

## The Spanish version of the Believability of Anxious Feelings and Thoughts Questionnaire

Francisco J. Ruiz<sup>1</sup>, Paula Odriozola-González<sup>2</sup> and Juan C. Suárez-Falcón<sup>3</sup>

<sup>1</sup> Universidad de Zaragoza, <sup>2</sup> Universidad de Oviedo and <sup>3</sup> Universidad Nacional de Educación a Distancia (UNED)

### Abstract

**Background:** Cognitive fusion is suggested to play an important role in the etiology and maintenance of anxiety disorders according to Acceptance and Commitment Therapy. This study presents the psychometric data of the Spanish version of a cognitive fusion measure in the context of anxiety: the Believability of Anxious Feelings and Thoughts Questionnaire (BAFT). **Method:** First, we back-translated the BAFT into Spanish and then, administered it to three samples, with a total of 598 participants, in addition to other relevant anxiety measures. **Results:** Data were very similar to those obtained with the original BAFT version. The BAFT showed a very good internal consistency (overall  $\alpha = .92$ ) and a hierarchical factor structure with two lower-order factors and one hierarchical factor. Participants showing mild levels of anxiety symptoms scored higher on the BAFT than participants who scored below the cutoffs. BAFT scores were significantly related to anxiety symptoms and to measures of psychological inflexibility, anxiety sensitivity, and mindfulness facets. Moreover, the BAFT showed incremental validity relative to anxiety sensitivity. **Conclusions:** This Spanish version of the BAFT emerges as a reliable and valid measure of cognitive fusion with anxious thoughts and feelings.

**Keywords:** Believability of Anxious Feelings and Thoughts Questionnaire, Acceptance and Commitment Therapy, cognitive fusion, anxiety disorders.

### Resumen

**Versión española del Cuestionario de Credibilidad de Sentimientos y Pensamientos Ansiógenos. Antecedentes:** la fusión cognitiva juega un papel importante en la etiología y mantenimiento de los trastornos de ansiedad según la Terapia de Aceptación y Compromiso. Este estudio presenta datos psicométricos de la versión española del Cuestionario de Credibilidad de Sentimientos y Pensamientos Ansiógenos (BAFT). **Método:** se realizó una traducción inversa del BAFT al español y se administró a tres muestras, con un total de 598 participantes, conjuntamente con otras medidas de ansiedad. **Resultados:** los datos fueron muy similares a los obtenidos en la versión original del BAFT. El BAFT mostró una muy buena consistencia interna (alfa promedio de .92) y una estructura jerárquica con dos factores de primer orden y un factor de segundo orden. Los participantes con niveles moderados de ansiedad puntuaron más en el BAFT que los participantes que mostraron puntuaciones inferiores. Las puntuaciones en el BAFT correlacionaron significativamente con variedad de síntomas de ansiedad y con medidas de inflexibilidad psicológica, sensibilidad a la ansiedad y facetas de mindfulness. El BAFT mostró validez incremental en relación a la sensibilidad a la ansiedad. **Conclusiones:** la versión española del BAFT emerge como una medida fiable y válida de fusión cognitiva con pensamientos y sentimientos ansiógenos.

**Palabras clave:** Cuestionario de Credibilidad de Sentimientos y Pensamientos Ansiógenos, Terapia de Aceptación y Compromiso, fusión cognitiva, trastornos de ansiedad.

Cognitive fusion is a central process of the Acceptance and Commitment Therapy (ACT; Hayes, Strosahl, & Wilson, 1999) model of psychopathology and, more specifically, of anxiety disorders. Cognitive fusion refers to a verbal process by which individuals become attached to private experiences (e.g., thoughts, memories, sensations, etc.) and fail to discriminate that they are only ongoing experiences that do not necessarily have to guide behavior. Therefore, when individuals are *fused* with their private experiences, they tend to act according to their literal content,

which usually leads to engaging in experiential avoidance strategies (e.g., suppression, distraction, worry, rumination, etc.) when these experiences have aversive functions.

For instance, consider the case of *Generalized Anxiety Disorder* (GAD). Individuals diagnosed with this disorder tend to get fused with uncertain thoughts about the future (e.g., “what-if thoughts”) without discriminating that they are just psychological experiences and, thus, they do not need to react to them in a particular way. When this happens, individuals with GAD usually react by rigidly applying experiential avoidance strategies (e.g., worry) that are useful in the short term because they usually lead to immediate reduction of these aversive experiences, but are ineffective in the long term because the “what-if thoughts” are typically extended, provoking further cognitive fusion with them, and engagement with worry. Even worse, worry itself usually becomes a source of suffering, and individuals fused with it react by applying further

experiential avoidance strategies (e.g., suppression, distraction, etc.). In conclusion, cognitive fusion both with “what-if thoughts” and worry is a central aspect of GAD because it prevents individuals from acknowledging that such thoughts are only psychological experiences and that they can choose to behave according to those experiences (i.e., inflexibly engaging in experiential avoidance strategies) or according to what is important for them in the long term (i.e., goals and values).

