Manuscript Details

Manuscript number	JOCRD_2018_100
Title	Validation of the Spanish version of the Fear of Self Questionnaire
Article type	Research Paper

Abstract

Cognitive models, both from the appraisal and inferential confusion approaches, have proposed that the self could be a relevant variable in the development and maintenance of obsessive-compulsive (OC) disorder. In this study we aim to analyze the role played by the fear of self, that is, the sort of person we would be afraid to become, in the obsessional area. Specifically, this study aims to: (1) study the psychometric properties of the Spanish version of the Fear of Self Questionnaire (FSQ), and (2) analyze the role of the fear of self predicting OC beliefs and symptoms. 359 non-clinical participants completed a set of questionnaires including the FSQ. Confirmatory factor analysis replicated the original one-factor solution of the FSQ-8 and 20 item versions. The FSQ demonstrated excellent reliability, and the fear of self was a relevant variable predicting OC symptoms and cognitions, especially unacceptable obsessions. The Spanish version of the FSQ retains the good psychometric properties of the original and support the relevance of fear of self to unacceptable obsessions.

Keywords	OCD; fear of self; appraisal; self; FSQ
Corresponding Author	Gemma Garcia-Soriano
Corresponding Author's Institution	Universitat de València
Order of Authors	Sara Llorens-Aguilar, Gemma Garcia-Soriano, Maria Roncero, Juan Ramon Barrada, Frederick Aardema, kieron O'Connor
Suggested reviewers	Guy Doron, Adam Radomsky, Marta Ghisi

Submission Files Included in this PDF

File Name [File Type]

cover_letter.docx [Cover Letter]

Highlights.docx [Highlights]

title page.docx [Title Page (with Author Details)]

Manuscript.docx [Manuscript (without Author Details)]

To view all the submission files, including those not included in the PDF, click on the manuscript title on your EVISE Homepage, then click 'Download zip file'.

Highlights

- The Spanish version of Fear of Self Questionnaire shows good psychometric properties
- Fear of self plays a role in predicting obsessive-compulsive symptoms
- Fear of self is especially relevant to explain unacceptable obsessions

Validation of the Spanish version of the Fear of Self Questionnaire

Sara Llorens-Aguilar[1], Gemma García-Soriano[1], María Roncero[1], Juan Ramón Barrada[2], Frederick Aardema[3,4], Kieron O Connor[3,4].

[1] Departamento de Personalidad, Evaluación y Tratamientos Psicológicos, Facultad de Psicología, Universitat de València, Valencia, Spain

[2] Departamento de Psicología y Sociología, Facultad de Ciencias Sociales y Humanas, Universidad de Zaragoza, Teruel, Spain

[3] Department of Psychiatry, University of Montreal, Montréal, Canada

[4] Mental Health University Institute of Montreal, Montréal, Canada

Corresponding author.

Gemma García-Soriano. Departamento de Personalidad, Evaluación y Tratamientos Psicológicos, Facultad de Psicología, Universitat de València, Valencia, Spain

+34963983389

gemma.garcia@uv.es

Declarations of interest: none

Validation of the Spanish version of the Fear of Self Questionnaire

Abstract

Cognitive models, both from the appraisal and inferential confusion approaches, have proposed that the self could be a relevant variable in the development and maintenance of obsessive-compulsive (OC) disorder. In this study we aim to analyze the role played by the fear of self, that is, the sort of person we would be afraid to become, in the obsessional area. Specifically, this study aims to: (1) study the psychometric properties of the Spanish version of the Fear of Self Questionnaire (FSQ), and (2) analyze the role of the fear of self predicting OC beliefs and symptoms. 359 non-clinical participants completed a set of questionnaires including the FSQ. Confirmatory factor analysis replicated the original one-factor solution of the FSQ-8 and 20 item versions. The FSQ demonstrated excellent reliability, and the fear of self was a relevant variable predicting OC symptoms and cognitions, especially unacceptable obsessions. The Spanish version of the FSQ retains the good psychometric properties of the original and support the relevance of fear of self to unacceptable obsessions.

Keywords: OCD, fear of self, appraisal, self, FSQ.

