Experiential avoidance in the context of obsessions: Development and validation of the Acceptance and Action Questionnaire for Obsessions and Compulsions

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ABSTRACT

The unwillingness to remain in contact with obsessions and anxiety (i.e., experiential avoidance, EA) may explain how normally occurring unwanted intrusive thoughts develop into clinical obsessions as seen in obsessive-compulsive disorder (OCD). Studies examining the relationship between EA and OC symptoms are mixed, potentially because the existing self-report measure of EA (i.e., the Acceptance and Action Questionnaire, AAQ-II) is a general measure that does not adequately capture EA specific to obsessions and compulsions. Thus, we aimed to develop and evaluate an OC-specific version of the AAQ-II. First, we used exploratory factor analysis to empirically reduce an initial pool of 49 items (adapted from original AAQ-II items to reference "intrusive thoughts") to 13 items. A two-factor solution (Valued Action and Willingness) provided the best fit to the data, accounting for 60.57% of the variance. Second, the reduced AAQ-OC was administered, along with other self-report measures, to an independent sample of adults. The AAQ-OC subscales evidenced good internal consistency as well as convergent, discriminant, and incremental validity. Future work examining the psychometric properties of the AAQ-OC in a clinical sample, as well as the measure's treatment sensitivity are needed.

1. Introduction

Obsessive–compulsive disorder (OCD), a chronic condition that ranks in the top ten causes of health-related disability worldwide (World Health Organization, 2008), consists of unwanted intrusive thoughts, images, impulses, doubts, or fears that are seemingly uncontrollable and anxiety-provoking (i.e., *obsessions*) and observable and mental rituals performed to neutralize the anxiety that arises from such thoughts (i.e., *compulsions*; American Psychiatric Association, 2013). Although OCD as a diagnostic entity only affects 2% of individuals in their lifetime (Ruscio, Stein, Chiu, & Kessler, 2010), between 80% and 99% of the general population experiences unwanted intrusive thoughts similar in content to clinical obsessions (e.g., Belloch, Morillo, Lucero, Cabedo, & Carrió, 2004; Radomsky et al., 2014). Non-clinical and clinical obsessions are associated with the same developmental and maintenance factors (for a review see Abramowitz et al., 2014), suggesting that intrusive thoughts occur along a continuum – differing quantitatively in severity, but not qualitatively in nature. Accordingly, identifying malleable risk and maintenance factors that explain how

pre-clinical unwanted intrusive thoughts develop into clinically-significant OCD symptoms can inform the prevention and treatment of this burdensome problem.

Experiential avoidance (EA; i.e., psychological inflexibility) is one such candidate process (Grayson, 2013; Twohig, 2009; Twohig, Plumb, Mukherjee, & Hayes, 2010), defined as the unwillingness to remain in contact with internal experiences (i.e., thoughts, feelings, or physical sensations) that are perceived as negative (Hayes, Luoma, Bond, Masuda, & Lillis, 2006; Hayes, Wilson, Gifford, Follette, & Strosahl, 1996). For instance, a woman with OCD and elevated EA might literally interpret an intrusive image of her husband being harmed in a car accident as a sign of true danger and take steps to remove the unwanted image from her mind to regulate her distress. These attempts to control or "push away" unwanted internal experiences may temporarily decrease anxiety, but are ultimately ineffective at long-term anxiety reduction as attempts to minimize anxiety and obsessions become distressing themselves (Twohig, 2009). Furthermore, these time-consuming efforts can interfere with life functioning, as EA invariably leads to actions that are inconsistent with one's values (e.g., the

woman's relationship with her husband may become strained due to excessive reassurance seeking).

Despite the theoretical relevance of EA to OC symptoms, findings from existing empirical studies are equivocal and difficult to interpret (Abramowitz, Lackey, & Wheaton, 2009; Blakey, Jacoby, Reuman, & Abramowitz, 2016; Manos et al., 2010; Reuman, Jacoby, & Abramowitz, 2016; Wetterneck, Steinberg, & Hart, 2014). One explanation for these discrepant findings (as noted by authors of these studies), is that the most widely used self-report measure of EA – the Acceptance and Action Questionnaire (AAQ-II; Bond et al., 2011) – assesses this construct in a general way (e.g., "I'm afraid of my feelings") and does not capture the construct of EA as it specifically relates to obsessional thoughts. Thus, sole reliance on the AAQ-II is a barrier to effectively understanding the relation between EA and OC symptoms.

This limitation has been recognized by researchers studying other domains of psychopathology who have developed disorder-specific versions of the AAQ-II for body image concerns (Sandoz, Wilson, Merwin, & Kellum, 2013), psychotic symptoms (Shawyer et al., 2007), trichotillomania (Houghton et al., 2014), substance use (Luoma, Drake, Kohlenberg, & Hayes, 2011), and social anxiety (MacKenzie & Kocovski, 2010). These content-specific versions have demonstrated strong psychometric properties including incremental validity over the general AAQ-II in predicting disorder-specific symptom severity (e.g., Houghton et al., 2014; Lillis & Hayes, 2008; Lundgren, Dahl, & Hayes, 2008; MacKenzie & Kocovski, 2010), thus advancing the study of EA in these areas. It would also be desirable to have a specific measure of EA in the context of obsessions and compulsions to monitor patient progress in treatments aimed to enhance psychological flexibility, such as Acceptance and Commitment Therapy (ACT),[1] which demonstrates promising efficacy for the treatment of anxiety and OCD (Twohig et al., 2018; For a review, see Bluett, Homan, Morrison, Levin, & Twohig, 2014).

Accordingly, the aims of the current study were to (a) develop a measure of EA specific to obsessions and compulsions, the AAQ-OC, and (b) evaluate its psychometric properties in an unselected sample with a range of unwanted intrusive thoughts. We hypothesized that the AAQ-OC would be significantly positively associated with purportedly similar measures of OCD symptoms and beliefs (i.e., convergent validity) more so than with other psychological symptoms (e.g., depression, social anxiety symptoms; i.e., discriminant validity). Second, we hypothesized that the AAQ-OC would account for significant variance in OC symptom severity above and beyond the non-specific AAQ-II (i.e., incremental validity).

2. Study 1: Item selection, exploratory factor analysis (EFA), and reliability

The objective of Study 1 was to empirically identify items of the AAQ-OC with optimal psychometric properties and examine the measure's exploratory factor structure and internal consistency.