As seen in the previous example, cognitive fusion plays an important role in anxiety disorders because, when individuals do not have the skills to distance themselves from anxious thoughts and feelings and to behave under the control of what is important for them (i.e., cognitive defusion and values processes), they usually get trapped in the experiential avoidance loops that characterize these disorders (e.g., Luciano, Valdivia-Salas, & Ruiz, 2012). Indeed, psychological interventions aimed at developing *cognitive defusion* skills, such as ACT, are proving to be effective in the treatment of anxiety disorders (see reviews in Hayes, Luoma, Bond, Masuda, & Lillis, 2006; Ruiz, 2012). Furthermore, a couple of recent studies have shown that traditional cognitive behavioral therapy may also work by promoting cognitive defusion (Arch, Wolitzky-Taylor, Eifert, & Craske, 2012; Forman, Chapman, Herbert, Goetter, Yuen, & Moitra, 2012) although this is not a main aim of the treatment.

In accordance with the relevance of analyzing the role of cognitive fusion in anxiety disorders, Herzberg, Sheppard, Forsyth, Credé, Earleywine, and Eifert (2012) have recently developed a self-report measure of this construct: the Believability of Anxious Feelings and Thoughts Questionnaire (BAFT). The BAFT was designed to measure cognitive fusion with anxious thoughts and feelings and has shown excellent internal consistency both in undergraduate and highly anxious samples. A hierarchical factor structure with three lower order factors (somatic concerns, emotion regulation, and negative evaluation) and one hierarchical factor was found as the most adequate fit for the BAFT structure. The BAFT also showed strong construct validity with other process and outcome measures, incremental validity in relation to anxiety sensitivity, strong test-retest reliability after twelve weeks, and responsiveness to treatment in several studies (e.g., Arch et al., 2012; Herzberg et al., 2012). In conclusion, the BAFT has been shown to be a reliable and valid measure of cognitive fusion with anxiety experiences.

The current study aimed to analyze the psychometric properties of the Spanish version of the BAFT with three samples from independent studies (total  $N = 598$ ).

## Method

### Participants

*Sample 1.* Participants in this sample were 105 undergraduate labor science students from the south of Spain (74.3% females), with an age range of 19 to 48 years ( $M = 23.17$ ,  $SD = 4.41$ ). They responded to a packet of questionnaires in their respective classrooms.

*Sample 2.* This sample consisted of 204 participants from the south of Spain, with age ranging between 18 and 68 years ( $M = 30.4$ ,  $SD = 10.86$ ). Sixty-one percent were females. The relative educational level of the participants was as follows: 14.1% primary studies, 27.2% mid-level study graduates, 22.8% undergraduate

students, and 35.9% were college graduates. They were recruited from undergraduate students and personal contacts.

*Sample 3.* The sample consisted of 289 participants (59.5% females) with age ranging between 22 and 82 years ( $M = 35.38$ ,  $SD = 8.63$ ). The relative educational level of the participants was: 7.3% primary studies, 32.8% mid-level study graduates, and 59.9% were college graduates. They responded to an anonymous internet survey distributed through social media. All of them were Spanish speakers. Thirty-six percent reported having received psychological or psychiatric treatment at some time, but only 6.6% were currently in treatment. Also, 4.8% of participants reported consumption of some psychotropic medication.

### Instruments

*Believability of Anxious Feelings and Thoughts Questionnaire* (BAFT; Herzberg et al., 2012). The BAFT is a self-report measure of cognitive fusion with anxious thoughts and feelings. It consists of 16 items representing different thoughts which are rated on a 7-point Likert-type scale ranging from 1 (*not at all believable*) to 7 (*completely believable*) to the extent that the individual believes in them. A hierarchical factor structure of the BAFT with three lower order factors and one hierarchical factor was found. The three lower order factors were labeled *Somatic Concerns* (fusion with somatic concerns: items 8, 9, 10, 11, and 12), *Emotion Regulation* (fusion with excessive struggle with and control of emotions: items 4, 13, 14, 15, and 16), and *Negative Evaluation* (fusion with negative evaluation of anxious thoughts and feelings: items 1, 2, 3, 5, 6, and 7). The internal consistency of the total BAFT score was excellent (.90 and .91 for the undergraduate and highly anxious samples, respectively) and adequate for its subscales.