1. Introduction

Different cognitive models have been used to explain the development and maintenance of obsessive-compulsive disorder (OCD). Appraisal based theories propose that the dysfunctional appraisal of an intrusive thought based on specific OCD-related beliefs facilitate its conversion into an obsession (e.g., Rachman, 1997; Salkovskis, 1985). However, these models do not clarify why only some intrusions, and not others, escalate into obsessions (Doron, Kyrios, & Moulding, 2007; García-Soriano & Belloch, 2012). Yet, it is recognized that OCD-vulnerable individuals are more likely to misinterpret intrusive thoughts that have personal meaning or significance (Purdon & Clark, 1999; Salkovskis, 1985), thus recognizing that the individual's self-view may also be a key element on OCD development. Obsessions have been frequently described as egodystonic, defined by Purdon et al. (2007) as a thought "…that is perceived as having little or no context within one's own sense of self or personality" (p. 200). In one study participants with OCD reported that their most disturbing obsession contradicted valued aspects of the self significantly more than their least distressing obsession (Rowa, Purdon, Summerfeldt, & Antony, 2005). Moreover, it has been proposed that those intrusive thoughts that are misinterpreted are those whose content represent a perceived failure to maintain standards in one or more obsession-relevant self-evaluative domains (García-Soriano, Clark, Belloch, del Palacio, & Castañeiras, 2012), which has found support in one study with clinical participants, especially regarding contamination, checking, order, or hoarding symptoms (García-Soriano & Belloch, 2012). Similarly, it has been suggested that intrusive thoughts that are misinterpreted are those based in highly valued self-domains in which an individual feels incompetent, with various studies supporting that a sensitivity to moral self-beliefs is a vulnerability factor to develop and maintain OCD symptoms (Doron et al., 2007; Doron, Moulding, Kyrios, & Nedeljkovic, 2008).

The inferential confusion model (O'Connor & Robillard, 1995, 1999) proposes that obsessions appear through a dysfunctional reasoning process ("inferential confusion") where the person confuses a remote possibility with a real probability. According to this model, the self also plays a relevant role: people suffering from OCD would tend to confuse the real self with the feared self, the sort of person we would be afraid to become, in the obsessional area (Aardema & O'Connor, 2007; Aardema et al., 2013). That is, people suffering from OCD would employ an erroneous reasoning process investing more in the sort of person they could be (imaged or feared self) than in who they actually are (real self), in particular among those with blasphemous, sexual and aggressive obsessions.

In line with these theories and findings, Aardema et al. (2013) developed a measure to evaluate this construct, the Fear of Self-Questionnaire (FSQ). The original version consisted of a 41-item questionnaire based on the literature and clinical expertise, that was shortened to a 20-item version with a one-factor solution. The reliability of this version was excellent and showed an adequate divergent validity with other OC related measures. The FSQ was related to OCD symptoms, and significantly predicted obsessions and obsessive-compulsive beliefs. In a second study, the authors reduced the measure into a final version of 8 items, with the same one-factor solution. The FSQ-8 was highly correlated with the FSQ-20 and showed a satisfactory internal consistency.

The FSQ-20 has already been translated into Italian and validated with a sample of non-clinical participants. As in the English 20 and 8-items versions, the one-factor solution was probed to be satisfactory (Melli, Aardema, & Moulding, 2015) . Also, a recent study reported that the fear of possible selves is higher in OCD patients with repugnant obsessions than in OCD patients with other obsessional contents, or in patients with other disorders (eating, body dimorphic, mixed anxiety and depression) (Aardema et al., 2017). Moreover, in both these studies with clinical OCD samples, fear of self predicted a significant proportion of

repugnant obsessions variance over and above the negative emotional symptoms, and other cognitive domains as obsessional beliefs or inferential confusion construct (Aardema et al., 2017; Melli et al., 2015).

In spite of the potential relevance of the fear of self-construct to explain the development and maintenance of OCD, and the satisfactory psychometric properties of the Fear of Self Questionnaire, this instrument has not been validated in a Spanish population. Thus, the aim of the present study was two-fold: first, to examine the psychometric properties of the Spanish version of the FSQ; and second, to replicate previous findings with the FSQ in the prediction of obsessive beliefs and obsessive-compulsive symptoms.

2. Method

2.1 Participants

The sample consisted in a group of 359 participants (271 female) with a mean age of 29.16 years (range [18-65]; *SD* = 14.09). The great majority of participants were undergraduate students (64%), community participants also participated in the study. Out of the 359 subjects, 14 of them reported having a diagnosis of a psychological disorder. Most of the sample was single (71.6%) with a medium-high (69%) socioeconomic level. Part of the sample (*n* = 175; 67.20% female; M age = 38.62 years, *SD* = 14.71) completed only part of the evaluation protocol.

