

Psychological Inflexibility, Anxiety and Depression: The Moderating Role of Cognitive Fusion, Experiential Avoidance and Activation

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Abstract

Background: Evidence about how cognitive fusion (CF) and experiential avoidance (EA) interact with emotional distress underlines the importance of analyzing the interrelationships between the different processes of psychological inflexibility in order to improve ways of addressing emotional problems. This study analyzes the moderating effect of CF, EA and activation (A) in relation to four criteria of anxiety and depression. **Method:** A cross-sectional study of a clinical sample of adults was carried out by means of a questionnaire administered before (N = 172) and 6 months after (N = 114) participation in a clinical study. **Results:** Regression analyses gave results which were consistent in the two evaluations. The EAxCF interaction modulated anxiety symptomatology, whereas A was not a significant predictor. Nevertheless, a reduction in A was the principal modulating condition in the symptomatology of depression; and although CF and EA did act as independent predictors, the EAxCF interaction was not significant. **Conclusions:** The presence and intensity of manifestations of emotional distress are explained and modulated by the progressive concurrence of CF, EA and reduction in A. The use of therapeutic approaches which increase activation could be a beneficial strategy with regard to decreasing cognitive fusion and experiential avoidance.

Keywords: Cognitive fusion, experiential avoidance, activation, behavioral activation, acceptance and commitment therapy.

Resumen

Inflexibilidad Psicológica, Ansiedad y Depresión: el Papel Moderador de la Fusión Cognitiva, la Evitación Experiential y la Activación.

Antecedentes: las evidencias sobre la interacción entre la fusión cognitiva (FC) y la evitación experiencial (EE) con el estrés emocional señalan la importancia de analizar las interrelaciones entre los diferentes procesos de inflexibilidad psicológica. Este estudio analiza el efecto moderador de la CF, EA y la activación (A) en relación con cuatro criterios de ansiedad y depresión. **Método:** se evaluó transversalmente mediante cuestionario una muestra clínica de adultos antes (N = 172) y 6 meses después (N = 114) de participar en un estudio clínico. **Resultados:** análisis de regresión mostraron resultados consistentes entre medidas. La interacción EA x CF moduló la sintomatología de ansiedad, pero la A no resultó predictor significativo. Sin embargo, la reducción de A fue la principal condición moduladora de la sintomatología depresiva; y aunque la CF y EA sí actuaron como predictores independientes, la interacción EA x CF no resultó significativa. **Conclusiones:** se sugiere que la presencia e intensidad de las manifestaciones de malestar emocional se explica y modulada por la progresiva concurrencia de CF, EA y pérdida de A. Podría ser beneficioso intervenir en la dirección de incrementar la activación como una estrategia adecuada para disminuir la fusión cognitiva y la evitación de experiencias.

Palabras clave: fusión cognitiva, evitación experiencial, activación, activación conductual, terapia de aceptación y compromiso.

From a contextual standpoint, it has been suggested that psychological inflexibility is a transdiagnostic dimension (Hayes et al., 1996). In other words, what lies behind the development and maintenance of psychological problems are inflexible patterns of behavior characterized by experiential avoidance (EA), cognitive fusion (CF), self-as-content, lack of contact with the present moment, lack of values, and lack of commitment to action. Of all these components, EA and CF, are considered key in exacerbating general emotional distress (Bardeen & Fergus, 2016; Roush et al., 2019). EA was defined by Hayes et al. (1996) as the phenomenon

that occurs when a person is unwilling to remain in contact with particular private experiences (e.g., bodily sensations, emotions, thoughts, memories, behavioral predispositions) and takes steps to alter the form or frequency of these events and the contexts that occasion them (p. 1154). CF describes excessive regulation of behavior by cognition, whereby thoughts (e.g., evaluative and self-descriptive thoughts) are viewed as literal truths that dominate emotional and behavioral regulation to the exclusion of other contextual variables (Hayes et al., 2011).

There is theoretical and empirical evidence to suggest that EA and CF work in an interrelated way with regard to emotional distress (Berghoff et al., 2018; Cookson et al., 2020; Xiong et al., 2021). Barden & Fergus (2016) observed that the positive association between CF and emotional symptomatology became greater as the levels of EA increased, and, as a result, suggest that individuals with high levels of cognitive fusion and experiential avoidance could be particularly prone to experiencing psychological distress. Avoiding

private experiences and the situations in which they are produced limits the extent to which behavior is controlled by environmental contingences. As a result, that makes it more likely that cognitive regulation is reinforced. Thus, the relationship between CF and EA could also be a two-way one. Cookson et al. (2020), in cross-sectional analyses, found that the combined effects of EA and CF mediated in psychological distress. In particular, it was observed that both processes predicted the clinical symptomatology of depression, although anxiety was mediated only by the path CF-EA. However, in a non-clinical sample, cross-sectional and longitudinal analyses showed that cognitive fusion, both independently and by path EA-CF, predicted symptoms of anxiety and depression, although EA did not make a unique contribution. These data appear to indicate that the interaction between CF and EA may differ according to the intensity of the emotional distress. Hayes et al. (2011) had previously indicated that, in the absence of EA, CF would cause lower levels of distress, and that it would be the combination of CF and EA that would be especially problematic.