*Acceptance and Action Questionnaire - II* (AAQ-II; Bond et al., 2011). The AAQ-II is a 7-item 7-point Likert-type measure of experiential avoidance/psychological inflexibility. The items reflect: (a) unwillingness to experience unwanted emotions and thoughts, and (b) the inability to be in the present moment and behave according to value-directed actions when experiencing unwanted psychological events. We used the Spanish version by Ruiz, Langer, Luciano, Cangas, and Beltrán (2013), which has shown good psychometric properties (mean alpha of .88).

*Penn State Worry Questionnaire* (PSWQ; Meyer, Miller, Metzger, & Borkovec, 1990). The PSWQ is a 16-item 5-point Likert-type self-report instrument that was designed for evaluating the permanent and unspecific degree of worry that characterizes GAD. PSWQ internal consistency is high, within an alpha range between .93 and .95, and it shows good test-retest reliability and discriminant validity. We administered the Spanish version by Sandín, Chorot, Valiente, and Lostao (2009), which showed similar properties to the original PSWQ version.

*Anxiety Sensitivity Index* (ASI; Peterson & Reiss, 1992). The ASI is a 16-item, 5-point Likert-type scale that aims to measure the fear of experiencing anxiety symptoms. Anxiety sensitivity is a central aspect of the anxiety expectancy theory and was proposed as a predisposing factor for developing anxiety disorders. The Spanish version of the ASI has good psychometric properties in clinical and normal populations, an adequate factor structure and convergent and discriminant validity (e.g., Sandín, Chorot, & McNally, 2001).

*Five Facets Mindfulness Questionnaire* (FFMQ; Baer, Smith, Hopkins, Krietemeyer, & Toney, 2006). The FFMQ is a 39-item,

5-point Likert-type scale that assesses the following five facets of mindfulness: observing, describing, acting with awareness, nonjudging of inner experience, and nonreactivity to inner experience. We used the Spanish version by Cebolla, García-Palacios, Soler, Guillen, Baños, and Botella (2012), which has shown good internal consistency (alphas from .81 to .91), convergent validity, and the same factor structure as the original FFMQ.

*Metacognitions Questionnaire-30* (MCQ-30; Wells & Cartwright-Hatton, 2004). The MCQ-30 is a short version of the MCQ-65. It is a 30-item, 4-point Likert-type scale that contains the following five factors: Positive Beliefs about Worry, Negative Beliefs about Uncontrollability and Danger of Worry, Beliefs about the Need to Control Thoughts, Cognitive Confidence, and Cognitive Self-Consciousness. Only the first three factors were administered in this study. The MCQ-30 has shown good internal consistency, convergent validity, and acceptable test-retest reliability. We used the Spanish version employed by Odriozola-González (2011), which showed good internal consistency in the subscales administered in the current study (alphas from .78 to .84).

*Beck Anxiety Inventory* (BAI; Beck & Steer, 1990). The BAI is a widely used self-report measure of anxious symptomatology. It is a 21-item, 4-point Likert-type scale, with each item reflecting an anxiety symptom. Numerous psychometric studies warrant its reliability and validity. We used the Spanish version by Sanz and Navarro (2003), which has shown adequate reliability (alpha of .93) and validity concerning its content, factor structure and discriminant ability.

*Depression Anxiety and Stress Scales-21* (DASS-21; Antony, Bieling, Cox, Enns, & Swinson, 1998). The DASS-21 is a 21-item, 4-point Likert-type scale consisting of sentences describing negative emotional states. It contains three subscales (Depression, Anxiety, and Stress) and has shown good internal consistency and convergent and discriminant validity. We used the Spanish version by Daza, Novy, Stanley, and Averill (2002), which has shown good psychometric properties (alphas of the subscales from .73 to .81) (Fonseca-Pedrero, Paino, Lemos-Giráldez, & Muñiz, 2010).

### Procedure

We translated the BAFT into Spanish following the recommendations proposed by Muñiz and Hambleton (1996). Thus, we selected two translators, one familiar with the Spanish culture and another familiar with that of the USA, and used the “back-translation” method; that is, the first translator translated the questionnaire into Spanish, and this translation was then translated back into English by the second one (see items translation in Table 1). Then, the minimal discrepancies between both translations were resolved by the authors of the study as experts in ACT. Lastly, we administered the BAFT to five people in order to analyze the understanding of the items.