2.2. Measures

Fear of Self Questionnaire (FSQ-20; Aardema et al., 2013). This is the questionnaire under study, and it is described in detail in the introduction section. The FSQ-20 was translated into Spanish by one of the authors of this study (S.LL.). Afterwards, a native English speaker bilingual in Spanish translated the Spanish version in English. The original English version and the translation were compared and discrepancies were discussed with the primary author of the questionnaire (F.A.) until arriving to an agreement.

Obsessive-Compulsive Inventory-Revised (OCI-R; Foa et al., 2002; Spanish version: Belloch et al., 2013). The OCI-R is a 18 items self-report questionnaire which assesses distress associated with various obsessive–compulsive symptoms on six subscales In the present study we have employed the Obsessing subscale (OCI-R Obsessing), and the total score of the instrument removing the influence of the Obsessing scale (OCI-R Not Obsessing subscale). That is, a mean of the score on the washing, checking, ordering, hoarding, and neutralizing subscales. The internal consistency (Cronbach's α) was .81 for the OCI-R Obsessing and .86 for the OCI-R Not Obsessing subscale.

Obsessive Beliefs Spanish Inventory-Revised (OBSI-R**;** Belloch et al., 2010). This is a 50-items self-report questionnaire designed to evaluate dysfunctional beliefs hypothetically related to the maintenance and/or the development of the OCD. In the present study the total score Cronbach's α was .95.

Obsessional Concerns and Self Questionnaire (OCSQ; García-Soriano & Belloch, 2012) is a 39 items self-report questionnaire that assess the extent to which respondents consider OC content domains relevant to their self-worth. In the present study the internal consistency of the total score was .95.

Ego-Dystonicity Questionnaire (EDQ; Purdon et al., 2007; Spanish version: Belloch, Roncero, & Perpiñá, 2012). The EDQ is a 27 items self-report which measures the ego-dystonicity associated with an unwanted thought.. In the present study, the internal consistency of the total score was .92.

Depression Anxiety Stress Scale-21 (DASS-21; Lovibond & Lovibond, 1995; Spanish version: Daza, Novy, Stanley, & Averill, 2002). The DASS-21 is a 21 items self-report questionnaire designed to measure the negative emotional states of depression, anxiety and stress. In the present study the total score internal consistency of the total score was .93.

2.3 Procedure

Recruitment of participants was conducted following the "snowball" method by 4th year students at the BA program from a Spanish university. The students attended a two-hour training seminar where they received training about the purpose of the study and how to present the study and the instruments to prospective participants. Each student individually administered the assessment protocol to community volunteers. Participants were volunteers and students who obtained course credit for their recruitment efforts. All the participants provided written informed consent prior to completing the questionnaires. Two weeks later, part of the participants (n=102) completed the FSQ-20 again. Half of the participants (51%, n=184) completed a set of questionnaires that included, along with others, the above described questionnaires. The other half (n=175) only completed the FSQ. The study received the approval of the Ethical Committee from the University.

2.4 Data Analysis

Firstly, we computed the descriptive analyses of the FSQ items: mean, standard deviation, skewness, and kurtosis. Secondly, we analyzed the internal structure of both versions of the FSQ by means of confirmatory factor analysis[1]. Given the expected floor effect for several of the FSQ items, which implies a high departure from normality (e.g., "I must be very careful in order to avoid doing something awful"), we treated the responses as categorical (ULSMV estimator in M*plus*). ULSMV appears to be the advisable method in these cases, in particular for small to medium sample sizes (e.g., Forero, Maydeu-Olivares, & Gallardo-Pujol, 2009). Goodness-of-fit of all the derived models was assessed with the common cut-off values for the fit indices (Hu & Bentler, 1999): CFI and TLI with values greater than .95 and RMSEA less than .06 were indicative of a satisfactory fit. These cut-off values must be interpreted with caution as they were derived models estimated with

[1] In the case of unidimensional models without correlated uniquenesses, confirmatory factor analysis models, exploratory factor analysis models, and exploratory structural equation models offer the same results and fit.

maximum-likelihood. Localized areas of strain were assessed with modification indices and standardized expected parameter change. Thirdly, we computed the reliability of the two versions: (a) internal consistency computed with Cronbach's alpha, and (b) test-retest correlation. Fourthly, we computed the inter-correlations between the different scales and age and sex. Fifthly, we computed three hierarchical regression models with OCI–R Not Obsessing subscale, OCI–R Obsessing subscale, and OBSI-R total score as criteria variables. For each regression we had three steps: (1) DASS-21 as the only predictor controlling for the emotional symptoms; (2) OCSQ, EDQ, and OBSI-R (not when it was the criterion) describing relevant and OCD domains; and finally, the (3) FSQ-20 was included.

