and anxiety*. 2011; 28(10):876–84. [PubMed: 21770000]
- Gillan CM, Robbins TW. Goal-directed learning and obsessive-compulsive disorder. *Philosophical Transactions of the Royal Society B: Biological Sciences*. 2014; 369:20130475–20130475.
- Goodman WK. The Yale-Brown Obsessive Compulsive Scale. *Archives of General Psychiatry*. 1989; 46(11):1006. [PubMed: 2684084]
- Gruner P, Anticevic A, Lee D, et al. Arbitration between Action Strategies in Obsessive-Compulsive Disorder. *The Neuroscientist*. 2015
- Jakubovski, E.; Pittenger, C.; Torres, AR., et al. Progress in neuro-psychopharmacology & biological psychiatry. Vol. 35. Elsevier B.V; 2011. Dimensional correlates of poor insight in obsessive-compulsive disorder; p. 1677-81.
- Kichuk SA, Torres AR, Fontenelle LF, et al. Symptom dimensions are associated with age of onset and clinical course of obsessive-compulsive disorder. *Progress in neuro-psychopharmacology & biological psychiatry*. 2013; 44:233–9. [PubMed: 23410525]
- Kobori, O.; Salkovskis, PM.; Read, J., et al. *Journal of Obsessive-Compulsive and Related Disorders*. Vol. 1. Elsevier; 2012. A qualitative study of the investigation of reassurance seeking in obsessive-compulsive disorder; p. 25-32.
- Landeros-Weisenberger A, Bloch MH, Kelmendi B, et al. Dimensional predictors of response to SRI pharmacotherapy in obsessive-compulsive disorder. *Journal of affective disorders*. 2010; 121(1–2):175–9. [PubMed: 19577308]
- Leckman JF, Grice DE, Barr LC, et al. Tic-related vs. non-tic-related obsessive compulsive disorder. *Anxiety*. 1994; 1(5):208–15. [PubMed: 9160576]
- Lochner C, Hemmings SMJ, Kinnear CJ, et al. Cluster analysis of obsessive-compulsive symptomatology: identifying obsessive-compulsive disorder subtypes. *The Israel journal of psychiatry and related sciences*. 2008; 45(3):164–76. [PubMed: 19398820]
- Mataix-Cols D, Rauch S. Use of Factor-Analyzed Symptom Dimensions to Predict Outcome With Serotonin Reuptake Inhibitors and Placebo in the Treatment of Obsessive-Compulsive Disorder. *American Journal of ...* 1999; (September):1409–1416.
- Mataix-Cols D, Wooderson S, Lawrence N, et al. Distinct neural correlates of washing, checking, and hoarding symptom dimensions in obsessive-compulsive disorder. *Archives of general psychiatry*. 2004; 61(6):564–76. [PubMed: 15184236]
- Mataix-Cols D, do Rosario-Campos MC, Leckman JF. A multidimensional model of obsessive-compulsive disorder. *The American journal of psychiatry*. 2005; 162(2):228–38. [PubMed: 15677583]
- Moll GH, Eysenbach K, Woerner W, et al. Quantitative and qualitative aspects of obsessive-compulsive behaviour in children with attention-deficit hyperactivity disorder compared with tic disorder. *Acta psychiatrica Scandinavica*. 2000; 101:389–394. [PubMed: 10823299]
- Pietrefesa AS, Coles ME. Moving beyond an exclusive focus on harm avoidance in obsessive-compulsive disorder: behavioral validation for the separability of harm avoidance and incompleteness. *Behavior therapy*, Elsevier BV. 2009; 40(3):251–9.
- QSR International. QSR Nvivo. 2014.
- Quinn Patton, M. *Qualitative Research and Evaluation Methods*. Thousand Oaks, CA: 2001.
- Radomsky A, Taylor S. Subtyping OCD: Prospects and problems. *Behavior Therapy*. 2005
- Sookman D, Abramowitz J, Calamari J. Subtypes of obsessive-compulsive disorder: Implications for specialized cognitive behavior therapy. *Behavior Therapy*. 2005
- Starcevic V, Berle D, Brakoulias V, et al. Functions of compulsions in obsessive-compulsive disorder. *The Australian and New Zealand journal of psychiatry*. 2011; 45(6):449–57. [PubMed: 21510720]
- Stein, D.; Stone, M. *Essential papers on obsessive-compulsive disorder*. New York: New York University Press; 1997.
- Summerfeldt LJ. Understanding and treating incompleteness in obsessive-compulsive disorder. *Journal of clinical psychology*. 2004; 60(11):1155–68. [PubMed: 15389620]

- Swain JE, Scahill L, Lombroso PJ, et al. Tourette syndrome and tic disorders: a decade of progress. *Journal of the American Academy of Child and Adolescent Psychiatry*. 2007; 46(8):947–68. [PubMed: 17667475]
- Taylor S, McKay D, Crowe KB, et al. The sense of incompleteness as a motivator of obsessive-compulsive symptoms: an empirical analysis of concepts and correlates. *Behavior therapy*, Elsevier BV. 2014; 45(2):254–62.
- Van Den Hout M, Kindt M. Obsessive-compulsive disorder and the paradoxical effects of perseverative behaviour on experienced uncertainty. *Journal of Behavior Therapy and Experimental Psychiatry*. 2004; 35:165–181. [PubMed: 15210377]

Interview questions

1. What kinds of obsessions do you have?
2. In what ways do they come about?
3. What things do you do to manage them?
4. What changes after you manage them?
5. What kinds of things happen if you don't manage them?

Figure 1.

<p>Total relief:</p> <p><i>"I feel a sigh of relief... the anxiety goes away"</i></p>	<p>Partial relief:</p> <p><i>"I feel a little bit – good, I've taken care of it, but then also a bit guilty"</i></p>	<p>Worsening of symptoms:</p> <p><i>"I'm doing things that are irrational... this doesn't help my anxiety, sometimes it makes it worse"</i></p>
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Figure 2.

<i>Compulsions are a coping mechanism, for which triggers will be sought out</i>	<i>Compulsions make one feel better, but won't be sought out</i>	<i>Compulsions provide no comfort and may increase generalized anxiety</i>
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Figure 3.

Table 1

Participant	Age	Gender	Comorbid Dx	YBOCS OBS	YBOCS COMP	YBOCS TOTAL
1	26	M	Trichotillomania	12	14	26
2	36	F	PTSD; GAD	12	12	24
3	30	F	Bipolar mood disorder	15	15	30
4	26	M	MDD	13	15	28
5	22	F	Social anxiety, hypochondriasis	17	12	29
6	21	F	Mood disorder due to GMC	13	15	28
7	33	M	MDD	16	14	30
8	62	F		18	17	35
9	59	M	Mood disorder NOS; Anxiety disorder NOS; Hoarding disorder	18	18	36
10	20	F	PTSD; ADHD	12	15	27
11	47	M	MDD; Panic disorder	15	14	29
12	25	M		7	9	16
13	19	F	Social Phobia, GAD	14	13	27
14	52	F	Specific phobia	15	17	32
15	32	M	MDD; Panic disorder	18	17	35
16	47	F	Dysthymic disorder	11	11	22
17	57	M	MDD; Panic disorder	13	13	26
18	32	F	MDD; Panic Disorder; GAD	16	16	32
19	36	M	MDD; Panic disorder	12	12	24
20	45	M		12	14	26