Participants were recruited as described above. Individuals who provided informed consent were given a questionnaire packet including some instruments. Specifically, both the BAFT and AAQ-II were administered to all samples; the PSWQ, BAI, and FFMQ were applied to Sample 1; the DASS-21 to Sample 2 and 3; the ASI to Samples 1 and 2, and the MCQ-30 to Sample 3. Upon completion of the study, participants were debriefed about the aims of the study and thanked for their participation.

### Data analysis

Factor analyses were computed with Factor 9.2<sup>®</sup> (Lorenzo-Seva & Ferrando, 2006) while the remaining data analyses were conducted with SPSS 17.0<sup>®</sup>. First, the Kaiser-Meyer-Olkin index and the Bartlett sphericity test were computed to determine whether the data as a whole were apt for conducting factor analyses. Subsequently, an exploratory maximum likelihood factor analysis with direct oblimin rotation was conducted to allow for correlations between the factors. The number of factors extracted was determined according to a parallel analysis (Hayton, Allen, & Scarpello, 2004). Second, as in Herzberg et al. (2012), the Schmid-Leiman transformation (Schmid & Leiman, 1957) was computed to assess the presence of a higher order factor. This statistical procedure performs a secondary exploratory factor analysis (EFA) using the latent factor intercorrelations obtained from the previous EFA. Additionally, the syntax developed by Wolf and Preising (2005) for SPSS was used to compute the total extracted variance accounted for the higher order factor. Third, an internal replication analysis of the exploratory factor analysis was conducted according to guidelines proposed by Osborne and Fitzpatrick (2012). For this purpose, the whole data set was split into two samples via random assignment using SPSS 17 and their factor loadings and structures were compared using Factor 9.2. To claim for strong replication: (a) the basic structure should be the same, (b) the items should be grouped in the same factors, and (c) the factor loadings should be roughly equivalent in magnitude (with squared differences below the cutoff of .04). Fourth, Cronbach's alphas were computed to explore the internal consistency of the BAFT providing confidence intervals that were computed according to Duhachek and Iacobucci (2004). Descriptive data were also calculated, and scores on the BAFT were compared, computing Student's *t*, between participants with scores above and below the cutoffs on the BAI, PSWQ (Sample 1), and DASS-21 (Samples 2 and 3). Fifth, zero-order correlations between the BAFT and the other scales were computed. Lastly, incremental validity of the BAFT in relation to anxiety sensitivity was analyzed by computing partial correlations with other relevant constructs after controlling for the ASI.

### Results

#### Factor structure

Data were apt for conducting a factor analysis according to the Kaiser-Meyer-Olkin index (.92) and the Bartlett sphericity test ( $\chi^2 = 5035.6$ ,  $p < .0001$ ). Table 1 shows that two factors were extracted according to the parallel analysis, accounting for 56.4% of the variance. The first factor represented twelve items and was labeled *Negative Evaluation*. It contained all items from the Somatic Concerns and Negative Evaluation subscales of the original BAFT version plus one item from the original Emotion Regulation subscale. The second factor consisted of four of the five items from the original *Emotion Regulation* subscale. Scores on both factors were highly correlated with each other ( $r = .54$ ) and with the BAFT total score ( $r = .96$  and  $.76$ , respectively).

Table 1 also shows the loadings of individual items onto the general factor after conducting the Schmid-Leiman transformation. All items seemed to represent the general factor because they showed loadings above .30 (Tabachnick & Fidell, 2007). This general factor accounted for 52% of the variance, a proportion

Table 1

Factor loadings from Maximum Likelihood Factor Analysis (MLFA), loadings of the General Factor according to the Schmid-Leiman transformation, alpha values, means scores and standard deviations of each factor