This evidence appears to confirm the importance of continuing to investigate the combined effects of EA and CF. The results will have clear implications for the prevention and treatment of emotional disorders. With this precise objective in mind, it becomes especially important to analyze the effect and/or interactions of CF and EA with other response patterns which are believed to be transdiagnostic conditions of emotional disorders. It has been suggested that activation (A), defined in terms of “implication with relevant objectives and activities of daily life, maintaining contact with the experiences/conditions of life and with sources of reinforcement” is a modulating condition of human suffering (Manos et al., 2010). Studies regarding the role of A and EA have shown how people with no clinical symptoms of emotional disorders had higher levels of A than those found in people with emotional disorders. This latter group was characterized by both a maintenance of EA response patterns and a reduction in A. However, the condition which best distinguished subjects with emotional distress and a greater degree of depression and anxiety comorbidity was the reduction in A (Fernández-Rodríguez et al., 2018; González-Fernández et al., 2017). As a transdiagnostic condition, activation stresses the role of environmental reinforcement in the onset and maintenance of psychological problems. Researchers have long since established a neurobiological basis of reward with a brain reward system considered a mediating factor in affective change, and analyzed the relationship of the value of the reward with the etiology and maintenance of psychological disorders (Burkhouse et al., 2017; Janssen et al., 2021). In other studies, the inadequate environmental reward has consistently been highlighted as a mediator of negative affect (Armento & Hopko, 2007). The negative relationship between response-contingent positive reinforcement (RCPR) and emotional distress is well-established; in particular, a low level of RCPR is one of the critical predictors of clinical depression (Hopko et al., 2003; Lewinsohn, 1974; Manos et al., 2010; Martell et al., 2004; Santos et al., 2021).

Evidence that these three conditions have a combined effect on emotional distress comes fundamentally from contextual therapies. Specifically, behavioral activation (BA; Lejuez et al., 2001; Martell et al., 2001) and acceptance and commitment therapy (ACT; Hayes et al., 2011) focus explicitly on these transdiagnostic conditions. However, despite the evidence of its usefulness (Coto-Lesmes et al., 2020a, b; Fonseca-Pedrero et al., 2021; González-Fernández et al., 2019), all reviews coincide in pointing out that

the heterogeneity of the publications precludes to establish the role played by these conditions in the clinical change, and how these treatments modify these response patterns (Cuijpers et al., 2019). Besides, previous studies have explored these response patterns have mainly been investigated either in isolation or taking into account the interrelationship between CF and EA and, to the authors' knowledge, no research has been carried out into the moderating effect of A in this combination of predictors.

Given that psychological therapy would probably lead to a reduction in emotional distress (Cuijpers et al., 2020; Norcross & Lambert, 2019), the study was designed to analyze the relevance and consistency of CF, EA and A as predictors of anxiety and depression at different levels of symptomatology intensity. Four symptom measures were analyzed cross-sectionally at two different times to analyze the moderating effect of CF, EA and A on those measures. We predict that the relationship between CF and the intensity of emotional symptomatology will become stronger as EA increases, and that the decrease in A will act as the principal moderating condition of depression symptomatology.

Method

Participants

In the first stage of the study, one hundred seventy-two people (female 77.5%, mean age 40.01 years; SD = 13.56) were recruited amongst applicants for the TRANSACTIV study (ClinicalTrials.gov NCT04117464). This was a randomized clinical trial of behavioral activation, acceptance and commitment therapy and transdiagnostic cognitive behavioral therapy for emotional disorders (Fernández-Rodríguez, 2021). Participants had to meet the following criteria: (a) between 18 and 65 years of age; (b) scores ≥ 10 in either subscale of the Hospital Anxiety and Depression Scale (HADS, Zigmond & Snaith, 1983). The exclusion criterion was physical and/or cognitive deterioration which might hinder understanding and completing of measuring instruments. Applicants received more information about this study during the first contact from the triage team, all of them consented to take part and completed questionnaires.

One hundred fourteen people (female 80.7%, Mean age 41.12 years; SD = 13.50) completed all the instruments six months after completing baseline questionnaires. Fifty-eight people declined to participate in the second evaluation. During the between-assessment period, 73 people had received 8 weekly sessions of psychological treatment and the remaining 41 people had not received any active treatment.

Table 1 shows the descriptive statistics corresponding to the sociodemographic, predictors (EA, CF, A) and outcome variables (anxiety and depression) analyzed at the two moments of the study.

