

Rumiación, preocupación y orientación negativa al problema: procesos transdiagnósticos de los trastornos de ansiedad, de la conducta alimentaria y del estado de ánimo

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Resumen

Este estudio presenta las relaciones existentes entre los procesos cognitivos de orientación negativa al problema, preocupación y rumiación, con la sintomatología ansiosa, depresiva y la presente en dificultades en la conducta alimentaria. Se utilizó una muestra no clínica e intencionada de 176 personas adultas de la isla de Tenerife. Los datos se analizan mediante el coeficiente de Chi-cuadrado de Pearson (χ^2), la *t* de Student, el coeficiente de correlación *r* de Pearson y regresiones jerárquicas. Se constata que la orientación negativa al problema y la preocupación son transdiagnósticos para los síntomas de agorafobia y pánico, ansiedad generalizada, fobia social y control de la comida; mientras que los reproches son comunes a la sintomatología depresiva, el estrés postraumático y la dieta, y que la fobia social también se relaciona con el proceso reflexivo. Los resultados se discuten a partir el modelo teórico de la fobia social y el estrés postraumático, y se propone la investigación futura de los reproches y la reflexión, atendiendo a la teoría de la evitación cognitiva.

Palabras clave: preocupación, rumiación, dificultades de la conducta alimentaria, transdiagnóstico.

Rumination, worry and negative problem orientation: transdiagnostic processes of anxiety, eating behavior and mood disorders

Abstract

This research presents the relationship between the cognitive processes of negative problem orientation, trait worry and rumination, with anxious and depressive symptomatology and difficulties in eating behavior. The study was conducted with a non-clinical and intentional sample of 176 adults from the island of Tenerife. Data were analyzed using the Pearson Chi-square coefficient, Student's *t*, Pearson's correlation coefficient, and hierarchical regressions. Results confirm that negative problem orientation and trait worry are transdiagnostic factors for panic symptoms and agoraphobia, generalized anxiety disorder, social phobia and behavioral eating, whereas brooding is a transdiagnostic factor for depression, posttraumatic stress disorder and behavioral eating. Reflection has a relationship with social phobia. Results are discussed on the basis of the theoretical model of social phobia and posttraumatic stress. Future investigation on brooding and reflection according to the theory of cognitive avoidance is proposed.

Key words: trait worry, rumination, eating disorders, transdiagnostic factors.

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Ruminação, preocupação e orientação negativa ao problema: processos transdiagnósticos [RD1] dos transtornos de ansiedade, do comportamento alimentar e do humor

Resumo

Este estudo apresenta as relações existentes entre os processos cognitivos de orientação negativa ao problema, preocupação e ruminação, com a sintomatologia ansiosa, depressiva e a presente em dificuldades no comportamento alimentar. Utilizou-se uma amostra não clínica e intencionada de 176 pessoas adultas da ilha de Tenerife (Espanha[RD2]). Os dados foram analisados mediante o coeficiente de Qui-quadrado de Pearson (χ^2), o t de Student, o coeficiente de correlação r de Pearson e regressões hierárquicas. Constatou-se que a orientação negativa ao problema e a preocupação são transdiagnósticos para os sintomas de agorafobia e pânico, ansiedade generalizada, fobia social e controle da comida; enquanto a rejeição é comum à sintomatologia depressiva, ao estresse pós-traumático e ao regime. A fobia social também se relaciona com o processo reflexivo. Os resultados são discutidos a partir do [RD3] modelo teórico da fobia social e do estresse pós-traumático, e propõe-se a pesquisa futura das rejeições e da reflexão, atendendo à teoria da evitação cognitiva.

Palavras-chave: dificuldades do comportamento alimentar, preocupação, ruminação, transdiagnóstico

INTRODUCTION

Repetitive negative thoughts are considered cognitive vulnerabilities for various anxiety, mood and eating disorders (Sternheim, et al. 2012). These thoughts "involve an attentive, persistent, frequent, and relatively uncontrollable cognitive activity that focuses on the negative aspects of the self and the world" (Ehring & Watkins, 2008, p. 193) and are also considered a common risk or transdiagnostic factor that explains the high rates of comorbidity of different emotional disorders (Kalmbach, Pillai & Ciesla, 2016; McLaughlin & Nolen-Hoeksema, 2011; Spinhoven, Drost, Van Hemert & Penninx, 2015).