BAFT item	Factor loadings from MLFA		Schmid-Leiman transformation
	1	2	General Factor
<i>Negative evaluation</i>			
1. Necesito conseguir manejar mi ansiedad y miedo para tener la vida que quiero [I need to get a handle on my anxiety and fear for me to have the life I want]	.63	.08	.46
2. Mostrarse nervioso no es bueno y me causa sufrimiento [Appearing nervous is not good and causes me to suffer]	.58	.19	.52
3. Realmente no puedo hacer las cosas que quiero hacer cuando tengo ansiedad y miedo [I can't really do the things that I want to do when I have anxiety and fear]	.58	.23	.56
5. Si fuera como otras personas, sería capaz de mantener el control de mis pensamientos y sensaciones ansiosas [If I were like other people, I would be able to get a grip on my anxious thoughts and feelings]	.70	-.03	.40
6. Mis pensamientos y sensaciones ansiosas son un problema [My anxious thoughts and feelings are a problem]	.78	.04	.51
7. Estoy seguro de que me sentiré avergonzado y de que haré el ridículo cuando la gente se dé cuenta de lo nervioso e inseguro que me siento [I am sure to be embarrassed and make a fool of myself when other people notice how nervous and shaky I feel]	.77	-.06	.42
8. Las sensaciones corporales poco habituales me asustan y necesito hacer algo para reducir las o librarme de ellas antes de hacer cualquier otra cosa [Unusual body sensations are scary and something I need to act on to reduce or get rid of before I can do anything else]	.73	-.01	.44
9. Mis pensamientos y sensaciones ansiosas no son normales [My anxious thoughts and feelings are not normal]	.80	-.13	.38
10. Es importante inspeccionar mi cuerpo en busca de signos y síntomas de ansiedad para sentirme seguro [Scanning my body for signs and symptoms of anxiety is important to keep me safe]	.68	-.10	.33
11. Cuando estoy muy ansioso o asustado tengo la sensación de que pudiera estar muriéndome [When I am very anxious or afraid there is a good chance that I might be dying]	.56	-.02	.33
12. Podría llegar a perder el control cuando me siento ansioso o asustado [I could lose control of myself when I feel anxious or afraid]	.57	.07	.42
13. Debo hacer algo con mi ansiedad o miedo cuando aparece [I must do something about my anxiety or fear when it shows up]	.54	.29	.58
<i>Emotion regulation</i>			
4. Debo mantener el control de mis emociones [I must stay in control of my emotions]	.35	.41	.57
14. Cuando tengo pensamientos desagradables, debo sacarlos de mi mente [When unpleasant thoughts occur, I must push them out of my mind]	.02	.83	.74
15. Cuando me siento mal debo luchar contra ese sentimiento para hacer que se vaya [When I feel bad, I must fight the feeling in order to make it go away]	.01	.85	.75
16. Mi felicidad y éxito dependen de lo bien que yo me sienta [My happiness and success depends on how good I feel]	-.04	.65	.55
Alpha coefficient	.91	.81	
Scale mean	35.0	18.4	
Scale SD	15.3	6.0	

above the range considered as indicative of the presence of a general factor (40%-50%; Gorsuch, 1983).

In the internal replication analysis, a strong replication was found because the two random samples had the same basic factor structures, the items were grouped in the same factors, and the factor loadings were roughly equivalent in magnitude (the higher squared difference was .017).

#### Internal consistency, descriptive data and criterion validity

Table 2 shows that Cronbach's alpha of the overall BAFT ranged from .88 (Sample 2) to .93 (Sample 3), with an overall alpha of .92, 95% CI [.91, .93]. Compared to the BAFT scores in the nonclinical sample of the original study ( $M = 50.1$ ,  $SD = 16.9$ ), scores in Samples 1 ( $M = 59.99$ ,  $SD = 18.2$ ) and 2 ( $M = 58.71$ ,  $SD = 16.7$ ) were slightly higher, whereas scores in Sample 3 were slightly lower ( $M = 47.4$ ,  $SD = 19.9$ ). Participants in Sample 3 showed lower scores than participants in Samples 1 and 2 ( $p < .001$ ).

Table 3 shows that participants with scores above the cutoffs on the BAI, PSWQ, and DASS-21 scored statistically significantly higher on the BAFT than those with scores below these cutoffs.

Additionally, participants receiving psychological/psychiatric treatment in Sample 3 showed higher scores on the BAFT than those who were not receiving it.

#### Zero-order correlations with other related constructs

The overall BAFT score was correlated with all other assessed constructs in theoretically coherent ways (see Table 4). Specifically, the BAFT scores strongly correlated with anxiety and depression symptoms as measured by the BAI, PSWQ, and DASS-21. As

Table 2

Cronbach's alphas and descriptive data of the full scale across samples

	Sample 1 (N = 105)	Sample 2 (N = 204)	Sample 3 (N = 289)
$\alpha$	.91	.88	.93
[95%CI]	[.89, .94]	[.85, .90]	[.92, .94]
Mean score (SD)	59.99 (18.2)	58.71 (16.7)	47.40 (19.9)



expected, correlations with related constructs were strong (e.g., AAQ-II, ASI, and MCQ-30 subscales). Lastly, correlations with the FFMQ subscales of Nonjudging and Acting with Awareness were strong and in the expected direction.

As in Herzberg et al. (2012), the Negative Evaluation and Emotion Regulation factors of the BAFT showed a somewhat different pattern of correlations. Specifically, the Emotion

Regulation factor showed lower correlations with symptomatology and other constructs such as the AAQ-II and ASI.