Procedure

Following ethical approval, participants were asked to fill out the assessment instruments. Six months after completing baseline questionnaires, participants were requested to complete the same measurement tests again. None received economic remuneration for taking part in the study. Each subject filled in the evaluation tests individually and without help. All the participants, in line with a written protocol, were given the same instructions. The evaluation room was suitable, in terms of facilities and privacy, to allow the

Table 1
Sample characteristics

Variables	Time 1 (n = 172)	Time 2 (n = 114)
	(%)	(%)
Sex		
Female	77.5	80.7
Male	22.5	19.3
Age ^a	40.01 (13.56)	41.12 (13.50)
Marital status		
Single	55.6	53.4
Married/Couple	24.2	21.1
Divorced	17.4	21.1
Widowed	2.8	4.4
Employment status		
Working	46.1	55.9
TD	7.8	8.8
PD	1.6	5.9
Unemployed	39.8	23.5
Retired	4.7	5.9
Educational level		
Master/PhD	7.9	5.6
University	48.3	49.1
Vocational	21.9	21.9
High school	13.5	15.5
Elementary	8.4	7.9
HADS ^a		
Anxiety (HADS-A)	15.01 (2.92)	14.41 (4.23)
Depression (HADS-D)	11.58 (4.04)	7.88 (4.44)
BDI ^a	15.13 (6.44)	11.41(6.85)
GAD ^a	13.98 (4.08)	10.15 (5.12)
EROS ^a	20.37 (5.18)	19.88 (5.28)
AAQ-II ^a	35.93 (8.32)	31.77 (8.70)
CFQ ^a	39.48 (6.87)	34.18 (9.63)

Note: TD: Temporary disability; PD: Permanent disability; HADS: Hospital Anxiety and Depression Scale; BDI: Beck's Depression Inventory; GAD: Generalized Anxiety Disorder scale; EROS: Environmental Reinforcement Schedule; AAQ-II: Acceptance and Action Questionnaire; CFQ: Cognitive Failures Questionnaire.
^a mean (standard deviation)

tests to be carried out adequately. The tests took approximately 15 minutes. The study was conducted in accordance with the ethical standards of the Helsinki declaration and was approved by the Research Ethics Committee of the Principality of Asturias (Ref.: 208/18).

Instruments

Hospital Anxiety and Depression Scale (HADS; Zigmond & Snaith, 1983). The HADS is a 14-item scale with 2 subscales, Anxiety (HADS-A) and Depression (HADS-D). The subscales range from 0 to 21 and scores of 8-10 indicate probable cases and scores over 10 indicate clinical cases. The sensitivity and specificity of these cut-off points are between .70 and .90. The Spanish version obtains internal consistency levels of .86 in both scales (Quintana et al., 2003). The internal consistency reliability values in the study sample were .62 in the first evaluation and .85 in the second for the anxiety scale, and .80 and .85 respectively for the depression scale.

Short Form of the 1978 Beck Depression Inventory (BDI-IA Based on the Cognitive-Affective Subscale (BDI-IA-SCA; Beck & Steer, 1993). Consists of the first thirteen items of the BDI-IA, referring to affective-cognitive symptoms of depression. Based on the total score, four levels of severity can be distinguished: minimal (0-6), light (7-11), moderate (12-20) and serious (21-39). Sanz and García-Vera (2007) found α coefficients > .70 in three Spanish samples and an acceptable index of diagnostic precision (area under the ROC curve = .81). The values of internal consistency reliability in the study sample were .84 in the first evaluation and .88 in the second.

Generalized Anxiety Disorder-Scale 7 (GAD-7; Spitzer et al., 2006). GAD-7 is a one-dimensional scale designed to assess the presence of the symptoms of generalized anxiety disorder (GAD) referred to in the DSM-IV. Total scores range from 0 to 21, with higher scores indicating greater severity of anxiety scores of 5, 10 and 15 represent cut-offs for mild, moderate and severe anxiety, respectively. When screening for an anxiety disorder, a recommended cut-off for referral for further evaluation is ≥ 10 . Using this cut-off of 10 points, the reported sensitivity and specificity of the original version is .89 and .82, respectively, whereas the corresponding values on the Spanish version validated by García-Campayo et al. (2010) are .86 and .93, respectively. The values of internal consistency reliability in the study sample were .79 in the first evaluation and .88 in the second.

Environmental Reward Observation Scale (EROS; Armento & Hopko, 2007). A self-administered questionnaire which supplies information regarding the quantity and availability of reinforcement received from the patient's environment. It consists of 10 items, answered using a 4-option Likert scale. Higher scores indicate a greater quantity and availability of reinforcement. The Spanish adaptation was used (Barraca & Pérez-Álvarez, 2010), for which data is available confirming its reliability ($\alpha = .86$) and validity (high correlations with the BDI-II, BADS, STAI-S/T, AAQ-II; significant differences between clinical and non-clinical participants). The values of internal consistency reliability in the study sample were .76 in the first evaluation and .85 in the second.

Acceptance and Action Questionnaire-II (AAQ-II; Bond et al., 2011). This is a self-rating questionnaire designed to measure experiential avoidance and psychological inflexibility. It consists of 7 items, answered using a 7-point Likert scale. High scores indicate a greater degree of experiential avoidance and psychological inflexibility. The Spanish translation shows good internal consistency ($\alpha = .88$) and the factor analysis shows a one-factor solution (Ruiz et al., 2013). The values of internal consistency reliability in the study sample were .86 in the first evaluation and .89 in the second.