Among others, rumination and worry are constructs that share a common element with repetitive negative thoughts (Arditte, Shaw & Timpano, 2016; Segerstrom, Tsao, Alden & Craske, 2000). Rumination predicts the onset of depression and plays an important role both in its maintenance and recurrence (Lyubomirsky Chancellor, Layous & Nelson, 2014). According to the Response Styles theory, rumination is defined as "a pattern of repetitive thoughts and behaviors that focus attention on the self, on depressive symptoms and on the causes, meanings and consequences of these symptoms, instead of focusing actively on a solution to resolve the circumstances surrounding such symptoms" (Nolen-Hoeksema & Morrow, 1993, p. 569)

Most of the research considers rumination as a construct consisting of two factors: reflection, which is defined as an introspective process aimed at solving cognitive problems in order to alleviate low mood; and brooding, which consists of negative rumination or the tendency to blame oneself and situations passively, comparing the current situation with some unmet standard (Thanoi & Klainin-Yobas,

2015; Treynor, González & Nolen-Hoeksema, et al., 2003). These two constructs are different types of rumination, as brooding is a dysfunctional strategy and reflection is a functional one (Treynor, et al., 2003). Particularly, in longitudinal studies carried out at six months and one year, it was observed that brooding was associated with higher levels of depression both at the beginning and in the long term, whereas reflection was associated with higher initial depression, but less depression in the long term (Treynor et al., 2003).

Although rumination is considered a vulnerability factor for depression, research suggests that it is also related to anxiety and eating disorders (Holm-Denoma & Hankin 2011; Nolen-Hoeksema, Wisco & Lyubomirsky, 2008). Thus, cross-sectional research corroborates the higher relationship of brooding with depression, agoraphobia and panic, worry, and negative affect, whereas there are lower relations of these variables with reflection (Hasegawa, Hattori, Nishimura & Tanno., 2015; McEvoy & Brans, 2012; Watkins, 2009).

Another repetitive negative thought, as mentioned, is worry, which is defined as "a string of thoughts or linguistic verbal activity and images (rather the former), relatively uncontrollable and charged with negative affect. The process of worry represents an attempt to mentally solve problems about a topic whose result is uncertain, although it involves the possibility of one or more negative consequences. Therefore, worry is very closely connected to the process of fear." (Borkovec, Robinson, Pruzinsky & DePree, 1983, p.10).

Like rumination, worry is a central feature of generalized anxiety disorder but it is also frequent in other anxiety and mood disorders (Boelen, Reijntjes & Smid, 2016; González, Ibáñez & Cubas, 2006; McEvoy, Watson, Watkins & Nathan, 2013).

Although they are different constructs, rumination and worry share some similarities, and the correlation coefficients between the two range between .37 and .55 (D'Hudson, Lauren & Saling, 2010; Hasegawa et al., 2015; McEvoy & Brans, 2013). Both of them share the fact that they are a persevering type of thoughts, making it difficult to stop focusing on the negative. Both rumination and worry lead to deficits in personal performance, concentration and attention (Watkins, Moulds & Mackintosh, 2005).

Despite these similarities, they are two different processes (Nolen-Hoeksema et al., 2008). One of the differences refers to temporal orientation, as worries tend to focus on future events and possible threats, whereas rumination usually refers to past events and failure (McLaughlin, Borkovec, & Sibrava, 2007). In addition, their content also presents topographical differences, as worry is more related to problem solving, and rumination is more focused on themes of loss, meaning, and self-esteem.

Worry is related to avoidance of a threatening content, whereas rumination implies that the content is relevant to the person, who feels a need to understand what has happened. Their associated affect also differs, as worry is characterized by anxiety and rumination by depression (McLaughlin et al., 2007). Although research on anxiety and depression has been carried out separately, worry and rumination have shown to have equivalent relations with both disorders (McEvoy et al., 2013).

Additionally, it has been pointed out that rumination and worry are risk factors for depression and anxiety, so that people continue to ruminate or worry despite their negative consequences (Dickson, Ciesla & Reilly, 2012) and do not seek active solutions to solve the problems that lead to those processes. Instead, they are stuck to their problems and the feelings involved, without doing anything about them. Thus, both worry and rumination interfere with problem-solving, which, in turn, hinders the application of successful strategies to overcome the negative mood.