3. Results

3.1 Item Descriptives, Internal Structure, and Reliability

The descriptives of the items can be seen in Table 1. As expected, the items presented low means (M_{mean} = 2.19, range [1.44, 3.46]) and low standard deviations (M_{SD} = 1.28, range [0.86, 1.60]). In average, the items tended to show a positive skewness (M_{Sk} = 1.20, range [–0.13, 2.66]) and kurtosis (M_{K} = 1.27, range [–0.98, 8.15]).

Table 1. Item Description and Factor Loadings of the Fear of Self Questionnaire (FSQ)

	Descriptives				Loadings	
	M	*SD*	*Sk*	*K*	FSQ-20	FSQ-8
1. I often question my own character.	3.46	1.40	-0.13	-0.86	.58	.51
2. It requires constant attention to ensure I am thinking and behaving appropriately.	2.62	1.30	0.59	-0.40	.58	—
3. I often worry about what my inner thoughts might reveal about my character.	2.71	1.42	0.55	-0.69	.68	—
4. I fear perhaps being a violent, crazy person.	1.81	1.18	1.62	2.02	.72	—

5. I can easily imagine myself as the kind of person that should definitely feel guilty.	2.09	1.33	1.28	0.85	.63	.62
6. I often question my moral character.	2.09	1.26	1.10	0.50	.71	—
7. I often question my own sanity.	1.96	1.29	1.46	1.47	.72	.71
8. I often question my own identity.	2.07	1.34	1.25	0.74	.72	—
9. I often question my own intentions or desires.	2.70	1.42	0.47	-0.69	.64	—
10. I am sometimes afraid to look inside of myself because I am afraid of what I could find.	2.09	1.36	1.22	0.54	.77	.75
11. I feel like a bad part of me is always trying to express itself.	1.81	1.20	1.54	1.56	.80	—
12. I worry about being the sort of person who might do very immoral things.	1.58	1.05	2.15	4.59	.83	.81
13. I often worry about having a negative 'agenda'.	1.89	1.18	1.59	2.28	.79	—
14. I am afraid of the kind of person I could be.	1.66	1.07	2.18	5.07	.82	—
15. I often accuse myself of having done something wrong.	3.04	1.54	0.25	-0.98	.66	—
16. I’m afraid of the kind of person I might become if I’m not very careful.	1.95	1.24	1.43	1.39	.80	.82
17. I often doubt that I am a good person.	2.00	1.24	1.24	0.74	.78	—
18. I fear becoming the sort of person I detest.	2.58	1.60	0.61	-0.92	.69	—
19. I often feel that I do not honestly show the negative reality inside myself.	2.26	1.36	0.95	0.02	.78	.80
20. I must be very careful in order to avoid doing something awful.	1.44	0.86	2.66	8.15	.76	.80

162 *Note. M* = mean*; SD* = standard deviation*; Sk* = skewness*; K* = kurtosis

This first model (M1) with the FSQ-20 did not meet the common cut-off values for goodness-of-fit (CFI = .928, TLI = .919, RMSEA = .088). The higher modification index, equal to 41.0 (expected standarized parameter change = .45), corresponded to correlated uniqueness between Item 2 and Item 3. In M2 we added this parameter and, although model fit was improved, is was still below the desired thresholds. Sequentially, we added new correlated uniquenesses (Items 5 and 15, Items 8 and 9; Items 1 and 2). In none of these models the CFI and TLI were greater than .95 or the RMSEA lower than .06. We did not test further models with the FSQ-20 as it was clear at reaching a well-fitting model required many parameters without theoretical justification. In the final tested model with the FSQ-20, the included correlated uniquenesses ranged from .33 to .45.

For the FSQ-8 responses (M6) the model fit was much better without correlated uniquenesses (CFI = .981, TLI = .974, RMSEA = .070). Although the RMSEA was over the intended cut-off value, the maximum modification index was small –8.8– and all the expected standarized parameter changes were below .29.

The item loadings for the FSQ-20 and FSQ-8 items can be seen in Table 2. In both cases, item loadings were medium-high (for the FSQ-20, $M_{loading}$ = .72, range [.58, .83]; for the FSQ-8, $M_{loading}$ = .73, range [.51, .82]).