2.1. Method

2.1.1. Participants

Participants were 599 undergraduates recruited from Introduction to Psychology classes at a large university in the southeastern United States. Following data integrity procedures described below, the final sample included 511 participants. Demographic characteristics appear in Table 1. Participants were primarily female, White, and of non-Hispanic/non-Latino/a descent.

Table 1
Socio-demographic characteristics of the samples.

	Study 1 (*n* = 511)	Study 2 (*n* = 313)
Age (years), *M* (*SD*)	18.91 (1.36)	19.09 (1.95)
Gender, % female (*n*)	66.5 (340)	63.6 (199)
Race, % (*n*)		
African American or Black	7.2 (37)	12.1 (38)
White or Caucasian	74.8 (382)	67.7 (212)
Asian	11.2 (57)	13.7 (43)
Biracial or Multiracial	3.3 (17)	2.9 (9)
Other	3.5 (18)	3.6 (11)
Ethnicity, % Hispanic or Latino/a (*n*)	9.2 (47)	9.3 (29)

2.1.2. AAQ-OC initial scale development

An initial pool of 49 items was developed to assess EA in the context of obsessions and compulsions (see Appendix A). Items were adapted from the original item pool of the AAQ-II (Bond et al., 2011) and modified to specifically reference unwanted intrusive thoughts and responses to them. The term "intrusions" (vs. "obsessions") was used so that the measure would have utility in both clinical samples and with non-clinical or pre-clinical research participants. A descriptive section at the beginning of the measure provides a definition of intrusive thoughts and normalizes these experiences, modeling existing measures (i.e., International Intrusive Thoughts Interview Schedule [IITIS], Bouvard, Fournet, Denis, Sixdenier, & Clark, 2017; Interpretation of Intrusions Inventory [III], Obsessive Compulsive Cognitions Working Group, 2005).

We tested a large, inclusive pool of items, which is in line with measure development recommendations (Loevinger, 1957), in order to sample all possible theoretical aspects of EA (Hayes et al., 2006), including: the willingness to experience unwanted intrusive thoughts without attempting to control or eliminate them, the ability to distance oneself from the literal content of intrusive thoughts (i.e., defusion), and the degree to which one pursues valued action despite experiencing intrusive thoughts. Initial items were reviewed by four judges with extensive experience in ACT and OCD (JSA, RJJ, LR, and SMB.) for content validity and readability. In order to remain consistent with previous versions of the AAQ, we used a rating scale from 1 (*Never true*) to 7 (*Always true*). Items worded in the opposite direction were reverse coded so that higher scores on the AAQ-OC indicated greater EA (i.e., less psychological flexibility).

2.1.3. Measures and procedure

The university's Institutional Review Board approved all measures and procedures, and online informed consent was obtained prior to the study. Participants completed the AAQ-OC online using Qualtrics, a secure web-survey platform.[2] Three distractor items (i.e., "Please answer 'always true' for this item", "While watching television, I frequently have fatal heart attacks", and "I often die while ironing my clothes") were included among survey items to improve data quality (Oppenheimer, Meyvis, & Davidenko, 2009). Examination of responses indicated that 86 participants (14.4%) did not pass all three distractor items; consequently, these individuals were excluded from analyses. Additionally, two participants were removed for missing one AAQ-OC item, resulting in a final sample size of 511.[3] Participants received 0.5 h of research credit in exchange for their participation.

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[1] ACT for OCD promotes willingness to experience anxiety and obsessions, and helps patients take actions that are consistent with their values rather than dictated by attempts to avoid unwanted internal experiences (Twohig et al., 2015).

[2] Coles, Cook, and Blake (2007) demonstrated that the administration of anxiety-related self-report measures using internet vs. paper-and-pencil formats had comparable results.

[3] A sample > 500 was selected *a priori* in Study 1 in order to ensure 10 observations per AAQ-OC item to avoid computational difficulties with EFA (Comrey & Lee, 2009).

2.2. Results

2.2.1. Preliminary analyses

Previous factor analytic studies of the AAQ (Bond et al., 2011; Bond, Lloyd, & Guenole, 2013; Luoma et al., 2011) have observed solutions in which one factor contains items worded in the negative direction (i.e., higher scores indicate greater EA) and a second factor contains items worded in the positive direction (i.e., higher scores indicate greater psychological flexibility). Given the lack of theoretical differences between these items, such factor loadings may indicate a method effect (Lindwall et al., 2012). Thus, we first ran an EFA (using principal axis factoring with varimax rotation) with all 49 items and examined the impact of positive versus negative wording on our factor solution (Hazlett-Stevens, Ullman, & Craske, 2004). Indeed, inspection of the pattern matrix indicated two factors with primarily negatively worded items and two with primarily positively worded items. Accordingly, we limited our factor analytic model to the 27 items that were negatively worded (i.e., higher scores indicating higher EA) in order to maintain consistency with the AAQ-II.

2.2.2. Item distributions and correlations

We next examined the response distributions of the 27 items. All items were within acceptance ranges for skewness (< 1.11) and kurtosis (< 1.05) and thus none were eliminated at this stage (Clark & Watson, 1995). Examination of corrected item-total correlations (CITC; i.e., the correlation between the score on each item and the sum of the other 26 items) indicated that no items had a CITC < 0.3; thus all items were retained at this stage (Nunnally & Bernstein, 1994). We identified four sets of items with high inter-item correlations (i.e., $r > 0.45$; Rapee, Craske, Brown, & Barlow, 1996) and high semantic similarity: (a) Item 5 and 21 ($r = 0.64$); (b) Item 14 and 47 ($r = 0.45$); (c) Item 8, 25, and 36 ($rs = 0.48 - 0.69$); (d) Item 17 and 41 ($r = 0.69$). For each set, we retained the item with the highest CITC (i.e., removing items 5, 8, 14, 17 and 36) in order minimize item redundancy.

2.2.3. EFA

The remaining 22 items were subjected to an exploratory factor analysis (EFA) using principal axis factoring with varimax rotation in IBM SPSS Version 25 (for additional descriptive statistics and factor loadings for the EFA, see the online Supplemental Tables 1–2). This analysis resulted in three factors with eigenvalues greater than 1.0 which accounted for 56.80% of the variance (Factor 1 = 40.41%, Factor 2 = 11.32%, Factor 3 = 5.08%). Review of the Scree plot confirmed that a two or three factor solution would be the best fit to the data.