A cognitive process related both to worry and rumination is negative problem orientation (Hasegawa et al., 2015), which is defined as "a system of beliefs that reflect the perception of a problem as a threat to welfare, experiencing doubts about one's ability to solve problems, and the tendency to be pessimistic about the outcome" (Robichaud & Dugas, 2005, p. 391).

In a sample of adults, negative problem orientation was a predictor of depression (González, Peñate, Bethencourt & Rovella, 2004) and in other studies higher relations were found between negative problem orientation and depression, worry, agoraphobia and panic (Fergus, Valentine, Wu & McGrath, 2015; Hasegawa et al., 2015). Therefore,

negative problem orientation would be a transdiagnostic process for some emotional disorders (Fergus et al., 2015).

When taking gender into account, women are twice as likely as men to develop a depressive disorder (Kessler, 2006). These differences are clear as of adolescence and adulthood, although in older people no differences were found in depression as a function of gender (Serra & Irizaray-Robles, 2015). The higher prevalence of depression in women has been explained by several theories, which include the response styles theory. This theory suggests that women have a more ruminative style, making them more vulnerable to depression (Lyubomirsky et al., 2014). In this sense, brooding is higher in women (Treyner et al., 2003), who score higher in depression and negative problem orientation (Hasegawa et al., 2015).

However, in another research, no gender differences in rumination, brooding, or reflection were found (Watkins, 2009). In a meta-analysis, the results yielded a small but significant size effect between the studies in relation to gender, for rumination ($d = 0,24$), brooding ($d = 0,19$) and reflection ($d = 0,17$). These results seem to have a limited magnitude, indicating that the response style theory is not supported by these meta-analyses (Johnson & Whisman, 2013). In addition, gender differences are observed in the manifestations of clinical symptoms of major depression (Londoño, Peñate & González, 2016).

Furthermore, eating disorders and anxiety symptoms present high co-morbidity (Sternheim et al. 2012) because two-thirds of the people with eating disorders have some kind of anxious symptomatology (Jordan et al., 2008). The study by Rawal, Park & Williams (2010), comparing a subclinical sample of eating disorders with a healthy control sample, found that the former had a higher level of depressive rumination, experiential avoidance and beliefs about the benefits of rumination, suggesting that rumination may be associated with experiential avoidance. Another investigation showed that rumination was specifically related to eating disorders and depression (Danzilo, Rieger, Palermo, Byrne & Bell, 2016).

Given the high comorbidity between anxiety and depression, and between anxiety and eating disorders, the clarification of how cognitive processes are shared or specific may offer a better understanding of the assessed psychopathological disorders. In this sense, two goals are proposed: on the one hand, to determine the transdiagnostic processes related to psychopathological disorders evaluated through questionnaires in an intentional sample of adults of the community. And on the other hand, identify the existence of gender differences in cognitive and psychopathological process variables.

METHOD

Sample

Participants in this research were 176 adults of the community, of whom 67% were women and 33% were men. Mean age of the sample was 31.2 years ($SD = 13.3$), with a mode of 22 and a range between 18 and 72 years. Regarding the level of studies, 10.3% had primary education, 51.9% middle studies, 14.1% held a diploma, and 23.7% had undergraduate studies. With regard to marital status, 63.9% were single, 30.1% were married, 4.2% were separated/ divorced, and 1.8% was widowed. With respect to residence, 74.4% lived in urban areas and 26.6% in rural areas.

Instruments

The Ruminative Response Scale (Nolen-Hoeksema & Morrow, 1991) This 22-item scale is rated on a five-point Likert scale ranging from "completely disagree" to "completely agree". In this study, the 10 items assessing Brooding ($\alpha = .80$) and Reflection factors ($\alpha = .74$) were used, as the 12 items of depressive rumination contain common elements with the Beck Depression Inventory, so they could overlap with depressive symptoms and lead to the artifactual over-estimation of its predictive ability (Segerstrom et al., 2000).

The Penn State Worry Inventory (Meyer, Miller, Metzger & Borkovec, 1990). This 16-item inventory evaluates trait worry on interval scales ranging from 1 (not at all) to 5 (very much). Of the 16 items of the questionnaire, 5 are negatively worded and can be considered a statistical artifact instead of a meaningful construct, which negatively affects the inventory's psychometric properties, so that some authors do not include these items (Rodebaugh, Woods, Heimberg, 2007). In this work, only 11 of the positively worded items were included, whose internal consistency ranges between .84 and .91.