Table 2. Goodness of fit indices for the different models

Models	χ^2 †	*df*	CFI	TLI	RMSEA
M1. FSQ-20	643.1	170	.928	.919	.088
M2. FSQ-20 + CU (2 & 3)	604.7	169	.933	.925	.085
M3. FSQ-20 + CU (2 & 3 + 5 & 15)	570.4	168	.938	.930	.082
M4. FSQ-20 + CU (2 & 3 + 5 & 15 + 8 & 9)	535.5	167	.944	.936	.078

M5. FSQ-20 + CU (2 & 3 + 5 & 15 + 8 & 9 + 1 & 2)	507.3	166	.948	.940	.076
M6. FSQ-8	55.0	20	.981	.974	.070

Notes: *df*=degrees of freedom; TLI=Tucker-Lewis index; CFI=comparative fit index; RMSEA=root mean square error of approximation; CU=correlated uniquenesses.

†All p-values for the chi-square test were < .001.

FSQ=Fear of Self-Questionnaire.

The internal consistency of the scores was adequate, with Cronbach's alpha equal to .94 for the FSQ-20 scores and equal to .85 for the FSQ-8 scores. The test-retest correlation with a two weeks interval was high (*n*=102): .88 for the FSQ-20 and .83 for the FSQ-8.

3.2 Inter-correlations and Hierarchical Regression Models

The inter-correlations between the different variables can be seen in Table 3. As could be expected, the two versions of the FSQ presented a very strong correlation, *r* = .97. The FSQ-20 presented moderate to strong correlations with the DASS-21 and the two scores of the OCI-R, *r*s in the range [.46, .65]. Associations were numerically higher between FSQ and the OCI-R Obsessing than with the Not Obsessing scale (*z*= 2.18, *p*= .02). The associations with the OCSQ, *r* = .27, and EDQ, *r* = .15, were low. The scores in FSQ-20 tended to decrease with increments in age, *r* = –.27. The FSQ—20 presented a negligable relation with sex, *r* = –.01. The correlations with the FSQ-8 were essentially the same as with FSQ-20, although slightly lower.

Table 3. Correlations and descriptive statistics

	1	2	3	4	5	6	7	8	9	10
					Correlations					
1. FSQ-20										

2. FSQ-8	**.97**									
3. OCI-R Not Obsessing	**.46**	**.46**								
4. OCI-R Obsessing	**.58**	**.55**	**.56**							
5. DASS-21	**.65**	**.64**	**.42**	**.52**						
6. OCSQ	**.27**	**.26**	**.53**	**.24**	**.27**					
7. EDQ	.15	.14	**.19**	**.18**	.09	**.41**				
8. OBSI-R	**.47**	**.47**	**.55**	**.39**	**.40**	**.64**	.12			
9. Age	**–.27**	**–.23**	**.24**	–.04	**–.19**	**.28**	.04	.06		
10. Sex	–.01	.03	–.10	–.12	–.08	.02	.01	–.02	**.21**	
					Descriptives					
n	350	355	171	174	171	175	138	161	360	359
Mean	43.84	16.77	10.77	1.62	31.00	143.12	2.76	143.20	29.16	.25
SD	17.49	6.93	8.50	2.34	8.66	42.50	1.00	45.09	14.09	.43

Note: Bold values correspond to statistically significant correlations, $p < .05$. Sex was coded with a dummy variable, where 0 = *women* and 1 = *men*.
FSQ=Fear of Self-Questionnaire; OCI-R=Obsessive-Compulsive Inventory-Revised; DASS-21=Depression Anxiety Stress Scale-21; OCSQ=Obsessional Concerns and Self Questionnaire; EDQ=Ego-Dystonicity Questionnaire; OBSI=Obsessive Beliefs Spanish Inventory-Revised.

When predicting the OCI-R Not Obsessing subscale, in the first step the negative emotional variables predicted an 18% of the variance. In step 2, the OCSQ and OBSI-R added a 23% of increase variance. And in step 3 the FSQ added 2% of the explained variance, with only OCSQ and FSQ emerging as significant predictors in the final model (R^2_{Model3} = .42,

$\beta_{FSQ\text{-}20}$ = 0.19, $t(124) = 2.027$, $p = .045$). When predicting the OCI-R Obsessing scale, in the first step, the DASS-21 made a significant contribution explaining 27% of the variance. In Step 2, when adding OCD relevant domains, the explained variance significantly increased 6%, and the dysfunctional beliefs (OBSI-R) emerged also as a significant predictor. In Step 3, adding the FSQ scores, the explained variance significantly increased by 7%, the OBSI-R was no longer a predictor, and only the DASS-21 and the FSQ emerged as significant predictors in the final model (OCI-R Obsessing, $R^2_{Model3} = .40$, $\beta_{FSQ\text{-}20} = 0.36$, $t(124) = 3.716$, $p < .001$). Finally, when predicting the dysfunctional beliefs (OBSI-R), the DASS-21 explained a 16% of the variance. In step 2, the variance increased in 33% with emotional and self variables making significant contributions. And in step 3, the explained variance significantly increased by 5%, with only the self variables making a significant contribution (OCSQ, EDQ, FSQ) ($R^2_{Model3} = .54$, $\beta_{FSQ\text{-}20} = 0.29$, $t(125) = 3.568$, $p = .001$) (Table 4).