Cognitive Fusion Questionnaire (CFQ; Gillanders et al., 2014). The CFQ is a seven-item scale assessing cognitive fusion. Higher scores reflect higher degree of cognitive fusion. The English validation of the CFQ showed that it possesses a one-factor structure, internal consistency ($\alpha = .80 - .90$), positive correlations with measures of experiential avoidance, frequency of negative thoughts, depression and anxiety symptoms, and good sensitivity to treatment effects. The Spanish version showed a one-factor structure, good internal consistency (Cronbach's alpha of .87), and convergent validity (Romero-Moreno et al., 2014). The values of internal consistency reliability in the study sample were .87 in the first evaluation and .93 in the second.

Data analysis

For each evaluation, descriptive statistics were compiled in order to characterize the sample, and bivariate correlations between variables were calculated. For these analyses, the SPSS24 (IBM Corp. 2016) program was used.

The predicted moderating effects were tested in two models by means of regression analyses using the PROCESS program (Hayes, 2017). On the one hand, experiential avoidance and activation were assigned as moderators in the relationship between cognitive fusion and four outcome variables, two for anxiety (HADS-A and GAD) and two for depression (HADS-D and BDI). On the other hand, cognitive fusion and activation were assigned the role of moderators in the relationship between experiential avoidance and the same four outcome variables. In the second evaluation, only that regression model which had shown the greatest capacity to explain the outcome variables for the first evaluation was used. Simple slopes analyses were then carried out for significant interactions between the predictor variable (CF or EA) and the outcome variable at the high (1 SD), mean (0 SD) and low (-1 SD) levels of the moderating variable. Before applying the linear regression models, the assumption of no correlation between the residuals was verified, using the Durbin-Watson statistic, and the absence of collinearity, by means of the tolerance statistic. In no case were the assumptions violated.

Results

The lower triangle in Table 2 shows the correlations between the studied variables from the first evaluation and the upper triangle those from the second. At both times, the relationships follow the predicted line and direction, although the values are higher in the second evaluation.

First evaluation

EA and A as Moderators of the CF-HADS-A Association. CFQ ($B = 0.13$; CI (95%) [0.05; 0.22]; $p = .002$), AAQ-II ($B = 0.08$; CI (95%) [0.003; 0.15]; $p = .04$) and CFQxAAQ-II ($B = 0.01$; CI (95%) [0.003; 0.02]; $p = .008$) were statistically significant, with 45 % of variance explained by the model (R^2). Regardless of the level in the EROS, the (positive) relationship between the scores in the CFQ and the HADS-A increases as the level of

AAQ-II increases (Figure 1). At low levels (-1 SD) of AAQ-II, the relationship between CFQ and HADS is practically non-existent, for mean levels (0 SD) the relationship is moderately positive and for high levels (1 SD), the relationship is clearly positive.

CF and A as Moderators of the EA-HADS-A Association. AAQ-II ($B = 0.11$; CI (95%) [0.02; 0.22]; $p = .018$); CFQ ($B = 0.35$; CI (95%) [0.25; 0.46]; $p < .001$), and AAQ-IIxCFQ ($B = 0.01$; CI (95%) [0.003; 0.01]; $p = .007$) yielded significant results, with $R^2 = .41$. As in the previous case, there exists a (positive) relationship between the scores in the AAQ-II and HADS-A regardless of the level in EROS, which increases as the level of CFQ increases, although it is practically non-existent for the lower levels of the moderating variable (Figure 1).

EA and A as Moderators in the CF-GAD Association. CFQ ($B = 0.35$; CI (95%) [0.25; 0.46]; $p < .001$), EROS ($B = 0.13$; CI (95%) [0.01; 0.25]; $p = .03$), AAQ-II ($B = 0.11$; CI (95%) [0.02; 0.20]; $p = .02$) and CFQxAAQ-II ($B = 0.02$; CI (95%) [0.005; 0.03]; $p = .004$) shows significant results. The model explained 64% of the variance. The simple slopes analysis indicates that the relationship between CFQ and GAD becomes more intense as the value of AAQ-II increases (Figure 2).

CF and A as Moderators of the EA-GAD Association. The same results were found as in the previous model ($R^2 = .41$). The following coefficients were statistically significant: AAQ-II ($B = 0.11$; CI (95%) [0.02; 0.20]; $p = .018$); CFQ ($B = 0.35$; CI (95%) [0.25; 0.46]; $p < .001$); and AAQ-IIxCFQ ($B = 0.01$; CI (95%) [0.003; 0.01]; $p = .007$). The simple slopes analysis in figure 2 shows that the relationship between EA and GAD becomes more intense as the value of CF increases, with a practically non-existent relationship at low levels of CF, a low relationship at mean levels and a moderate relationship at high levels.

EA and A as Moderators in the CF-HADS-D Association. The only statistically significant relationship was the EROS ($B = -0.29$; CI (95%) [-0.42; -0.16]; $p < .001$). The model explained 56% of the variance.