The Negative Problem Orientation Questionnaire. This consists of 12 items rated on a 5-point Likert scale ranging from 1 (not at all typical of me) to 5 (extremely typical of me). It assesses the way the person reacts or thinks when faced with problems. Internal consistency is .95, and test-retest reliability is .80 (Robichaud y Dugas, 2005).

The Beck Anxiety Inventory (Beck, Epstein, Brown & Steer, 1988). This 21-item inventory evaluates the level of severity of agoraphobia and panic. The person chooses from four alternatives (0 = none and 3 = severe) the degree of distress caused by each symptom during the past week. Its test-retest reliability is .75, and its internal consistency is .92. The severity criteria used are the following: 0-7 = normal; 8-15 = slight; 16-25 = moderate; and 26-63 = severe. (Beck, Epstein, Brown & Steer, 1988).

The Beck Depression Inventory (Beck, Steer & Brown, 1996). This consists of 21 items for which the respondent has to choose from four alternatives the sentence that best describes his or her mood. Each item is rated from 0 to 3. Internal consistency is .89, and the severity criteria are: 0-13 = normal; 14-19 = slight; 20-28 = moderate; and 29-63 = severe.

Generalized Anxiety Disorder Scale GAD-7 (Spitzer, Kroenke, Williams & Löwe, 2006). The GAD-7 evaluates the generalized anxiety disorder through seven items. Respondents are asked about the presence of a series of symptoms during the past two weeks, and they rate their responses on a 4-point Likert-type scale ranging from 0 to 3 (never, several days, half of the days, and almost daily). Its internal consistency is .92, and test-retest reliability is .83. Scores range from 0-9 = mild anxiety; 10-14 = moderate anxiety; and 15-21 = severe anxiety.

The Albany Panic and Phobia Questionnaire (Brown, White & Barlow, 2005). This 27-item questionnaire assesses agoraphobia, social phobia, and interoceptive symptoms. Participants respond on a scale ranging from 0 (no fear) to 8 (extreme fear). For this study, only the social phobia factor was used, which includes 10 items, with an internal consistency of .89. The range goes from 0-80 and, in a clinical sample, the mean score is 21.49 ($SD = 16.13$).

The Psychiatric Diagnostic Screening Questionnaire (Zimmerman & Mattia, 2001). The Spanish version by Pérez, García, de Vicente y Oliveras (2010), was applied, although in this work, only the items that assess Posttraumatic Stress Disorder were used ($\alpha = .92$), where a cutpoint ≥ 10 means there is a suspected case.

The Eating Attitudes Test (Garner, Olmsted, Bohr & Garfinkel, 1982). The EAT-26 evaluates a wide range of attitudes and behaviors related to eating disorders. It consists of 26 items, which correspond to three scales: Diet ($\alpha = .88$); Bulimia ($\alpha = .84$) and Oral Control ($\alpha = .70$). It is rated on a

6-point Likert-type scale. The internal consistency of the total test ranges between .70 and .88 (Doninger, Enders & Burnett, 2005). Scores higher than 20 may indicate an eating disorder and the mean score for healthy people in Diet is 4.08 ($SD = 0.3$); in Bulimia 0.2 ($SD = 0.0$), and in Oral Control 2.8 ($SD = 0.4$).

Procedure

As part of the voluntary practice program of the subject on Psychological Evaluation course of 3rd year of Psychology, 20 students were trained in the administration of the tests, in order to play the role of assessors. They were asked to select from their close surroundings a group between 8 and 10 adults, through the snowball effect, a strategy that is usually used to collect information from populations that are difficult to sample (Thomson, 2002), it is to say, community populations outside exclusively university contexts, which would lead to a greater ecological validity. After contacting these people, the assessors informed them about the experimental nature of the work and requested their voluntary participation and the signature of the informed consent.

Statistical analysis

To confirm the normality of the data, the procedures by Shapiro-Wilk and Kolgomorov-Smirnov were used, as well as a visual inspection both for the total sample and as a function of gender, confirming normality in both cases. To determine possible gender differences in the socio-demographic variables, the Pearson's Chi-square coefficient (χ^2) was calculated, as these variables are categorical. For age, the Student's *t*-test was used, as there were two independent populations.

Due to the continuous nature and normality of the variables, the correlation coefficients (*r*), were calculated, first between the predictor variables, and then between the predictors and anxiety symptoms, depression, and eating disorders, after verifying the linearity assumption (contrasted by means of the scatter plot). To perform correlational analysis of each pair of variables, the internal consistency coefficient (α) of each factor was also calculated.