One item had a communalities score (h^2; i.e., the proportion of variance for each item on the scale that can be explained by all factors in the model) < 0.30 (Item 6) and thus was removed from consideration. Inspection of the pattern matrix for factor loadings and face validity revealed that all items on Factor 3 either had loadings of < 0.40 and/or loaded onto multiple factors (Ferguson & Cox, 1993); thus it appeared a two-factor solution was the best fit for the data. Three items were identified as being about appraisals (e.g., labeling intrusive thoughts as dangerous, nasty, bad, and wrong) and several of these items loaded onto multiple factors (i.e., factor loadings > 0.3 on multiple factors and within 0.2 in magnitude) and thus were removed (Items 1, 16, and 46). With the items that remained, Factor 1 appeared to relate to valued action whereas Factor 2 appeared to represent unwillingness to experience intrusive thoughts. Thus, we also removed items that comprised *both* concern/doubts/uneasiness about intrusive

thoughts and had a component of valued action (Items 10, 31, and 42), several of which also loaded onto multiple factors (i.e., factor loadings > 0.3 on multiple factors and within 0.2 in magnitude). Finally, we removed item 18 because it didn't fit either factor theme. This resulted in 13 remaining items.

An EFA limited to two factors and utilizing the 13 items indicated that both factors had eigenvalues greater than 1.90 and the two-factor solution accounted for 60.57% of the variance (Factor 1 = 45.91%; Factor 2 = 14.65%). Inspection of the pattern matrix suggested that 8 items loaded onto Factor 1 and 5 items onto Factor 2. Both factors were interpretable: Factor 1 represented impairments with valued action in the presence of intrusive thoughts (Items 12, 21, 24, 29, 39, 40, 41, 48); Factor 2 represented low willingness/acceptance to experience intrusions and resulting attempts to control them (Items 25, 30, 33, 35, 37).

2.2.4. Internal consistency

CITCs of the 13-item scale ranged from 0.30 (Item 35) $- .75$ (Item 39), all of which were above the recommended cutoff of 0.30 (Nunnally & Bernstein, 1994). Intra-subscale correlations (i.e., among the items that make up each subscale) ranged from 0.37 to 0.73 for the Valued Action subscale ($M = 0.57$) and 0.27–0.53 for the Willingness subscale ($M = 0.41$; $ps < 0.001$), which is only slightly higher than the ideal range of 0.15–0.50 (Briggs & Cheek, 1986). Furthermore, the intra-subscale item correlations were systematically higher than the inter-subscale item correlations ($zs > -7.72$, $ps < 0.001$; Clark & Watson, 1995).

Subscale-total correlations for the Valued Action and Willingness subscales were 0.91 and 0.80, respectively. A moderate correlation existed between them ($r = 0.49$), indicating that they were associated but not overlapping. Internal consistency was good for both subscales (Valued Action: $\alpha = 0.91$, Willingness: $\alpha = 0.78$) and the total score ($\alpha = 0.89$) compared to the recommended standard of 0.80 (Nunnally & Bernstein, 1994). Mean scores for the sample were: (a) Valued Action: $M = 21.39$ ($SD = 8.86$; range 8–50), (b) Willingness: $M = 22.11$ ($SD = 6.10$; range 5–35), and (c) Total: $M = 43.50$ ($SD = 12.97$; range 13–83).

3. Study 2: Confirmatory Factor Analysis (CFA) and validity

The objective of Study 2 was to confirm the factor structure of the 13-item AAQ-OC developed in Study 1 (See Appendix B) in a separate sample (i.e., cross-validation) as well as to examine convergent, discriminant, and incremental validity (above the AAQ-II).

3.1. Methods

3.1.1. Participants

Participants were 364 undergraduates recruited from Introduction to Psychology courses. Following data integrity procedures described below, the final sample included 313 participants. Demographic characteristics of the final sample appear in Table 1. Participants were primarily female, White, and of non-Hispanic/non-Latino/a descent.

3.1.2. Measures and procedure

Participants completed an online battery of self-report measures (described below) using Qualtrics. Examination of responses indicated that 50 participants (13.7%) did not pass all three distractor items; consequently, these individuals were excluded from analyses. Additionally, one participant was removed for skipping the Dimensional Obsessive Compulsive Scale (DOCS), resulting in a final

Table 2
Descriptive statistics and factor loadings for the AAQ-OC (Study 2: *n* = 313).

Item number	Range	*M*	*SD*	Skewness	Kurtosis	CITC	CFA Factor Loadings	
							VA	W
1. My intrusive thoughts determine the actions that I take.	1–7	2.65	1.34	0.62	− 0.18	0.59	0.64	
2. I try hard to avoid having intrusive thoughts.	1–7	3.45	1.64	0.17	− 0.84	0.64		0.71
3. Intrusive thoughts get in the way of my success.	1–7	2.44	1.34	0.91	0.36	0.76	0.80	
4. It seems like other people are handling their unwanted intrusive thoughts better than I am.	1–7	2.92	1.67	0.56	− 0.64	0.73	0.73	
5. I need to control my intrusive thoughts in order to handle my life well.	1–7	3.19	1.84	0.38	− 1.04	0.74		0.78
6. I stop taking care of my responsibilities when I have intrusive thoughts.	1–7	2.24	1.34	1.02	0.43	0.58	0.65	
7. If an unpleasant intrusive thought comes into my head, I try to get rid of it.	1–7	4.40	1.70	− 0.54	− 0.44	0.41		0.49
8. Intrusive thoughts cause problems in my life.	1–7	2.51	1.38	0.81	0.04	0.82	0.89	
9. I'm afraid of my intrusive thoughts.	1–7	2.43	1.59	1.08	0.49	0.76	0.81	
10. My intrusive thoughts prevent me from leading a fulfilling life.	1–7	1.99	1.28	1.48	2.18	0.72	0.81	
11. I can't stand having intrusive thoughts.	1–7	3.33	1.79	0.34	− 0.84	0.68		0.75
12. I worry about not being able to control my intrusive thoughts.	1–7	2.49	1.52	0.89	0.08	0.80	0.86	
13. I try hard to control the physical reactions that I experience in my body when I am having intrusive thoughts (e.g., heart racing, sweating).	1–7	2.84	1.82	0.70	− 0.62	0.62		0.66
AAQ-OC Total	13–88	36.89	14.82	0.46	− 0.05			
Valued Action	8–54	19.68	9.22	0.76	0.27			
Willingness	5–35	17.21	6.68	0.08	− 0.50			

Note. AAQ-OC = Acceptance and Action Questionnaire for Obsessions and Compulsions; CITC = Corrected Item-Total Correlation; CFA = Confirmatory Factor Analysis; VA = Valued Action Subscale; W = Willingness subscale.

sample size of 313. Participants received 0.5 h of research credit in exchange for their participation.