#### Incremental validity

The overall BAFT score showed incremental validity in relation to anxiety sensitivity as measured by the ASI, as the correlations with other relevant measures remained significant at  $p < .01$  even after controlling for it. Specifically, in Sample 1, BAFT scores showed significant partial correlations with the AAQ-II (.34), PSWQ (.36), BAI (.48), Acting with Awareness (-.31), and Nonjudging (-.62). In Sample 2, BAFT scores remained significantly correlated with the AAQ-II (.50), DASS-21 total score (.34), and its Depression, Anxiety and Stress subscales (.28, .23, and .35, respectively).

#### Discussion

The data obtained provide promising evidence that this Spanish version of the BAFT is a valid and reliable measure of cognitive fusion with anxious thoughts and feelings. Overall, the current data are very similar to those obtained by Herzberg et al. (2012). Specifically, the results showed that the BAFT has very good internal consistency (overall  $\alpha = .92$ ), construct validity (correlations were in the expected direction with anxiety and depression symptoms and related constructs), criterion validity (participants receiving psychological/psychiatric treatment or experiencing mild levels of anxiety symptoms scored significantly higher on the BAFT), and incremental validity (BAFT scores were associated with other variables even when controlling for anxiety sensitivity).

The factor structure of the BAFT found in this study differs slightly from the one obtained by Herzberg et al. (2012). According to the parallel analysis, only two correlated factors were extracted from our overall data. However, these two factors largely overlapped with the three factors extracted in the original study. The first factor consisted of twelve elements including all items from the Somatic Concerns and Negative Evaluations subscales plus one item from the Emotion Regulation subscale. The second factor was significantly smaller and consisted of the remaining four items of the Emotion Regulation subscale. Thus, our results can be seen as relatively consistent with the data by Herzberg et al. if we take into consideration that the Somatic Concerns and Negative Evaluation factors worked very similarly in that study in terms of correlations with other constructs, and that their third factor only explained 6.88% of the variance (eigenvalue of 1.23). It makes sense, therefore, the combination of these two factors into a larger one. We have maintained the label of *Negative Evaluation* because it seems to better represent this factor than the label *Somatic Concerns*, which is more specific. Furthermore, similar to the original study, our results suggested the presence of a hierarchical factor structure with two first-order factors and a higher factor of general cognitive fusion.

The Emotion Regulation factor showed generally lower correlations with anxious symptomatology and other related constructs. This is consistent with the results presented by Herzberg et al. (2012) in their nonclinical sample. Indeed, in view of our factor analysis, it could be argued that the Negative Evaluation factor might be used as a reduced 12-item version of the BAFT that excludes fusion from counterproductive emotion regulation strategies. Further empirical research might explore this option.

Some limitations of this study are worth mentioning. First, the functioning of the BAFT was tested only in nonclinical samples;

Table 3

Mean BAFT scores of participants who scored above and below the cutoffs of the BAI (15 points), PSWQ (62), and DASS-21 (23), or who were receiving psychological or psychiatric treatment

	Sample 1 (N = 105)		Sample 2 (N = 204)	Sample 3 (N = 289)	
	BAI>15	PSWQ>62	DASS-21 – Total>23	DASS-21 – Total>23	Receiving treatment
BAFT Scores “Clinical”	74.29 (16.1) N = 34	68.81 (17.8) N = 16	69.64 (14.4) N = 59	72.39 (20.8) N = 39	61.22 (23.19) N = 19
BAFT Scores “Non clinical”	52.08 (14.8) N = 68	58.52 (17.6) N = 86	53.83 (15.5) N = 138	43.50 (16.8) N = 250	46.43 (19.4) N = 270
<i>Student's T</i>	6.71***	2.35*	6.71***	9.67***	3.18**

\*  $p < .05$ ; \*\*  $p < .01$ ; \*\*\*  $p \leq .001$

Table 4

Zero-order correlations between the BAFT scores and other relevant self-report measures

Measure	S	N	BAFT – total	BAFT – Negative evaluation	BAFT – Emotion regulation
AAQ-II	1	105	.49**	.49**	.35**
	2	204	.65**	.68**	.24**
	3	289	.62**	.67**	.36**
ASI	1	105	.54**	.55**	.37**
	2	204	.63**	.64**	.30**
BAI	1	105	.56**	.58**	.31*
FFMQ – Observe	1	105	.39**	.37**	.31**
FFMQ – Describe	1	105	-.19	-.20	-.11
FFMQ – Act with Awareness	1	105	-.45**	-.49**	-.21
FFMQ – Nonjudging	1	105	-.68**	-.66**	-.55**
FFMQ – Nonreaction	1	105	-.03	-.06	.06
PSWQ	1	105	.49**	.50**	.26**
DASS-21 – Total	2	204	.60**	.65**	.17
	3	289	.64**	.68**	.39**
DASS-21 – Depression	2	204	.53**	.58**	.14
	3	289	.53**	.57**	.30**
DASS-21 – Anxiety	2	204	.52**	.60**	.05
	3	289	.59**	.63**	.35**
DASS-21 – Stress	2	204	.56**	.57**	.24**
	3	289	.64**	.66**	.43**
MCQ – Positive beliefs	3	289	.22**	.21**	.19**
MCQ – Negative beliefs	3	289	.63**	.64**	.44**
MCQ – Need to control	3	289	.56**	.50**	.55**