Fisher's Z-scores (1925) were determined for the independent correlations to compare the magnitude of the correlation coefficients between brooding and reflection with the psychopathological variables. A Mean difference (Student's *t*) was performed for men and women between psychopathological and process variables, taking or not into account the homogeneity of variances through the Levene test.

Finally, it was decided to perform a hierarchical regression to determine the explanatory weight of each independent

variable (brooding, reflection, worry, and negative problem orientation) on the dependent variables (eating disorders, anxiety, and depression). Prior to the regression analysis, a study on the co-linearity of the independent variables was carried out, through tolerance, the inflation factor, and the condition indices. In this case, the rumination factor could be broken down into two sub-factors: reflection and brooding. The other variables were global and had an adequate inflation variance. Therefore, regressions were conducted in three blocks: in the first block, worries were introduced, in the second block, negative problem orientation, and in the third block, reflection and brooding conjointly

RESULTS

Regarding socio-demographic variables, no statistically significant differences (χ^2) were found for gender, in terms of level of studies, work status, marital status, place of residence, or age.

Correlational analysis

Table 1 shows the correlation coefficients between the process variables, where reflection and brooding share 33% of the variance. Negative problem orientation had the highest coefficients with worry and brooding, whereas it had the lowest ones with reflection. In general, the internal consistency coefficients of the four constructs were highly satisfactory.

Table 2 presents the correlation coefficients between the processes and the psychopathological variables. Thus, negative problem orientation, trait worry, and brooding showed higher coefficients with generalized anxiety disorder, depression, agoraphobia and panic, social phobia and posttraumatic stress disorder, and the lowest—albeit statistically significant—coefficients ($p \leq .05$) were with diet and control. Regarding reflection, correlations above .30 were found with social phobia, depression, and generalized anxiety disorder. The lowest correlation coefficients were found with agoraphobia and panic disorder, and no statistically significant correlations were found with eating disorders.

The Fisher's Z-test, which was used to determine possible differences in the correlation coefficients between brooding and reflection and the assessed symptoms, revealed statistically significant differences in the symptoms of anxiety and depression, but not in social phobia, nor in eating disorders. This indicates the independence of the two rumination factors. The internal consistency coefficients of the assessed constructs were excellent, except for control, which were lower.

Table 1.

Zero-order correlation coefficients between the process variables and their internal consistency (Cronbach's α coefficient). $N=176$

	BROOD	REF	PSWQ	α
NPO	.64***	.31***	.67***	.94
BROOD		.58***	.68***	.83
REF			.38***	.75
PSWQ				.90

Note: NPO = negative problem orientation; BROOD = brooding, REF = reflection; PSWQ = trait worry; α = Cronbach's alpha

Table 2

Correlation coefficients between cognitive processes and psychopathological variables. Internal consistency (Cronbach's α) for each factor, means and standard deviations

	S-PHOB	DIET	CON	BUL	GAD	BDI-II	BAI	PTSD
NPO	.45***	.17*	.19*	.09	.60***	.57***	.57***	.42***
PSWQ	.44***	.21**	.15*	.11	.67***	.52***	.58***	.39***
BROOD	.40***	.29***	.19*	.15*	.59***	.64***	.50***	.54***
REF	.35***	.14	.11	.12	.32***	.33***	.27***	.31***
Z	.54	1.09	.76	.47	3.23***	3.88***	2.5**	2.65**
α	.85 (10)	.87(13)	.66 (7)	.75 (6)	.90 (8)	.92 (21)	.93 (21)	.90 (13)
Mean	11.1	3.6	1.7	3.4	5.7	9.5	8.3	2.2
(SD)	(10.3)	(4.5)	(2.4)	(1.1)	(4.9)	(8.7)	(9.5)	(3.3)
Range M	0-40	0-27	0-12	2-13	0-21	0-42	0-56	0-13
Range C	0-80	0-39	0-18	0-18	0-21	0-63	0-63	0-13

Note: NPO = negative problem orientation; BROOD = brooding, REF = reflection; PSWQ = trait worry; S-PHOB = social phobia. DIET = diet; GAD = generalized anxiety disorder; CON = control; BUL = bulimia; BDI-II = depression; BAI = agoraphobia and panic; PTSD = posttraumatic stress disorder; α = Cronbach's alpha; M = Range this sample; Q = range questionnaire; in parentheses = number of items of α ; Z = Fisher's Z-test.
* $p \leq .05$. ** $p \leq .01$. *** $p \leq .001$.