Acceptance and Action Questionnaire-II (AAQ-II; Bond et al., 2011). The 10-item version of the AAQ-II is a unidimensional scale that assesses EA of generally negative and unwanted thoughts and feelings. Individual items (e.g., "My painful experiences and memories make it difficult for me to live a life that I would value") are rated from 1 (*Never true*) to 7 (*Always true*), and higher scores indicate greater experiential avoidance (i.e., elevated levels of pathology). The AAQ-II has been shown to have good psychometric properties including good internal consistency, convergent, discriminant, and incremental validity (Bond et al., 2011); α = 0.82 in the present study.

Dimensional Obsessive-Compulsive Scale (DOCS; Abramowitz, et al., 2010). The DOCS is a 20-item self-report measure that assesses the severity of the four most consistently replicated OC symptom dimensions: (a) contamination, (b) responsibility for harm and mistakes, (c) symmetry/ordering, and (d) unacceptable thoughts. Within each symptom dimension, five items (rated 0–4) assess the following parameters of severity (over the past month): (a) time occupied by obsessions and rituals, (b) avoidance behavior, (c) associated distress, (d) functional interference, and (e) difficulty disregarding obsessions and refraining from compulsions. The DOCS subscales have excellent reliability in clinical and non-clinical samples, and good convergent validity (Abramowitz, et al., 2010); αs = 0.83–0.89 in the present study.

Depression Anxiety and Stress Scale (DASS-21; Antony, Bieling, Cox, Enns, & Swinson, 1998). The DASS-21 is a 21-item self-report measure of general depression, hyperarousal, and tension over the past week. It contains three seven-item subscales: Depression (DASS-D), which measures dysphoric mood (e.g. sadness or worthlessness; "I felt down-hearted and blue"); Anxiety (DASS-A), which measures physical arousal, panic attacks, and fear (e.g. trembling or faintness; "I felt I was close to panic"); and Stress (DASS-S), which measures tension, irritability, agitation, and overreaction to stressful events (e.g., "I found it hard to wind down"). The DASS-21 demonstrates an excellent factor structure, as well as good to excellent internal consistency (α = 0.87–0.94), concurrent validity, and known groups validity (Antony et al., 1998); αs = 0.73–0.86 in the present study.

White Bear Suppression Inventory (WBSI; Wegner & Zanakos, 1994). The WBSI is a 15-item self-report questionnaire designed to measure suppression as a thought control strategy for managing unwanted intrusive thoughts (e.g., "I have thoughts that I cannot stop"). Thought suppression is considered one indicator of experiential avoidance. Items are rated on a five-point scale from 1 (*Strongly disagree*) to 5 (*Strongly agree*). The scale has adequate psychometric properties (Wegner & Zanakos, 1994) and is associated with measures of obsessional, depressive, and anxious symptoms (Rassin & Diepstraten, 2003; Smári & Hólmsteinsson, 2001); α = 0.93 in the present study.

Obsessive Beliefs Questionnaire-TRIP (OBQ-TRIP; Fergus & Carmin, 2013; Moulding et al., 2011). The OBQ-TRIP is a 20-item self-report instrument that measures dysfunctional (i.e., obsessive) beliefs hypothesized to underlie OCD symptoms, which has shown excellent fit in clinical samples (Moulding et al., 2011). It contains four subscales: (a) threat (OBQ-T; e.g., "Even when I am careful, I often think that bad things will happen"), (b) responsibility (OBQ-R; e.g., "If I don't act when I foresee danger, then I am to blame for any consequences"), (c) importance/control of thoughts (OBQ-I; "Having nasty thoughts means I am a terrible person"), and (d) perfectionism and uncertainty (OBQ-P; "No matter what I do, it won't be good enough"). Items are rated on a 7-point Likert scale ranging from 1 (*Disagree very much*) to 7 (*Agree very much*). The instrument demonstrated adequate internal consistency (Moulding et al., 2011); αs = 0.79–0.84 in the present study.

Brief Fear of Negative Evaluation Scale (BFNE; Leary, 1983). The BFNE is a 12-item self-report measure that assesses distress and avoidance in social situations and concerns with evaluative threat (e.g., "I am afraid that people will not approve of me"). Items are rated on a scale from 1 (*Not at all characteristic of me)* to 5 (*Extremely characteristic of me*). The measure exhibits good psychometric properties in non-clinical samples (Duke, Krishnan, Faith, & Storch, 2006); α = 0.92 in the present study.

3.1.3. Data analytic plan

We used confirmatory factor analysis (CFA) to verify the factor structure of the AAQ-OC in an independent sample, and measured

Table 3
AAQ-OC confirmatory factor analyses fit indices (Study 2: $n = 313$).

	χ^2	df	RMSEA	RMSEA CI	SRMR	CFI	TLI	NFI	ECVI	ECVI CI
1-factor	366.70	65	0.12	0.11; 0.13	0.06	0.88	0.86	0.86	1.34	1.16; 1.54
2-factor	295.38	64	0.11	0.10; 0.12	0.06	0.91	0.89	0.89	1.12	0.96; 1.30

Note. AAQ-OC = Acceptance and Action Questionnaire for Obsessions and Compulsions; RMSEA = Root Mean Square Error of Approximation; RMSEA CI = 90% Confidence Interval for RMSEA; SRMR = Standardized Root Mean Square Residual; CFI = Comparative Fit Index; TLI = Tucker-Lewis index; NFI = Normed fit index; ECVI = Expected Cross-Validation Index; ECVI CI = 90% Confidence Interval for ECVI.

convergent (i.e., associations with the DOCS, OBQ-TRIP, and WBSI), discriminant (i.e., associations with the DASS-21 and BFNE), and incremental validity (i.e., above and beyond the AAQ-II).

3.2. Results

3.2.1. CFA

Descriptive statistics for the reduced AAQ-OC are presented in Table 2. We conducted CFA using LISREL 9.3 (Jöreskog & Sörbom, 2017), examining one and two factor solutions using maximum likelihood estimation and oblique rotation with the correlation matrix.[4] Model fit was determined using χ^2, Root Mean Square Error of Approximation (RMSEA; values should be < 0.08; MacCallum, Browne, & Sugawara, 1996), Tucker- Lewis Index (TLI; values should be > 0.90; Hu & Bentler, 1999; Tucker & Lewis, 1973), Expected Cross Validation Index (ECVI; lower values indicate better fit; Browne & Cudeck, 1993), Comparative Fit Index (CFI; values should be > 0.95; Hu & Bentler, 1999), Bentler-Bonett Normed Fit Index (NFI; values should be > 0.90; Bentler & Bonett, 1980), and Standardized Root Mean Square Residual (SRMR; values should be < 0.08; Hu & Bentler, 1999).