Table 4. Hierarchical regressions predicting obsessive-compulsive symptoms (OCI-R) and dysfunctional beliefs (OBSI-R).

	OCI–R Not Obsession			OCI–R Obsession			OBSI-R		
Step 1	ΔR^2	ΔF	*p*	ΔR^2	ΔF	*p*	ΔR^2	ΔF	*p*
	.18	27.28	**< .001**	.27	46.85	**< .001**	.16	24.76	**< .001**
Coefficients	β	*t*	*p*	β	*t*	*p*	β	*t*	*p*
DASS	0.42	5.22	**< .001**	0.52	6.84	**< .001**	0.40	4.98	.000
Step 2	ΔR^2	ΔF	*p*	ΔR^2	ΔF	*p*	ΔR^2	ΔF	*p*
	.23	15.83	**< .001**	.06	3.71	**.013**	.33	41.37	**< .001**
Coefficients	β	*t*	*p*	β	*t*	*p*	β	*t*	*p*
DASS	0.23	3.10	**.002**	0.42	5.29	**< .001**	0.25	3.74	**< .001**
OCSQ	0.30	3.03	**.003**	–0.12	–1.14	.255	0.65	8.99	**< .001**

EDQ	0.01	0.11	.916	0.16	1.94	.055	–0.17	–2.41	**.018**
OBSI-R	0.26	2.64	**.009**	0.28	2.69	**.008**	—	—	—
Step 3	ΔR^2	ΔF	*p*	ΔR^2	ΔF	*p*	ΔR^2	ΔF	*p*
	.02	4.11	**.045**	.07	13.81	**< .001**	.05	12.73	**.001**
Coefficients	β	*t*	*p*	β	*t*	*p*	β	*t*	*p*
DASS	0.13	1.40	.165	0.22	2.40	**.018**	0.06	0.79	.430
OCSQ	0.33	3.29	**.001**	–0.07	–0.73	.468	0.62	9.04	**< .001**
EDQ	–0.01	–0.18	.859	0.12	1.49	.138	–0.18	–2.77	**.006**
OBSI-R	0.19	1.93	.056	0.16	1.56	.120	—	—	—
FSQ–20	0.19	2.03	**.045**	0.36	3.72	**< .001**	0.29	3.57	**.001**

Note: Bold *p*-values correspond to those statistically significant, $p < .05$.

FSQ=Fear of Self-Questionnaire; OCI-R=Obsessive-Compulsive Inventory-Revised; DASS-21=Depression Anxiety Stress Scale-21; OCSQ=Obsessional Concerns and Self Questionnaire; EDQ=Ego-Dystonicity Questionnaire; OBSI-R=Obsessive Beliefs Spanish Inventory-Revised

4. Discussion

The Spanish version of the Fear of Self Questionnaire shows strong psychometric properties and excellent reliability in a community sample, retaining the good psychometric properties of the original version of the instrument (Aardema et al., 2013), and replicating the properties of the Italian version (Melli et al., 2015). The confirmatory factor analyses supported the unidimensional structure of the measure for the long (20 items) and short version (8 items) showed in the original (Aardema et al., 2013; Aardema et al., 2017) and Italian (Melli et al., 2015) versions. Results show an excellent reliability for both versions of

the FSQ through the internal consistency and temporal stability, similar to that reported in the original (Aardema et al., 2013) and Italian version (Melli et al., 2015). 5