Furthermore, the mean scores and ranges for all the psychopathological variables can be observed. It is noted that, in all cases, the mean scores were positively skewed, taking into account that, in the BDI-II scores, one standard deviation ranges from 1.1 to 18 (i.e., between normal and mild depression). For Posttraumatic Stress, the score was well below the established cut-off point of ≥ 10 . For GAD, the score was within a mild range. For the BAI, the mean score was between normal and moderate, and for diet and control, the mean score is located in the average of healthy people, whereas for bulimia, is higher, ranging from 1.85 to 15.63, well below the cut-off point of 20.

Mean gender differences

Table 3 shows the statistically significant mean differences between men and women, where women obtained higher mean scores in diet, generalized anxiety disorder, posttraumatic stress disorder, agoraphobia and panic, and worry, although the values of eta-square (η^2) were very small. In contrast, no differences were observed in social phobia, depression, reflection, brooding, and negative problem orientation.

Table 3.

Mean difference, standard deviations and eta-square for the effect size by gender in the assessed variables. ($N=176$)

	Men (N=58)		Women (N=118)		t	η^2
	M	SD	M	SD		
GAD	4,94	4,73	6,86	5,49	-2,22*	.17
PTSD	1,31	2,54	2,66	3,54	-2,59*	.19
BAI	6,10	8,50	9,44	9,91	-2,20*	.16
DIET	9,02	7,54	16,27	10,65	-3,87***	.28
PSWQ	18,98	7,21	21,82	7,74	-2,30*	.17

Note: GAD = generalized anxiety disorder; PTSD = Posttraumatic stress disorder; BAI = agoraphobia and panic; DIET = diet; PSWQ = trait worry; * $p \leq .05$. *** $p \leq .001$

Hierarchical regression analysis

In this section, the results of the hierarchical regressions are presented. Table 4 shows that, for social phobia, only the third block did not significantly improve the explained variance, but the other variables did so, reaching 30%. Worry, negative problem orientation and reflection were significant in all the blocks but brooding was not.

Regarding GAD, with an adjusted variance of 45%, the three blocks were relevant (the third one to a much lesser extent), and all the variables were significant, except for reflection. In diet, only the block of negative problem orientation did not significantly improve the explained variance, which was finally 8%. Only brooding was relevant in the final model (worry was only relevant if other variables were not present). Regarding control, only the first block (defined solely by PSWQ) significantly improved the variance, finally reaching 3%. Although in the final model no variable was relevant, if only the first block is observed (which was significant), worries were relevant. As for bulimia, no block improved the explained variance, and no variable was significant in any of the steps.

Regarding depressive symptomatology, all the blocks produced a significant increase in R^2 which was finally 42%. However, in the final model, only brooding and negative problem orientation were relevant. Concerning agoraphobia and panic, the blocks of worry and negative problem orientation were both relevant, with an adjusted variance of 37%. Only these two variables were significant in the models in which they appear but brooding and reflection were not relevant. Finally, in posttraumatic stress, each block significantly increased R^2 , which, once adjusted, explained 27% of the variance, but only brooding was significant in the final model.

Taking into account the above results, the variables that could be identified as transdiagnostic are specified, with their respective symptoms. Thus, worry is transdiagnostic for all, but its weight varies according to whether or not other variables are present, except for bulimia. In particular, when considered conjointly with other predictors, worry is less relevant for eating disorders and for posttraumatic stress disorder (but it is relevant for the rest of the disorders with anxious symptomatology).

For its part, negative problem orientation is not transdiagnostic for eating disorders, and when considered jointly with other variables, it only ceased to be relevant for posttraumatic stress disorder. Regarding brooding, it seems to be transdiagnostic for generalized anxiety, diet, depressive symptoms, and posttraumatic stress disorder. Regarding worry, this is not relevant in the third block for any of the cases, except for generalized anxiety. Moreover, negative problem orientation also ceased to be relevant in this block for diet and post-traumatic stress disorder. Reflection does not appear to be transdiagnostic and was only relevant for social phobia. None of the variables considered seem to be relevant for bulimia.