\*  $p < .01$ ; \*\*  $p < .001$

therefore, further research is necessary in clinical samples to confirm the results obtained in this study. Second, no information was obtained concerning the diagnosis and the course of therapy in participants receiving psychological/psychiatric treatment in Sample 3. Lastly, because the current study is a compilation of three samples from independent studies, no methodological rationale guided the selection of the samples and the measures used to analyze the construct validity of the BAFT. Although this is a clear limitation, it can also be seen as a virtue because the BAFT

showed good properties in different contexts and administered in different forms.

In conclusion, this Spanish version of the BAFT emerges as a reliable and valid measure of cognitive fusion with anxious thoughts and feelings. The BAFT may be a useful tool to assess degrees of cognitive fusion in the context of understanding the etiology, maintenance, and treatment of anxiety disorders. BAFT scores might also help clinicians to improve case formulation and to monitor decreases in cognitive fusion throughout treatment.

## References

- Antony, M.M., Bieling, P.J., Cox, B.J., Enns, M.W., & Swinson, R.P. (1998). Psychometric properties of the 42-item and 21-item versions of the Depression Anxiety Stress Scales (DASS) in clinical groups and a community sample. *Psychological Assessment*, 10, 176-181.
- Arch, J.J., Wolitzky-Taylor, K.B., Eifert, G.H., & Craske, M.G. (2012). Longitudinal treatment mediation of traditional cognitive behavioral therapy and acceptance and commitment therapy for anxiety disorders. *Behaviour Research and Therapy*, 50, 469-478.
- Baer, R.A., Smith, G.T., Hopkins, J., Krietemeyer, J., & Toney, L. (2006). Using self-report assessment methods to explore facets of mindfulness. *Assessment*, 13, 27-45.
- Beck, A.T., & Steer, R. (1990). *Beck Anxiety Inventory manual*. San Antonio, TX: The Psychological Corporation.
- Bond, F.W., Hayes, S.C., Baer, R.A., Carpenter, K.M., Guenole, N., Orcutt, H.K., ..., Zettle, R.D. (2011). Preliminary psychometric properties of the Acceptance and Action Questionnaire - II: A revised measure of psychological inflexibility and experiential avoidance. *Behavior Therapy*, 42, 676-688.
- Cebolla, A., García-Palacios, A., Soler, J., Guillen, V., Baños, R., & Botella, C. (2012). Psychometric properties of the Spanish validation of the Five Facets of Mindfulness Questionnaire (FFMQ). *European Journal of Psychiatry*, 26, 118-126.
- Daza, P., Novy, D.M., Stanley, M., & Averill, P. (2002). The Depression Anxiety Stress Scale-21: Spanish translation and validation with a Hispanic sample. *Journal of Psychopathology and Behavioral Assessment*, 24, 195-205.
- Duhachek, A., & Iacobucci, D. (2004). Alpha's Standard Error (ASE): An accurate and Precise Confidence Interval Estimate. *Journal of Applied Psychology*, 89, 492-808.
- Fonseca-Pedrero, E., Paino, M., Lemos-Giráldez, S., & Muñiz, J. (2010). Propiedades psicométricas de la Depression Anxiety and Stress Scales-21 (DASS-21) en universitarios españoles [Psychometric properties of the Depression Anxiety and Stress Scales-21 (DASS-21) in Spanish college students]. *Ansiedad y Estrés*, 16, 215-226.
- Forman, E.M., Chapman, J.E., Herbert, J.D., Goetter, E.M., Yuen, E.K., & Moitra, E. (2012). Using session-by-session measurement to compare mechanisms of action for acceptance and commitment therapy and cognitive therapy. *Behavior Therapy*, 43, 341-354.
- Gorsuch, R.L. (1983). *Factor analysis* (2nd ed.). Hillsdale, NJ: Erlbaum.
- Hayes, S.C., Luoma, J.B., Bond, F.W., Masuda, A., & Lillis, J. (2006). Acceptance and commitment therapy: Model, processes and outcomes. *Behaviour Research and Therapy*, 44, 1-25.
- Hayes, S.C., Strosahl, K.D., & Wilson, K.G. (1999). *Acceptance and commitment therapy. An experiential approach to behavior change*. New York: Guilford Press.