CF and A as Moderators in the EA-HADS-D Association. The only statistically significant relationship was that of EROS ($B = -0.28$; CI (95%) [-0.42; -0.14]; $p < .001$). The model explains 31% of the variance.

EA and A as Moderators in the CF-BDI Association. CFQ ($B = 0.24$; CI (95%) [0.10; 0.39]; $p = .001$), EROS ($B = -0.35$; CI (95%) [-0.52; -0.18]; $p < .001$), AAQ-II ($B = 0.25$; CI (95%) [0.12; 0.38]; $p < .001$). The model explained 71% of the variance.

Table 2
Bivariate correlations

	EROS	AAQ-II	CFQ	HAD-A	HAD-D	BDI	GAD
EROS		-.63**	-.61**	-.51**	-.77**	-.77**	-.53**
AAQ-II	-.61**		.80**	.66**	.59**	.70**	.71**
CFQ	-.47**	.71**		.74**	.55**	.65**	.81**
HADS-A	-.19*	.36**	.37**		.52**	.61**	.83**
HADS-D	-.52**	.45**	.37**	.18*		.74**	.53**
BDI	-.58**	.65**	.59**	.31**	.60**		.67**
GAD	-.19*	.48**	.59**	.58**	.17*	.43**	

Note: * $p < .05$; ** $p < .001$; EROS: Environmental Reinforcement Schedule; AAQ-II: Acceptance and Action Questionnaire; CFQ: Cognitive Failures Questionnaire; HAD-A: Hospital Anxiety Scale; HAD-D: Hospital Depression Scale; BDI: Beck's Depression Inventory; GAD: Generalized Anxiety Disorder Scale
The lower triangle shows the correlations between the studied variables from the first evaluation and the upper triangle those from the second

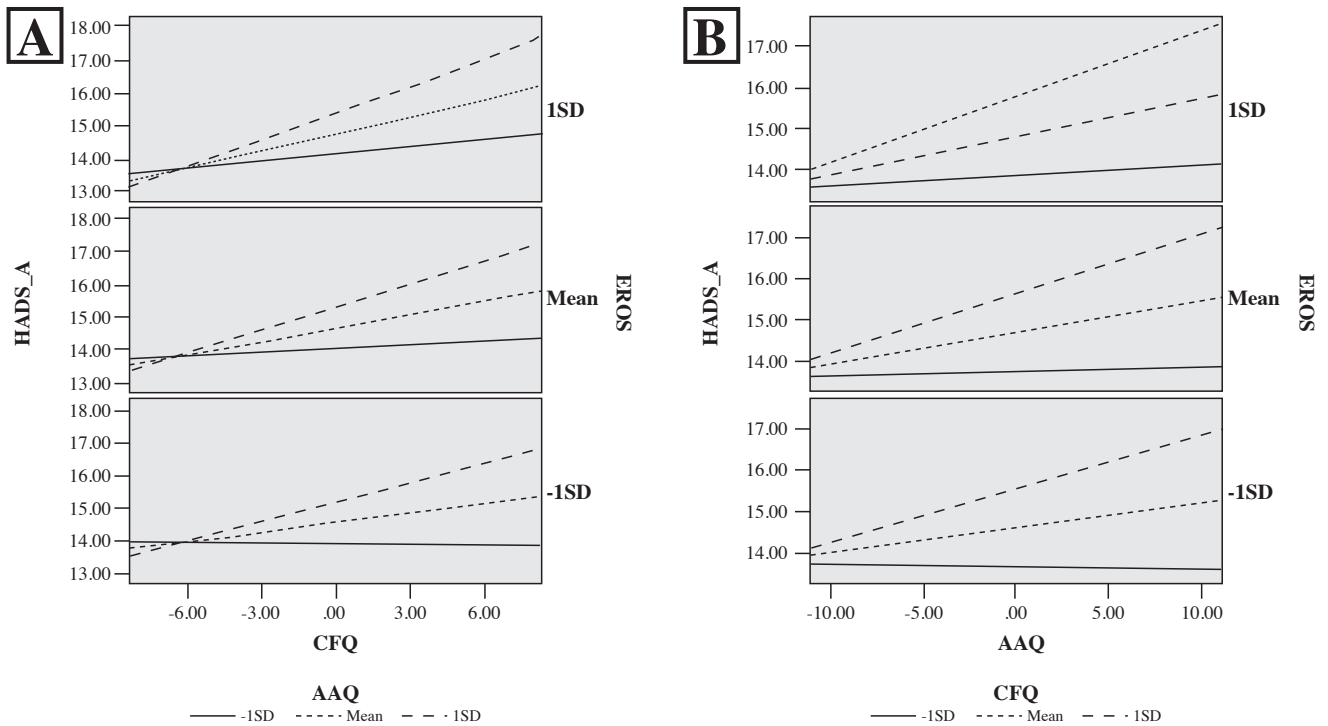


Figure 1. Moderating effect of CFQ x AAQ-II (A) and AAQ-II x CFQ (B) interactions on the association between EROS and HADS-D in first evaluation