As expected, both versions of the FSQ showed higher associations with the unpleasantness associated to the obsessions (OCI-R Obsessing) than with the other obsessive-compulsive symptoms. This result is congruent with theoretical proposals (O'Connor & Aardema, 2007), and it is supported by previous studies using both non-clinical and clinical OCD samples (Aardema et al., 2013, 2017; Melli et al., 2015) 5. Overall results confirm the relevance of the fear of self construct in those people showing higher emotional and obsessive-compulsive symptoms, especially regarding unacceptable obsessions. A recent study with clinical samples also supported the relevance of the fear of self in different clinical groups including anxious/ depressive patients (Aardema et al., 2017). The fear of possible selves shows small significant associations with other self-constructs relevant in OCD as the self-worth contingencies and egodystonicity. This last result was not expected, as previous research (Aardema et al., 2013) showed moderate associations between fear of self and egodystonicity. The differences between the present study and Aardema et al. (2013) study could be due to the fact that participants appraise the egodystonicity of different unwanted unpleasant thoughts in each study, and as it has been observed previously, egodytonicity varies across different obsessional contents and thoughts (Purdon et al., 2007). Low associations between the fear of self and the other self-constructs, indicate that they retain different elements of the self in relation with OCD. Whereas the fear of self construct evaluates the fear of possible selves ; self-worth contingencies construct's appraise the extent to which participants consider OC content domains (e.g., cleanliness) relevant to their self-worth; and egodystonicity measures if an unwanted thought is inconsistent with the real self. Our results suggest that the inconsistency between an unpleasant thought and the real self, may not be associated with the fear of possible selves.

Regarding our second objective, to investigate the role of fear of self in obsessive-compulsive symptoms, regression analysis confirmed its relevance for the obsessive-compulsive symptoms and cognitions, especially to explain the distress associated with unacceptable obsessions. In fact, the fear of possible selves explained a percentage of the obsessive-compulsive variance over and above the influence of negative emotional states, cognitive- and self-relevant OCD processes. This result is also consistent with that reported in other studies that inform on the unique contribution of the FSQ in the explanation of unacceptable obsessions (Aardema et al., 2013; Melli et al., 2015). This study also suggests that, besides the role played by the fear of possible selves, other self-constructs as self-worth contingencies and egodistonicity are relevant variables explaining dysfunctional beliefs about thoughts and obsessive-compulsive symptoms different from unacceptable obsessions. Thus supporting previous studies (e.g., Garcia-Soriano & Belloch, 2012), and the need to take the self into consideration when explaining and treating obsessive-compulsive symptoms.

4.1 Conclusions

This study, conducted in non-clinical samples, includes the Spanish validation of the long and short versions of the Fear of Self, and further supports the relevance of the fear of possible selves associated to obsessive-compulsive symptoms, especially those associated with unacceptable obsessions, and cognitions. If further research supports its relevance in OCD samples, OCD cognitive-behavioural therapies should address the modification of perception of the self as dangerous to dismiss the negative appraisals associated to the intrusions and obsessions. According with the Inference Based Model, self-themes would work as self-doubting inferences developed by an erroneous reasoning process as happens with obsessional doubts. Hence, the strategies of the Inference Based Therapy for obsessions could be applied also to modify self-themes related to the fear of self. The reason to invest more in an imagined self than in a real one is unknown but it has been suggested that an

293 excessive concern with interpersonal relationships combined with a tendency to sacrifice
294 personal needs and autonomy could play a key role (Careau, O'Connor, Freeston, & Turgeon,
295 2007). Moreover, further research should analyse its relevance in other disorders of the OCD
296 spectrum. In fact, a recent study suggests its relevance in body dysmorphic and eating
297 disorders (Aardema et al., 2017), thus suggesting the possibility to develop common strategies
298 to different disorders.

5. References

Aardema, F., & O'Connor, K. (2007). The menace within: Obsessions and the self. *Journal of Cognitive Psychotherapy, 21*, 182-197.

Aardema, F., Moulding, R., Radomsky, A. S., Doron, G., Allamby, J., & Souki, E. (2013). Fear of self and obsessionality: Development and validation of the Fear of Self Questionnaire. *Journal of Obsessive-Compulsive and Related Disorders*, *2*(3), 306–315.

Aardema, F., Moulding, R., Melli, G., Radomsky, A. S., Doron, G., Audet, J.-S., & Purcell Lalonde, M. (2017). The role of feared possible selves in obsessive-compulsive and related disorders: A comparative analysis of a core cognitive self-construct in clinical samples. *Clinical Psychology & Psychotherapy*, (July), 1–11.

Belloch, A., Roncero, M., García-Soriano, G., Carrió, C., Cabedo, E., & Fernández-Álvarez, H. (2013). The Spanish version of the Obsessive-Compulsive Inventory-Revised (OCI-R): Reliability, validity, diagnostic accuracy, and sensitivity to treatment effects in clinical samples. *Journal of Obsessive-Compulsive and Related Disorders*, *2*(3), 249–256.