- Hayton, J.C., Allen, D.G., & Scarpello, G. (2004). Factor retention decisions in exploratory factor analysis: A tutorial on parallel analysis. *Organizational Research Methods*, 7, 191-205.
- Herzberg, K.N., Sheppard, S.C., Forsyth, J.P., Credé, M., Earleywine, M., & Eifert, G.H. (2012). The Believability of Anxious Feelings and Thoughts Questionnaire (BAFT): A psychometric evaluation of cognitive fusion in a nonclinical and highly anxious community sample. *Psychological Assessment*, 24, 877-891.
- Lorenzo-Seva, U., & Ferrando, P. (2006). *FACTOR: A computer program to fit the exploratory factor analysis model*. *Behavior Research Methods*, 38, 88-91.
- Luciano, C., Valdivia-Salas, S., & Ruiz, F.J. (2012). The self as the context for rule-governed behavior. In L. McHugh & I. Stewart (Eds.), *The self and perspective taking: Research and applications* (pp. 143-160). Oakland, CA: Context Press.
- Meyer, T.J., Miller, M.L., Metzger, R.L., & Borkovec, T.D. (1990). Development and validation of the Penn State Worry Questionnaire. *Behaviour Research and Therapy*, 28, 487-495.
- Muñiz, J., & Hambleton, R.K. (1996). Directrices para la traducción y adaptación de los tests [Guidelines for translating and adapting tests]. *Papeles del Psicólogo*, 66, 63-70.
- Odrizola-González, P. (2011). El papel del pensamiento mágico en las alucinaciones y el trastorno obsesivo compulsivo. Comparación entre grupos clínicos y no clínicos [The role of magical thinking in hallucinations and obsessive-compulsive disorder. Comparison between clinical and nonclinical groups] (Unpublished doctoral dissertation). University of Oviedo, Spain.
- Osborne, J.W. & Fitzpatrick, D.C. (2012). Replication analysis in exploratory factor analysis: What it is and why it makes your analysis better. *Practical Assessment, Research & Evaluation*, 17, 1-8.
- Peterson, R.A., & Reiss, R.J. (1992). *Anxiety Sensitivity Index manual* (2<sup>nd</sup> ed). Worthington, OH: International Diagnostic Systems.
- Ruiz, F.J. (2012). Acceptance and commitment therapy versus traditional cognitive behavioral therapy: A systematic review and meta-analysis of current empirical evidence. *International Journal of Psychology and Psychological Therapy*, 12, 333-357.
- Ruiz, F.J., Langer, A.I., Luciano, C., Cangas, A.J., & Beltrán, I. (2013). Measuring experiential avoidance and psychological inflexibility: The Spanish translation of the Acceptance and Action Questionnaire. *Psicothema*, 25, 123-129.
- Sandín, B., Chorot, P., & McNally, R.J. (2001). Anxiety Sensitivity Index: Normative data and its differentiation from trait anxiety. *Behaviour Research and Therapy*, 39, 213-219.
- Sandín, B., Chorot, P., Valiente, R.M., & Lostao, L. (2009). Validación española del cuestionario de preocupación PSWQ: estructura factorial y propiedades psicométricas [Spanish validation of the PSWQ worry questionnaire: Factor structure and psychometric properties]. *Revista de Psicopatología y Psicología Clínica*, 14, 107-122.
- Sanz, J., & Navarro, M.E. (2003). Propiedades psicométricas de una versión española del Inventario de Ansiedad de Beck (BAI) en estudiantes universitarios [Psychometric properties of a Spanish version of the Beck Anxiety Inventory (BAI) in undergraduate students]. *Ansiedad y Estrés*, 9, 59-84.
- Schmid, J., & Leiman, J.N. (1957). The development of hierarchical factor solutions. *Psychometrika*, 22, 53-61.
- Tabachnick, B.G., & Fidell, L.S. (2007). *Using multivariate statistics*. Boston, MA: Allyn and Bacon.
- Wells, A., & Cartwright-Hatton, S. (2004). A short form of the Metacognitions Questionnaire: Properties of the MCQ-30. *Behavior Research and Therapy*, 42, 385-396.
- Wolf, H.G., & Preising, K. (2005). Exploring item and higher order factor structure with the Schmid-Leiman solution: Syntax codes for SPSS and SAS. *Behavior Research Methods*, 37, 48-58.