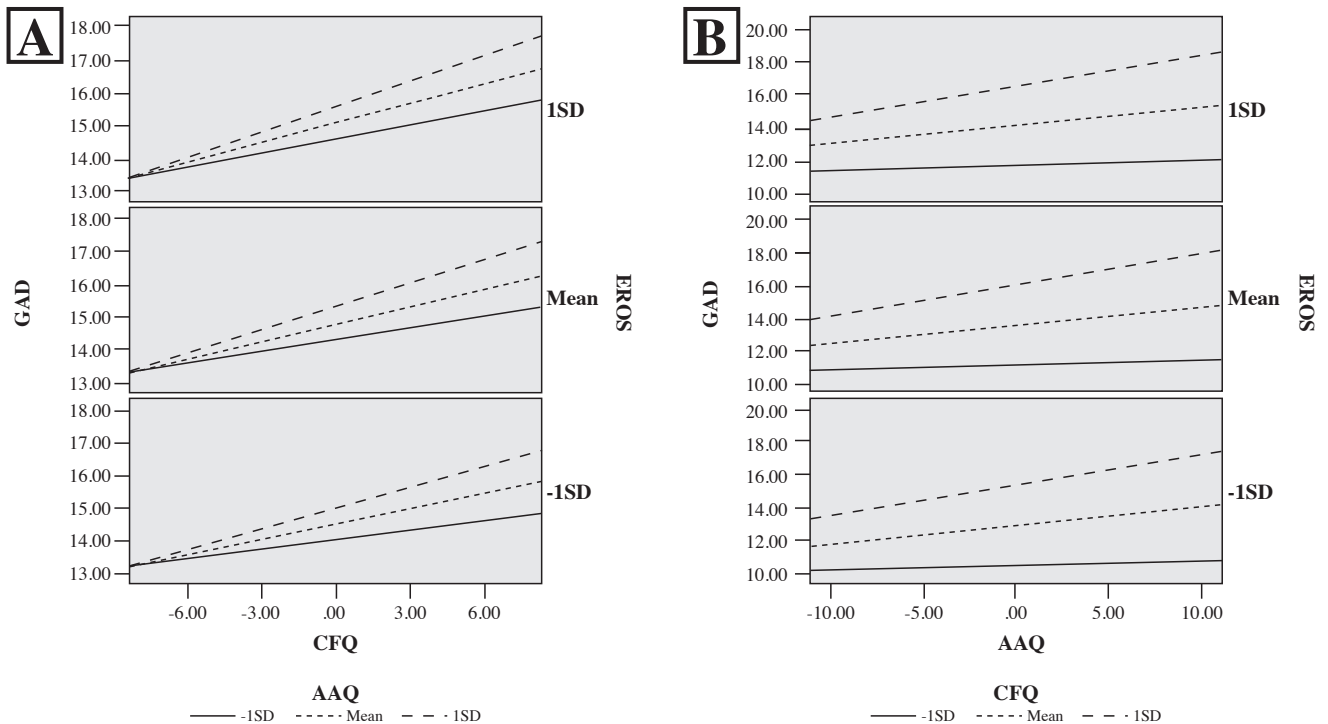


Figure 2. Moderating effect of CFQ x AAQ-II (A) and AAQ-II x CFQ (B) interactions on the association between EROS and GAD in first evaluation

CF and A as Moderators of the EA-BDI Association. AAQ-II ($B = 0.25$; CI (95%) [0.12; 0.36]; $p < .001$); EROS ($B = -0.33$; CI (95%) [-0.51; -0.15]; $p < .001$); CFQ ($B = 0.25$; CI (95%) [0.10; 0.40]; $p = .001$) showed significant results. The model explained 51% of the variance.

Second evaluation

EA and A as Moderators of the CF-HADS-A Association. Only CFQ ($B = 0.26$; CI (95%) [0.17; 0.36]; $p < .001$) show statistically significant results, with an explained variance of 75%.

EA and A as Moderators of the CF-GAD Association. CFQ ($B = 0.39$; CI (95%) [0.29; 0.40]; $p < .001$) and CFQ \times AAQ-II ($B = 0.01$; CI (95%) [0.002; 0.02]; $p = .0153$) were statistically significant ($R^2=.83$). Figure 3 shows that the relationship between CFQ and GAD scores is high and becomes higher as the values of AAQ-II increase.