Goodness of fit statistics are reported in Table 3 for both models. The two-factor solution provided a better fit to the data than the one factor solution; chi-square empirical test of the difference between the one and two factor models, $\chi_{\text{diff}}^2(1) = 71.32, p < .001$. The two-factor solution provided an adequate fit to the data (with goodness of fit indices falling only slightly outside the recommended ranges). Factor loadings for the two-factor solution are reported in Table 2 and supported our designation of the factors in Study 1 as Valued Action (Factor 1) and Willingness (Factor 2). As can be seen, all items loaded highly on their respective factor, with communalities (h^2) ranging from 0.24 (Item 7) to 0.79 (Item 8). The two factors were strongly correlated ($r = 0.86$).

3.2.2. Internal consistency

The internal consistency of the AAQ-OC total score ($\alpha = 0.93$), Valued Action subscale ($\alpha = 0.92$), and Willingness subscale ($\alpha = 0.82$) were good to excellent and above the recommended standard of 0.80 (Nunnally & Bernstein, 1994). Inter-item correlations ranged from 0.13 to 0.76 ($M = 0.50$), which were only slightly outside the ideal range of 0.15–0.50 (Briggs & Cheek, 1986). Within the subscales, the Valued Action inter-item correlations ranged from 0.41 to 0.76 ($M = 0.60$) and Willingness inter-item correlations ranged from 0.33 to 0.60 ($M = 0.47$). Descriptive statistics and CITCs for the full measure are also presented in Table 2. As can be seen, CITCs were between 0.38 (Item 7) and 0.83 (Item 8). Within subscales, corrected item-subscale correlations for the Valued Action subscale ranged from 0.62 (Item 1) to 0.85 (Item 8) and from 0.51 (Item 7) to 0.68 (Item 11) for the Willingness subscale.

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[4] We examined both oblique and orthogonal rotational solutions for the CFA. Given the high correlation between the two factors of our reduced scale in Study 2, an oblique rotation was the best fit for the data and thus is presented here.

Table 4
Means and standard deviations on other study measures ($n = 313$).

Measure	Range	M (SD)	Skewness	Kurtosis
AAQ-II	12–62	30.78 (8.97)	0.52	0.40
DOCS	0–42	12.43 (8.81)	0.74	0.18
Contamination	0–15	2.98 (2.94)	1.24	1.51
Responsibility for harm	0–15	3.25 (2.87)	0.99	1.05
Unacceptable thoughts	0–17	3.77 (3.49)	0.93	0.55
Symmetry	0–12	2.43 (2.85)	1.21	0.80
DASS − 21	0–108	25.65 (18.81)	1.13	1.39
Depression	0–40	7.45 (7.31)	1.46	2.29
Anxiety	0–36	6.61 (6.24)	1.40	2.64
Stress	0–40	11.59 (8.07)	0.79	0.40
OBQ-TRIP				
Threat	5–35	15.33 (6.10)	0.43	−0.08
Responsibility	5–34	17.53 (6.62)	−0.03	−0.53
Importance/Control of Thoughts	5–33	11.62 (5.48)	0.99	0.10
Perfectionism / Uncertainty	5–35	16.32 (6.38)	0.48	−0.12
WBSI	15–75	51.21 (11.80)	−0.63	0.38
BFNE	12–60	38.01 (10.22)	0.14	−0.63

Note. AAQ-II = Acceptance and Action Questionnaire-II; DOCS = Dimensional Obsessive Compulsive Scale; DASS-21 = Depression Anxiety and Stress Scale-21; OBQ-TRIP = Obsessive Beliefs Questionnaire; WBSI = White Bear Suppression Inventory; BFNE = Brief Fear of Negative Evaluation.

Table 5
Correlations between the AAQ-II, AAQ-OC subscales, and other study measures ($n = 313$).

	AAQ-II	AAQ-OC Total	AAQ-OC Valued Action	AAQ-OC Willingness
AAQ-II	–	0.62	0.66	0.46
DOCS	0.47	0.55	0.51	0.51
Contamination	0.22	0.23	0.19	0.24
Responsibility for harm	0.29	0.40	0.35	0.39
Unacceptable thoughts	0.53	0.64	0.62	0.56
Symmetry	0.30	0.28	0.27	0.24
DASS − 21				
Depression	0.61	0.43	0.46	0.33
Anxiety	0.53	0.49	0.49	0.41
Stress	0.58	0.51	0.49	0.45
OBQ-TRIP				
Threat	0.52	0.45	0.46	0.37
Responsibility	0.40	0.40	0.37	0.37
Importance/Control of Thoughts	0.50	0.44	0.45	0.35
Perfectionism / Uncertainty	0.53	0.42	0.44	0.33
WBSI	0.56	0.60	0.56	0.56
BFNE	0.46	0.30	0.31	0.23

Note. All $ps < 0.001$ AAQ-II = Acceptance and Action Questionnaire-II; DOCS = Dimensional Obsessive Compulsive Scale; DASS-21 = Depression Anxiety and Stress Scale-21; OBQ-TRIP = Obsessive Beliefs Questionnaire; WBSI = White Bear Suppression Inventory; BFNE = Brief Fear of Negative Evaluation; AAQ-OC = Acceptance and Action Questionnaire for Obsessions and Compulsions.

3.2.3. Demographic comparisons and associations

There were no gender differences on the Valued Action, t(311) = 0.64, p = .52, d = 0.07, or Willingness subscales, t(311) = −0.01, p = .99, d < 0.01. There also were no mean subscale score differences between White and non-White participants: Valued Action, t(311) = 0.46, p = .65, d = 0.05; Willingness, t(235) = −0.40, p = .69, d = 0.04. Neither subscale was significantly associated with age: Valued Action, r(311) = −0.06, p = .33; Willingness, r(311) = −0.10, p = .08.