Belloch, A., Morillo, C., Luciano, J. V, García-Soriano, G., Cabedo, E., & Carrió, C. (2010). Dysfunctional belief domains related to obsessive-compulsive disorder: a further examination of their dimensionality and specificity. *The Spanish Journal of Psychology*, *13*(1), 376–88.

Belloch, A., Roncero, M., & Perpiñá, C. (2012). Ego-syntonicity and ego-dystonicity associated with upsetting intrusive cognitions. *Journal of Psychopathology and Behavioral Assessment*, *34*(1), 94–106.

Daza, P., Novy, D. M, Stanley, M. A, & Averill, P. (2002). The Depression Anxiety Stress Scale-21: Spanish translation and validation with a Hispanic sample. *Journal of Psychopathology & Behavioral Assessment*, 24(3), 195-205

Careau, Y., O'Connor, K.P., Turgeon, L, & Freeston, M.H. (2012) Childhood experiences and adult beliefs in obsessive-compulsive disorder: evaluating a specific etiological model. *Journal of Cognitive Psychotherapy*, 26, 236-256.

Doron, G., Kyrios, M., & Moulding, R. (2007). Sensitive domains of self-concept in obsessive-compulsive disorder (OCD): Further evidence for a multidimensional model of OCD. *Journal of Anxiety Disorders*, 21,433–444

Doron, G., Moulding, R., Kyrios, M., & Nedeljkovic, M. (2008). Sensitivity of self beliefs in obsessive–compulsive disorder (OCD). *Anxiety and Depression*, 25, 874–884

Foa, E. B., Huppert, J. D., Leiberg, S., Langner, R., Kichic, R., Hajcak, G., & Salkovskis, P. M. (2002). The Obsessive – Compulsive Inventory : Development and Validation of a Short Version. *Psychological Assessment*, *14*(4), 485–496.

Forero, C. G., Maydeu-Olivares, A., & Gallardo-Pujol, D. (2009). Factor analysis with ordinal indicators: A Monte Carlo study comparing DWLS and ULS estimation. *Structural Equation Modeling, 16*, 625-641.

García-Soriano, G., Clark, D. A., Belloch, A., del Palacio, A., & Castañeiras, C. (2012). Self-worth contingencies and obsessionality : A promising approach to vulnerability? *Journal of Obsessive-Compulsive and Related Disorders*, *1*, 196–202.

García-Soriano, G., & Belloch, A. (2012). Exploring the role of obsessive-compulsive relevant self-worth contingencies in obsessive-compulsive disorder patients. *Psychiatry Research*, *198*(1), 94–9.

Hu, L.T., & Bentler, P.M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling, 6*, 1-55.

Lovibond, P. F., & Lovibond, S. H. (1995). The structure of negative emotional states: Comparison of the Depression Anxiety Stress Scales (DASS) with the Beck Depression and Anxiety Inventories. *Behaviour Research and Therapy*, 33, 335-343

Melli, G., Aardema, F., & Moulding, R. (2015). Fear of Self and Unacceptable Thoughts in Obsessive – Compulsive Disorder. *Clinical Psychology and Psychotherapy*, 226–235.

O'Connor, K., & Aardema, F. (2007). Self Themes in Obsessive-Compulsive Disorder. *Journal of Cognitive Psychotherapy*, *21*(3), 179–181.

O'Connor K. P., & Robillard S. (1995). Inference processes in obsessive-compulsive disorder: some clinical observations. *Behaviour Research and Therapy*, 33,887-896

O'Connor K. P., & Robillard S. (1999). A cognitive approach to modifying primary inferences in obsessive compulsive disorder. *Journal of Cognitive Psychotherapy*, 13,1-17

Purdon, C., & Clark, D. A. (1999). Metacognition and obsessions. *Clinical Psychology & Psychotherapy*, 6(2), 102–110.

Purdon C., Cripps E., Faull M., Joseph S., & Rowa, K. (2007) Development of a measure of ego-distonicity. *Journal of Cognitive Psicotherapy*, 21,198-21

Rachman, S. (1997). A cognitive theory of obsessions. *Behaviour Research and Therapy*, 35, 793–802.

Rowa, K., Purdon, C., Summerfeldt, L. J., & Antony, M. M. (2005). Why are some obsessions more upsetting than others? *Behaviour Research and Therapy*, *43*(11), 1453–65.

Salkovskis, P. M. (1985). Obsessional–compulsive problems: A cognitive–behavioral analysis. *Behaviour Research and Therapy*, 23, 571–583.