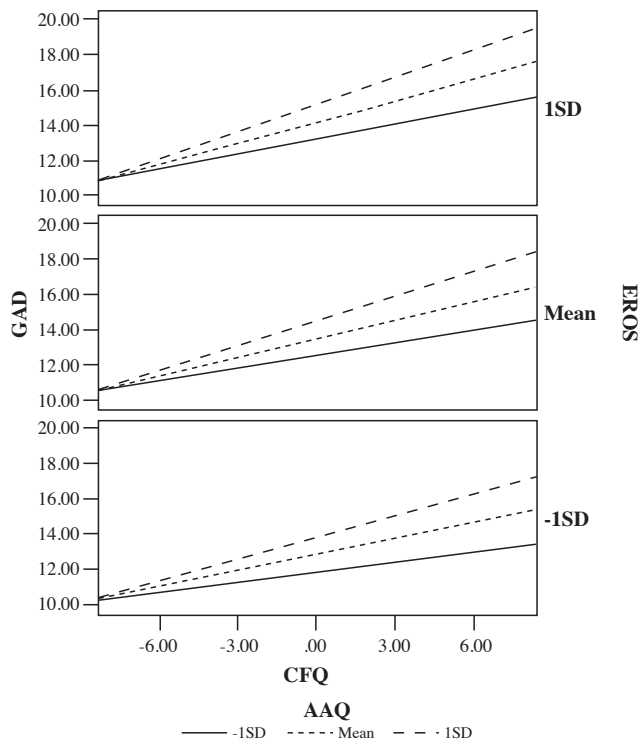


Figure 3. Moderating effect of CFQ \times AAQ-II interactions on the association between EROS and GAD in second evaluation

EA and A as Moderators of the CF-HADS-D Association. Only the main effect of EROS yielded significant ($B = -0.45$; CI (95%) [-0.56; -0.34]; $p < .001$). The model explains 79% of the variation.

EA and A as Moderators of the CF-BDI Association. Only EROS ($B = -0.57$; CI (95%) [-0.72; -0.42]; $p < .001$) and AAQ-II ($B = 0.20$; CI (95%) [0.06; 0.35]; $p = .007$) showed significant results ($R^2=.83$).

Discussion

The relationship between EA, CF, A, and emotional distress has been supported both theoretically and empirically. While there exists specific research providing evidence of the positive relationship and interaction between EA and CF and anxiety and depression (Bardeen & Fergus, 2016; Cookson et al., 2020; Hayes et al., 1996; Roush et al., 2019), this study is the first to include A in this combination of transdiagnostic patterns and to examine how they modulate emotional distress. The results show that the interaction of EA \times CF modulates the intensity of the symptomatology of anxiety, regardless of A. However, the interaction of EA \times CF is not significant when explaining the symptomatology of depression. In this case, it is (the reduction in) activation that is the principal moderator. The data show that these particular conditions act,

consistently, as predictors of manifestations of anxiety or of depression, regardless of the intensity of the symptomatology.

The relationships between the variables of the study, at both times, were statistically significant and in line with what had been predicted. However, the correlation increased noticeably at the follow-up. Similarly, the regression analyses offered comparable results in both evaluations, and, again, the capacity of the predictors to explain the criteria was greater in the second evaluation. These results would be explained precisely by the fact that the sample participated in a clinical study. During the therapeutic process, it is expected that participants learn to identify those conditions which maintain problematic behaviors (Meidlinger & Hope, 2017; Norcross & Lambert, 2019). Furthermore, in the second evaluation, there was a decrease in anxiety (HADS-A, GAD) and depression (HADS-D; BDI), dropping to almost non-clinical levels. This trend was accompanied by an increase in the EROS scale and a decrease on the CFQ and AAQ-II, indicating an increase in psychological flexibility (Fernández-Rodríguez, 2021; Fernández Rodríguez et al., 2022). This correspondence between the reduction in symptomatology and changes in the measures of A, CF and EA can be considered indirect evidence of the transdiagnostic and modulating role of these response patterns in emotional distress.

Even though the most relevant finding is the congruency of the results at the different assessments, there are certain differences which facilitate a deeper analysis of the role that these response patterns play in emotional distress. With regard to anxiety, in the first evaluation, all the data suggest that the symptomatology is attributable only to the combined effects of EA and CF. At the second evaluation, only CF was a significant predictor of both HADS-A and GAD. These differences between the two evaluations should, however, be seen in relation to the intensity of the anxiety (taking into account the mean score of the sample). Previous studies have already suggested that the interaction between CF and EA varies depending on the degree of emotional distress. The results of Cookson et al. (2020) confirm this interaction in a clinical population. However, in a non-clinical sample, their data suggest that CF is more useful than EA in explaining emotional distress. Hayes et al. (2012) also indicated that CF, in the absence of EA, can result in lower levels of emotional distress than when EA is present. In our study, the data from both evaluations support this observation, showing that the relationship between CF and anxiety symptoms becomes significantly stronger as the EA scores increase. Indeed, in the first evaluation, when EA was taken as the predictor of the anxiety symptomatology, only high levels of CF were found to act as moderators of the distress. We believe that these data provide further evidence regarding the functions of EA and CF. However, unlike previous studies indicate the joint action of the two conditions as moderators of anxiety and depression (Bardeen & Fergus, 2016; Berghoff et al., 2018; Cookson et al., 2020; Hekmati et al., 2021; Russell et al., 2020), our conclusion is that the interaction between the two conditions is more relevant in the increase in the symptomatology of anxiety than in that of depression.