DISCUSSION

The results of this work provide greater consistency to previous findings about the cognitive processes of worry, brooding and negative problem orientation as transdiagnostic constructs related to the symptoms of anxiety, depression and eating disorders (McEvoy et al., 2013; McLaughlin & Nolen-Hoeksema, 2011; Nolen-Hoeksema et al., 2008).

The relationships between brooding and reflection are within the ranges of previous studies (D'Hudson, Lauren & Saling, 2010) but, although related, it was confirmed that they are independent from psychopathological variables. This result suggests that the two constructs should be analyzed separately, both in concurrent and longitudinal studies, given their different forms of functionality (Schoofs, Hermans & Reas, 2010; Treynor et al., 2003).

Moreover, it was found that brooding has a more powerful relationship with depression than with anxious symptomatology, whereas reflection shows the lowest relationships with the above-mentioned variables (D'Hudson, et al., 2010; Hasegawa et al., 2015; McEvoy & Brans, 2013), possibly due to the fact that reflection is a more adaptive strategy (Treynor et al., 2003). However, the situation changes at the predictive level, as brooding predicts both posttraumatic stress disorder and depression, with more importance on the first. This result is consistent with the theoretical models of posttraumatic stress disorder, which characterize this condition as a style of cognitive-emotional processing about the trauma and its consequences, brooding on how the event could have been avoided, and on how to take revenge or do justice. There are intrusive thoughts about the trauma, such that brooding can be a cognitive avoidance strategy that interferes with the recall of the trauma and prevents its emotional processing (Michael, Halligan, Clark & Ehlers, 2007).

Regarding eating disorders, brooding predicted dieting, which is consistent with avoidant behavior related to fattening foods, as not achieving those goals or standards is specifically accompanied by brooding. However, worry predicted control, which is motivated by the absence of self-control for intake and concern for weight, figure and thinness. This result is consistent with what was found in previous research (Danzilo et al., 2016).

Worry presents higher relationships with anxiety symptoms (González et al., 2006), except for posttraumatic stress disorder and eating disorders. Particularly, the regression analysis carried out indicates that worry is the best predictor of anxiety symptoms (McLaughlin & Nolen-Hoeksema, 2011). This may be due to the fact that worries are more oriented towards problems perceived as threatening, and not so much towards lamentations about oneself and

Table 4.
Hierarchical regression analysis

Variables	Block	Predictor	ΔR^2	Change in F	β	t
S-PHO	1	PSWQ	.25	54.54 ^(1,162) ***	.50	7.38***
	2	PSWQ	.28	9.17 ^(1,161) ***	.33	3.84***
	3	NPO			.26	3.02***
		PSWQ	.30	2.79 ^(2,159)	.28	3.02***
		NPO			.24	2.62**
		BROOD			-.01	-.11
		REF			.17	2.13*
GAD	1	PSWQ	.38	102.64 ^(1,167) ***	.61	10.13***
	2	PSWQ	.44	18.70 ^(1,166) ***	.41	5.55***
	3	NPO			.32	4.32***
		PSWQ	.45	3.11 ^(2,165) *	.33	4.10***
		NPO			.24	2.97***
		BROOD			.20	2.20*
		REF			-.00	-.030
DIET	1	PSWQ	.06	8.62 ^(1,131) ***	.25	2.93***
	2	PSWQ	.05	.17 ^(1,130)	.21	1.87
	3	NPO			.05	.41
		PSWQ	.08	3.04 ^(2,128) *	.11	.92
		NPO			-.09	-.76
		BROOD			.33	2.33*
		REF			-.04	-.41
CON	1	PSWQ	.03	6.26 ^(1,163) **	.19	2.50*
	2	PSWQ	.04	2.05 ^(1,162)	.10	1.12
	3	NPO			.13	1.43
		PSWQ	.03	.58 ^(2,159)	.06	.59
		NPO			.09	.84
		BROOD			.11	.94
		REF			-.00	-.00
BUL	1	PSWQ	.01	2.97 ^(1,165)	.13	1.72
	2	PSWQ	.01	.06 ^(2,164)	.11	1.20
	3	NPO			.02	.24
		PSWQ	.01	.93 ^(2,163)	.06	.56
		NPO			-.02	-.26
		BROOD			.12	.99
		REF			.03	.34
BDI-II	1	PSWQ	.20	42.84 ^(1,164) ***	.45	6.54***
	2	PSWQ	.31	26.48 ^(1,163) ***	.19	2.32*
	3	NPO			.42	5.14***
		PSWQ	.42	16.48 ^(2,161) ***	.013	.16
		NPO			.22	2.68**
		BROOD			.49	5.20***
		REF			-.02	-.335
BAI	1	PSWQ	.32	79.89 ^(1,167) ***	.56	8.93***
	2	PSWQ	.37	15.58 ^(1,166) ***	.37	4.75***
	3	NPO			.31	3.94***
		PSWQ	.37	.52 ^(2,164)	.34	3.89***
		NPO			.27	3.17***
		BROOD			.08	.86
		REF			.00	.07
PTSD	1	PSWQ	.13	25.97 ^(1,165) ***	.36	5.09***
	2	PSWQ	.17	9.57 ^(1,166) ***	.19	2.11*
	3	NPO			.28	3.09***
		PSWQ	.27	11.46 ^(2,164) ***	.00	.07
		NPO			.10	1.08
		BROOD			.44	4.11***
		REF			.01	.18