3.2.4. Correlations with other study measures

Descriptive statistics of the other study measures appear in Table 4 and the results of our correlational analyses appear in Table 5. A Bonferroni corrected alpha of 0.003 was used to correct for multiple tests (0.05/15). As hypothesized, the AAQ-OC was strongly positively correlated with the AAQ-II, DOCS total score (especially the Responsibility for Harm and Unacceptable Thoughts subscales), and WBSI. However, these correlations were not so high as to suggest that the AAQ-OC is assessing the same construct as existing measures (rs < 0.70; Clark & Watson, 1995; Nunnally & Bernstein, 1994). The AAQ-OC was also moderately, positively correlated with the DASS-21, and OBQ-TRIP subscales, and weakly, positively correlated with the BFNE. Correlation coefficients between the AAQ-OC and the DOCS and WBSI were significantly larger in magnitude than correlations with DASS-Depression and BFNE; zs > 2.26, ps < 0.02, using tests of significant differences between the magnitudes of dependent correlation coefficients (I. A. Lee & Preacher, 2013), thus providing evidence for discriminant validity.

Correlations between the study measures and the original AAQ-II were also included in Table 5 for initial comparison prior to the formal incremental validity analyses described below. As can be seen, correlations between the AAQ-OC and convergent OC symptom measures (i.e., DOCS Responsibility, DOCS Unacceptable Thoughts) were higher in magnitude than correlations between these measures and the AAQ-II; zs > 2.29, ps < 0.02. In contrast, correlations between AAQ-II and divergent measures (i.e., DASS Depression, BFNE) were higher in magnitude than correlations between these measures and the AAQ-OC; zs > −3.66, ps < 0.001. Correlations with the AAQ-OC vs. the AAQ-II were not significantly different for the other DOCS subscales (Contamination, Symmetry), DASS subscales (Anxiety, Stress), or beliefs (OBQ-TRIP,[5] WBSI).

3.2.5. Incremental validity above the AAQ-II

Finally, we examined whether the AAQ-OC demonstrated incremental validity (i.e., theoretical utility) in predicting OC symptoms above and beyond the AAQ-II. Hierarchical multiple regression analyses were conducted with each of the DOCS subscales as the dependent variable. In each model, the AAQ-II was entered in Step 1, and the AAQ-OC was entered in Step 2. Regression diagnostics identified no violations of normality or homoscedasticity. Analyses revealed that the tolerance statistics (0.62) and variation inflation factors (1.62) were adequate to satisfy the condition of independent predictors (Tabachnick & Fidell, 2013), indicating that multicollinearity was within acceptable ranges. Thus, the assumptions for our regression analyses were met. A Bonferroni corrected alpha of 0.01 was used to correct for multiple tests (0.05/4). Summary statistics for these regression analyses are presented in Table 6.

Predicting DOCS contamination

The AAQ-II (Step 1) accounted for 4.6% of the variance in DOCS Contamination scores, which was significant (p < .001). When the AAQ-OC was added in Step 2, the amount of variance did not increase

Table 6
Regression analyses predicting the DOCS subscales.

Dependent variable	Predictors	ΔR^2	β	t	sr^2
DOCS Contamination	Step 1: AAQ-II	0.046*	0.22	3.88*	0.22
	Step 2: AAQ-OC	0.014	0.15	2.13	0.12
DOCS Responsibility for Harm	Step 1: AAQ-II	0.084*	0.29	5.35*	0.29
	Step 2: AAQ-OC	0.075*	0.35	5.27*	0.28
DOCS Unacceptable Thoughts	Step 1: AAQ-II	0.276*	0.53	10.88*	0.53
	Step 2: AAQ-OC	0.160*	0.51	9.37*	0.40
DOCS Symmetry	Step 1: AAQ-II	0.088	0.30	5.49*	0.30
	Step 2: AAQ-OC	0.015	0.16	2.27	0.12

Note. DOCS = Dimensional Obsessive Compulsive Scale; AAQ-II = Acceptance and Action Questionnaire-II; AAQ-OC = Acceptance and Action Questionnaire for Obsessions and Compulsions; sr^2 = squared semi-partial correlation. *p < .01. Beta values and associated test statistics are for the step that variable is entered; thus, the values for Step 1 are when the AAQ-II alone is in the model and the values for Step 2 are after controlling for the AAQ-II.

significantly (after Bonferroni correction), ΔR^2 = .014, p = .03. The final model accounted for 6% of the variance, F(2, 310) = 9.86, p < .001.

Predicting DOCS responsibility for harm

The AAQ-II (Step 1) accounted for 8.4% of the variance in DOCS Responsibility for Harm scores, which was significant (p < .001). When the AAQ-OC was added in Step 2, the amount of variance increased significantly, ΔR^2 = .075, p < .001. The final model accounted for 16% of the variance, F(2, 310) = 29.43, p < .001.

Predicting DOCS unacceptable thoughts

The AAQ-II (Step 1) accounted for 27.6% of the variance in DOCS Unacceptable Thoughts scores, which was significant (p < .001). When the AAQ-OC was added in Step 2, the amount of variance increased significantly, ΔR^2 = .16, p < .001. The final model accounted for 43.5% of the variance, F(2, 310) = 119.56, p < .001.

Predicting DOCS symmetry

The AAQ-II (Step 1) accounted for 8.8% of the variance in DOCS Symmetry scores, which was significant (p < .001). When the AAQ-OC was added in Step 2, the amount of variance did not increase significantly (after Bonferroni correction), ΔR^2 = .015, p = .024. The final model accounted for 10.3% of the variance, F(2, 310) = 17.83, p < .001.

3.2.6. Incremental validity above the DASS-Depression.[6]

As a final exploratory analysis, we examined whether the AAQ-OC demonstrated incremental validity in predicting OC symptoms above and beyond depression symptom severity (as measured by the DASS Depression) as has been done in previous studies (Wetterneck et al., 2014). Hierarchical multiple regression analyses were conducted with each of the DOCS subscales as the dependent variable. In each model, the DASS Depression score was entered in Step 1, and the AAQ-OC was entered in Step 2. A Bonferroni corrected alpha of 0.01 was used to correct for multiple tests (0.05/4).

DASS Depression (Step 1) accounted for 7.4% of the variance in DOCS Responsibility for Harm scores, which was significant (p < .001). When the AAQ-OC was added in Step 2, the amount of variance increased significantly, ΔR^2 = .09, p < .001. The final model accounted for 16.9% of the variance, F(2, 310) = 31.47, p < .001. In the second model, DASS Depression (Step 1) accounted for 21.7% of the variance in DOCS Unacceptable Thoughts scores, which was significant

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[5] Except for the OBQ-P which demonstrated a significantly stronger positive correlation with the AAQ-II than the AAQ-OC; z = −2.68; p = .007.