When activation was included in the model, the decrease in A was the only predictor in both assessments of the symptomatology of depression, as evaluated using the HADS-D. When it came to the BDI, CF and EA were also identified as independent predictors, although always to a lesser degree than A. These discrepancies are related to the criterion variables. Unlike the HADS-D, the BDI pays special attention to the evaluation of the cognitive component,

which may make it easier for subjects to recognize the cognitive fusion and thought avoidance patterns. Be that as it may, CF and EA, although playing a more important role as the mean intensity of distress increased, always exerted less influence as a modulating factor of depression than the loss of activation.

The study of this combination of predictors of the symptomatology of anxiety and depression has provided new evidence of the transdiagnostic role of CF, EA and A. However, in our opinion, the most important aspect of the results is that they show emotional problems as forms of interaction in private and public contexts learned and maintained by their functionality. Forms of interaction in which the pattern of experiential avoidance appears to be key in intensifying the emotional distress. This appears to be so, both due to the clear relationship between EA and the increase in emotional manifestations and because this behavioral pattern could be said to be a prime condition in the transition from manifestations of anxiety to those of depression. Since avoidance provides relief, albeit in the short-term, from that which is worrying, stressing or placing excessive demands on a person, it can become established as a rigid behavioral pattern. When this occurs, the person becomes distanced from those conditions of life which are relevant to them, whilst at the same time losing contact with the very life contingencies/circumstances in which change could, and should, occur. Consequently, the worry, stress or overdemanding situation is unlikely to be resolved. On the contrary, the distress will probably increase. These are the situations and the responses that are generally characterized as anxiety (see, the interaction of CF and EA as modulators of anxiety as evaluated in standardized questionnaires). The moment the avoidance experiential strategy becomes the best resource the person has at his/her disposal to combat distress; the conditions will be ripe for that person to withdraw from his/her life context. As activities/experiences/relationships are reduced, the effects that maintain them will no longer be produced, leading progressively to a vicious circle of reduction of activity and loss of rewards. These are the situations and the responses that are generally characterized as depression (see the loss of A as a predictor of depression as evaluated in standardized questionnaires). This way of presenting emotional problems clearly corresponds to the contextual approach (Brinkmann, 2019; Hayes et al., 2019; Pérez-Álvarez, 2018).

The data obtained have clear practical implications. It appears recommendable, when evaluating emotional distress, not only to take into consideration the measure of symptoms but also to employ valid measures of CF, EA and A as criteria of the psychological dysfunction. This could permit the identification of those people who show patterns of CF and EA and make it possible to take preventative action, in which case it would appear reasonable to employ an intervention focused on both response patterns. It would, however, be equally reasonable to focus treatment on reconnecting people with the relevant and rewarding activities in their lives, since by increasing activation, their avoidance strategies would simultaneously be reduced. In this way, both those responses identified as manifestations of anxiety and those related to depression would be addressed. This proposal is also supported by the results of controlled studies indicating that the

greater and more prolonged the ability of the treatment to maintain the activation of the participants, the more consistent its effect on clinical emotional symptoms (Fernández-Rodríguez et al., 2020, 2022; Forbes, 2020; González-Fernández et al., 2018; Santos et al., 2017).

When considering the results of this study certain limitations should be borne in mind. The sample used contained a high percentage of women. The higher frequency for women to suffer from and/or consult about emotional distress has been associated, amongst other things with biological vulnerability, thought patterns, and emotion reactivity (Bacigalupe & Martín, 2020; Spinhoven et al., 2016). It is, therefore, conceivable that the degree of distress observed in this study might be different if men and women were more equally represented in the sample. This study, although involving two evaluations of the same sample at two different moments in time, was of a cross-sectional nature and consequently does not allow an adequate identification of the proposed moderation models over time. In order to be able to guarantee any generalizations, it would be necessary to replicate the results with a longitudinal design and in large samples which guarantee an adequate distribution of anxiety and depression scores within the ranges indicating clinical and non-clinical cases. It must also be said that the use of static self-reports to measure dynamic and changing psychological processes is never entirely problem-free (López de Uralde-Selva & Valero-Aguayo, 2021). Furthermore, in light of criticisms regarding the limitations of measures obtained with the EA (Ong et al., 2020; Rocheford et al., 2018) or A (Armento & Hopko, 2007; Janssen et al., 2021), it would be recommendable to use other complementary instruments in future studies. It would be easier to make a more objective interpretation of these principal results if data were contrasted using different sources and at different times. This point underlines the importance of also incorporating data/measures derived from a functional analysis of the emotional manifestations.

To our knowledge, this study provides evidence of the consistent relationship and positive interaction of CF and EA with the symptomatology of anxiety, and similarly of the negative relationship of activation with the symptomatology of depression. The presence and intensity of manifestations of emotional distress are explained and moderated by the progressive concurrence of these transdiagnostic patterns. If future research continues to show evidence of the effects observed in this study, it may be beneficial for interventions to be aimed at increasing activation as a suitable strategy for diminishing cognitive fusion and experiential avoidance, since promoting people's commitment to relevant and rewarding activities simultaneously increases their receptiveness to private and public contingencies.

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