Note: NPO = negative problem orientation; BROOD = brooding. REF = reflection; PSWQ = trait worry; S-PHO = social phobia. DIET = diet; GAD = generalized anxiety disorder; CON = Control; BDI-II = depression; BAI = agoraphobia and panic; PTSD = posttraumatic stress disorder; *p ≤ .05. **p ≤ .01. ***p ≤ .001.

self-criticisms, as can be expected in depression (McLaughlin et al., 2007; Watkins et al., 2005).

Likewise, negative problem orientation is related to symptoms of anxiety and depression (González et al., 2004; Hasegawa et al., 2015). However, at the predictive level, it has more importance in social phobia, followed by agoraphobia and panic, generalized anxiety disorder, and depression. This result corroborates the high relationship between worry and negative problem orientation, in which people use worry as a strategy to cope with problems.

Regarding gender, the results of this work do not confirm women's higher scores in depression, negative problem orientation, brooding, and reflection (Lyubomirsky et al., 2014; Hasegawa et al., 2015), although it has been found that they obtain higher mean scores in worry and generalized anxiety disorder in comparison to men (González, Rovella, Barbenza & Rausch, 2012). However, findings of the present research are consistent with other investigations that showed no differences in rumination, brooding and reflection (Watkins, 2009). This result could tentatively be explained because this study used a sample from a normal population, where both men and women had the same educational level, were employed, and their ages were similar.

Furthermore it was found that reflection is a predictor of social phobia. This can be explained bearing in mind the theoretical models of social anxiety, which have proposed that socially anxious people perform what is called processing after the event, that is, they reflect on the social event (Rapee & Heimberg, 1997), carrying out a very detailed analysis of their actions in the social situation, and focusing selectively in the negative elements. This process has been grouped within the category of rumination (Wong & Moldes, 2009), and it is a transdiagnostic factor for generalized anxiety disorder, agoraphobia and panic, and obsessive compulsive disorder (Laposa, Collimore & Rector, 2014).

In addition, the definitions of rumination and worry share the deficit in active problem solving. People who behave this way believe that if they worry or brood about their aversive moods, they will resolve their emotional distress, so they hang on to worry to prepare themselves for future threats and to avoid negative emotional states (Borkovec, Alcaine, & Behar, 2004).

Moreover, people may connect with rumination in an attempt to escape from or avoid their problems, which in turn could lead to more negative affect. Such affect leads to even more rumination, thus perpetuating the cycle of rumination, as they find no active solution for their affective state. For these reasons, rumination is regarded as a cognitive avoidance strategy involved in different psychopathological disorders (Aldao, Nolen-Hoeksema, & Schweizer, 2011).

This perspective of the role of worry in cognitive avoidance is gaining strength in current theories of rumination (Dickson et al., 2012). In this sense, it seems that both rumination and worry act as cognitive avoidance processes, which is why the Response styles theory could benefit from the Avoidance theory of worry and generalized anxiety disorder (Borkovec, et al., 2004). Therefore, future studies should focus on whether brooding and reflection are related to certain cognitive avoidance strategies.

Finally, despite its contributions, this study presents some limitations, such as using a small and incidental sample, and presenting a positively skewed score distribution for the psychopathological variables, which makes it difficult to generalize findings. Furthermore, it is a cross-sectional study, which does not explain the causality of the cognitive processes in relation to the psychopathological disorders assessed, as would be the case in a longitudinal study.

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