[6] We thank the anonymous peer-reviewer who suggested this additional analysis.

($p < .001$). When the AAQ-OC was added in Step 2, the amount of variance increased significantly, $\Delta R^2 = .23$, $p < .001$. The final model accounted for 45.3% of the variance, $F(2, 310) = 128.30$, $p < .001$. The AAQ-OC did not contribute to significant variance above and beyond DASS Depression when predicting DOCS Contamination ($\Delta R^2 = .02$, $p = .02$). The AAQ-OC contributed to significant variance when predicting DOCS Symmetry scores ($\Delta R^2 = .04$, $p = .001$); however, the total variance accounted for was only 10%.

4. Discussion

Research on the assessment of OCD has revealed a need for domain-specific measures that evaluate targeted mechanisms of psychopathology and of change during treatment (e.g., Grabill et al., 2008). Accordingly, the purpose of the current study was to design and evaluate a measure that captures the construct of experiential avoidance (EA) as it relates specifically to OC symptoms in order to measure how individuals relate to intrusive (i.e., obsessional) thoughts. The strong psychometric properties of the Acceptance and Action Questionnaire for Obsessions and Compulsions (AAQ-OC) suggest that the measure is a useful tool for identifying OC-specific EA.

Across the two studies, results of item selection, exploratory, and confirmatory factor analyses led to the development of a 13-item questionnaire with two factors. Factor 1 represents impairments with valued action in the presence of intrusive thoughts (i.e., Valued Action subscale), and Factor 2 represents low acceptance/willingness of obsessions and attempts to control these intrusions (i.e., Willingness subscale). These factors are conceptually consistent with the Acceptance and Commitment Therapy (ACT) model for understanding OC symptoms as well as the goals of ACT for OCD (Twohig et al., 2015), which fosters willingness to experience unwanted intrusive thoughts and promotes value-driven behaviors (i.e., exposures consistent with one's life priorities).

In the second study, results of correlational analyses were consistent with our first hypothesis. In demonstration of convergent validity, the AAQ-OC was moderately to strongly associated with measures of OC symptoms and cognitions. In contrast, the AAQ-OC was weakly associated with symptoms of depression and social anxiety (i.e., demonstrating discriminant validity). Thus, whereas the AAQ-II is a generalized measure of EA of negative thoughts and feelings, the AAQ-OC demonstrates unique associations with OC-specific symptomatology. We also found partial support for our second hypothesis that the AAQ-OC would demonstrate incremental validity in accounting for significant variance in OC symptom severity above and beyond the AAQ-II. Specifically, the AAQ-OC outperformed the decontextualized AAQ-II in predicting obsessions and compulsions related to responsibility for harm and unacceptable thoughts specifically (but not contamination or symmetry dimensions after controlling for the multiple comparisons). Similarly, the AAQ-OC predicted responsibility for harm and unacceptable thoughts OCD symptoms above and beyond depression severity. Indeed, previous research suggests that EA is most relevant to these two OC symptom presentations (Reuman et al., 2016; Wetterneck et al., 2014). This finding further highlights the thematic heterogeneity of OC symptoms and the advantages of conceptualizing such symptoms along theme-based dimensions, as opposed to globally (McKay et al., 2004).

Our findings should be considered in light of methodological limitations that may inform future research on EA in OCD. First, results based on the non-clinical samples used in the current studies may not generalize to clinical (e.g., treatment-seeking) populations.

Although the AAQ-OC developed in these studies appears appropriate for use in research using non- or pre-clinical samples, replication in a diverse, clinical sample of individuals with OCD would provide further evidence of its factor structure and utility in individuals with clinically severe OC symptoms. Included in such analyses should be a close examination of CFA fit indices in this population since there were several statistics (e.g., RMSEA) that were slightly outside the recommended ranges in the present study. Additionally, clinical samples would also allow for the examination of the diagnostic utility of the AAQ-OC, and specifically whether individuals with OCD have elevated AAQ-OC scores relative to individuals with other anxiety disorders and non-anxious individuals.

Second, given that we developed this measure by adapting the wording of the original AAQ-II to reference the ways in which individuals relate to intrusive thoughts, we note that items on this measure do not capture the *content* of the various rituals individuals with OCD may engage in (e.g., handwashing, checking etc.). However, we conceptualize that many of these items about the experiential avoidance of obsessions do tap into the *functional* relationship of both mental rituals (e.g., "If an unpleasant intrusive thought comes into my head, I try to get rid of it") as well as behavioral ones (e.g., "My intrusive thoughts determine the actions that I take").

Third, all data were collected via self-report, which may have inflated correlations between measures. Moreover, given this data collection method, it is possible that participants might misinterpret the definition of intrusive thoughts provided in the measure (which can be seen in Appendix B) and instead rate other categories of intrusions (e.g., depressive ruminations, generalized worries). Thus, future research may wish to include a prompt for participants to record examples of their intrusive thoughts in order to ensure consistency with this definition (as is done with other measures such as the Interpretation of Intrusions Inventory, III; OCCWG, 2005). Additionally, future research should examine associations between the AAQ-OC and behavioral indices of OCD (e.g., in vivo distress and willingness during a Behavioral Avoidance Task for OCD; Steketee, Chambless, Tran, & Worden, 1996). Fourth, our data were cross-sectional, precluding inferences about the longitudinal consistency and treatment sensitivity of the AAQ-OC. Future research should examine test-retest reliability as well as changes in AAQ-OC scores from pre- to post-treatment in an ACT-based treatment trial for OCD (and the AAQ-OC as a mediator of treatment change). Finally, future research might include additional measures to help establish convergent validity such as (a) the Metacognitions Questionnaire (MCQ; Wells & Cartwright-Hatton, 2004), which includes subscales of cognitive self-consciousness and the need to control thoughts, (b) measures of cognitive or thought action fusion (e.g., Shafran, Thordarson, & Rachman, 1996), or (c) the Thought Control Questionnaire (Wells & Davies, 1994).

In sum, the AAQ-OC was designed to improve the assessment of EA as a risk and maintenance factor in obsessions and compulsions, as well as to inform future research aimed to precisely measure psychological change over the course of treatments that enhance psychological flexibility. Although ACT-based interventions for OCD have demonstrated efficacy (e.g., Bluett et al., 2014; Twohig et al., 2018), prior to the development of the AAQ-OC, no measure of OCD-specific EA existed. Our findings provide psychometric support for an instrument that addresses this important need and add to work supporting the utility of domain-specific measures of EA for improving assessment and intervention.

Appendix A. Initial Item Pool

1. My intrusive thoughts can be dangerous.
2. It is normal to have intrusive thoughts. R
3. I can do things that are important to me even while I'm having intrusive thoughts. R
4. I can work toward important goals, even if I have intrusive thoughts. R
5. My intrusive thoughts get in the way of my success.
6. If I have mean or nasty intrusive thoughts, then I am a mean or nasty person.
7. I try to achieve my goals, even if I am uncertain about my intrusive thoughts. R
8. I try hard not to have intrusive thoughts.
9. I work towards things I value, even though at times I feel uncomfortable or uncertain because of my intrusive thoughts. R
10. The more I have intrusive thoughts, the more concerned I get for my well-being.
11. I take action on a problem, even when I have intrusive thoughts. R
12. My intrusive thoughts determine the actions that I take.
13. It's OK for me to have intrusive thoughts that I don't like. R
14. I am not very aware of what occurs around me when I am having unwanted intrusive thoughts.
15. I can set a course in my life and stick to it, even if I have intrusive thoughts and doubts. R
16. Intrusive thoughts are bad.
17. My unwanted intrusive thoughts make it difficult for me to live a life that I value.
18. I often catch myself daydreaming about things I've done and what I would do differently if I didn't have unwanted intrusive thoughts.
19. Despite having intrusive thoughts and doubts at times, I am in control of my life. R
20. If I have intrusive thoughts while working on a task, I can still complete it. R
21. Intrusive thoughts get in the way of my success.
22. If I feel uncertain about the meaning of my intrusive thoughts, I can still make a choice and take action. R
23. If I promised to do something, I'll do it, even if I have unwanted intrusive thoughts. R
24. I stop taking care of my responsibilities when I have intrusive thoughts.
25. I try hard to avoid having intrusive thoughts.
26. In order to achieve my goals, I do not avoid people, objects, or places that may trigger intrusive thoughts. R
27. Having intrusive thoughts does not prevent me from living a fulfilling life. R
28. I should not believe my reactions and judgments about my intrusive thoughts. R
29. It seems like other people are handling their unwanted intrusive thoughts better than I am.
30. I need to control my intrusive thoughts in order to handle my life well.
31. In order for me to do something important, I first have to have all my intrusive thoughts and doubts worked out.
32. My intrusive thoughts do not get in the way of how I want to live my life. R
33. I can't stand having intrusive thoughts.
34. It's OK if I have an unpleasant intrusive thought. R
35. If an unpleasant intrusive thought comes into my head, I try to get rid of it.
36. I try to avoid intrusive thoughts that cause difficulty in my daily life.
37. I try hard to control the physical reactions that I experience in my body when I am having intrusive thoughts (e.g., heart racing, sweating).
38. I would rather achieve my goals than avoid unpleasant intrusive thoughts. R
39. Intrusive thoughts cause problems in my life.
40. I'm afraid of my intrusive thoughts.
41. My intrusive thoughts prevent me from leading a fulfilling life.
42. When I feel uneasy about my intrusive thoughts, I do whatever I can to get rid of them.
43. I do not have to control my intrusive thoughts to be successful. R
44. I don't avoid situations that trigger intrusive thoughts. R
45. I don't have to get rid of unwanted intrusive thoughts or images that come to my mind. R
46. If I have an intrusive thought, then something is wrong.
47. My mind is so preoccupied with intrusive thoughts that I am not fully involved in what I am doing in the moment.
48. I worry about not being able to control my intrusive thoughts.
49. It's OK to have intrusive thoughts. R

Scoring: Items with an 'R' next to them were reversed for scoring purposes so that higher scores indicated greater experiential avoidance (i.e., less psychological flexibility).

Appendix B. AAQ-OC

We are interested in your experiences with unwanted intrusive thoughts, ideas, impulses, doubts, images, and feelings that something is "not just right". These experiences may be bizarre, senseless, and unpleasant; they may seem inconsistent with who you are (your personality) and how you see yourself. These experiences may also seem to occur against your will; you may try hard to ignore them, but they keep coming back. Sometimes people feel the need to do something (a behavior or mental action) to try to control or remove these types of unwanted thoughts, images, or doubts in order to feel more comfortable.

The following are some examples of unwanted intrusive thoughts:

- The thought that you might have become contaminated after touching something.

- Doubts about whether or not you locked the door or turned off an appliance when you left home.
- Thoughts or urges to engage in behaviors (related to sex, immorality, or violence) that are against your morals or religious beliefs (e.g., pushing a stranger in front of oncoming traffic; a blasphemous thought).
- Thoughts or feelings that something isn't "just right" (e.g., need for symmetry).
- Please note we are NOT referring to daydreams or pleasant fantasies. We are also NOT asking about depressive thoughts (e.g., "I'm worthless") or general worries about everyday matters such as money, school/work, or family issues.

Below you will find a list of statements asking about your experiences with unwanted intrusive thoughts. Please rate how true each statement is for you by selecting a number using the scale below.

1 never true	2 very seldom true	3 seldom true	4 sometimes true	5 frequently true	6 almost always true	7 always true

1. My intrusive thoughts determine the actions that I take.	1	2	3	4	5	6	7
2. I try hard to avoid having intrusive thoughts.	1	2	3	4	5	6	7
3. Intrusive thoughts get in the way of my success.	1	2	3	4	5	6	7
4. It seems like other people are handling their unwanted intrusive thoughts better than I am.	1	2	3	4	5	6	7
5. I need to control my intrusive thoughts in order to handle my life well.	1	2	3	4	5	6	7
6. I stop taking care of my responsibilities when I have intrusive thoughts.	1	2	3	4	5	6	7
7. If an unpleasant intrusive thought comes into my head, I try to get rid of it.	1	2	3	4	5	6	7
8. Intrusive thoughts cause problems in my life.	1	2	3	4	5	6	7
9. I'm afraid of my intrusive thoughts.	1	2	3	4	5	6	7
10. My intrusive thoughts prevent me from leading a fulfilling life.	1	2	3	4	5	6	7
11. I can't stand having intrusive thoughts.	1	2	3	4	5	6	7
12. I worry about not being able to control my intrusive thoughts.	1	2	3	4	5	6	7
13. I try hard to control the physical reactions that I experience in my body when I am having intrusive thoughts (e.g., heart racing, sweating).	1	2	3	4	5	6	7

Appendix C. Supplementary material

Supplementary data associated with this article can be found in the online version at doi:10.1016/j.jocrd.2018.07.003.

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