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A meta-mood model of rumination and depression: Preliminary test in a non-clinical population

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Depressive rumination and trait meta-mood (emotional attention, emotional clarity and emotional repair) have been suggested as vulnerability factors leading to depression, but less is known about the associations among them. In this study, we examined the relationships between trait meta-mood, rumination and depressive symptomatology. Using structural equation analysis in a large sample of a non-clinical population we found a preliminary test of the role of trait meta-mood dimensions in rumination and depressive symptomatology. Results indicated that attention to feelings has two pathways in its relation with rumination and depressive mood. On the one hand, emotional attention was associated with emotional clarity, and emotional clarity with emotional repair, which was related to lower depressive symptomatology, in part, by reducing rumination. On the other hand, emotional attention was directly associated with ruminative thoughts which, in turn, were related to higher depressive mood. Findings are discussed in terms of the implications of beliefs about emotions in the treatment of depression.

Key words: Depression, rumination, trait meta-mood, emotion regulation.

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INTRODUCTION

Since the 1980s, psychological research on depression has focused on the potential role of cognitive variables as vulnerability or maintenance factors of depression (Alloy, Abramson, Walshaw & Neerem, 2006). Of these, depressive rumination and, more recently, trait meta-mood (emotional attention, emotional clarity and emotional repair) have received much attention in the scientific literature, but no research has examined the associations among them. In this paper, we investigate the relationships between trait meta-mood, rumination and depressive symptomatology.

Rumination and depression

Several theories have argued the importance of rumination in the etiology and maintenance of depression (Martin & Tesser, 1996; Teasdale, 1988). Among these, Nolen-Hoeksema (1991, p. 569) conceptualized depressive rumination as repetitive and passive thinking about symptoms of depression and considered the possible causes and consequences of these symptoms. According to this perspective, rumination involves “repetitive focusing on the fact that one is depressed; on one’s symptoms of depression, and on the causes, meanings, and consequences of depressive symptoms.”

The role of rumination in prolonging and intensifying depression symptomatology has been empirically supported in both laboratory and field studies over the entire lifespan (see Nolen-Hoeksema, Wisco & Lyubomirsky, 2008, for a review). For example, prospective longitudinal studies have shown that people who engage in rumination when distressed have more prolonged periods of depressive symptomatology and are more likely to

develop depressive disorders (Driscoll, Lopez & Kistner, 2009; Spasojevic & Alloy, 2001). Moreover, rumination has been associated with other cognitive variables such as negative attributional style, dysfunctional attitudes, or pessimism, which are considered important in the etiology of depression (Lam, Smith, Checkley, Rijdsdijk & Sham, 2003; Robinson & Alloy, 2003; Spasojevic & Alloy, 2001). Three mechanisms have been proposed through which rumination could exacerbate and prolong depression: first, enhancing the effects of depressed mood on thinking, second, interfering with effective problem solving or instrumental behavior, and, third, losing social support (see Lyubomirsky & Tkach, 2004, for a review).

Despite the evidence suggesting rumination as a trait-like vulnerability variable of depression, few studies have investigated the precursors or etiological antecedents of rumination. Nolen-Hoeksema (1998) suggested that children who fail to learn active coping strategies and feel they have little control over their environment might be more prone to becoming ruminators, and there is some evidence supporting this assumption (Nolen-Hoeksema, Wolfson, Mumme & Guskin, 1995). Other authors have identified rumination as a function of underlying (metacognitive) beliefs concerning the usefulness of rumination. Positive metacognitive beliefs, beliefs that rumination is a helpful strategy for alleviating depressive symptomatology, have been related to depression both in healthy and in clinically depressed populations (Papageorgiou & Wells, 2003). On the other hand, various authors have suggested rumination as the mechanism through which neuroticism is associated with depression (Nolan, Roberts & Gotlib, 1998). In this paper, we suggest another possible precursor of depressive rumination: trait meta-mood (Fernández-Berrocal & Extremera, 2008; Salovey, Mayer, Goldman, Turvey & Palfai, 1995).

Trait meta-mood and depression

Mayer and Gaschke (1988) suggested that the experience of mood has at least two components: the direct experience of one's moods and the meta-experience of these moods. They are called meta-mood experiences because they pertain not to the immediate experience of feeling states but instead to their reflective experience, involving thoughts and feelings about one's moods (Mayer & Stevens, 1994). Although these authors were originally interested in transient meta-mood experiences (Mayer & Stevens, 1994), more recently their research group has focused on the awareness of the experience of mood as relatively stable, the trait meta-mood (Salovey *et al.*, 1995). The trait meta-mood refers to the beliefs that people have about their own moods and emotional abilities and is made up of three key dimensions: emotional attention – perceived ability to attend to mood and emotions; emotional clarity –perceived ability to discriminate clearly among feelings; and emotional repair –perceived ability to regulate moods (Salovey, Stroud, Woolery & Epel, 2002).

Trait meta-mood dimensions have been shown to correlate with a number of measures of psychological adjustment and to predict coping behaviors both in laboratory and in naturalistic studies (see Fernández-Berrocal & Extremera, 2008, for a review). In terms of the specific relation of meta-mood dimensions and depressive symptomatology, high levels of emotional attention and low levels of emotional clarity and repair have been associated with greater depression in adult and adolescent samples (Salguero, Palomera & Fernández-Berrocal, 2011; Salovey *et al.*, 2002; Thayer, Rossy, Ruiz-Padial & Johnsen, 2003). Moreover, these dimensions significantly differentiated between dysphoric and non-dysphoric individuals, with the former having higher levels of emotional attention and lower levels of emotional clarity and repair (Extremera, Fernández-Berrocal, Ruiz-Aranda & Cabello, 2006). To explain this, different authors have proposed the existence of a relation between trait meta-mood and rumination (Fernández-Berrocal & Extremera, 2008; Salovey *et al.*, 1995; 2002; Thayer *et al.*, 2003).

The role of trait meta-mood in rumination and depression

Beliefs about mood and emotions have been suggested to affect the degree to which individuals engage in processing the emotional aspects of their experience (Fernández-Berrocal & Extremera, 2008). Individuals who believe that it is important to attend their feelings would have a higher tendency to evaluate and monitor the progress of their mood states, increasing the emotional experience and the understanding of what they feel. Then, individuals need some level of perceived ability to discriminate and repair their feelings, before any attempts to modify or regulate them (Gohm, 2003). From this perspective, meta-mood dimensions reflect a three-phase functional sequence of the emotion regulation construct where people must attend to their feelings before they can know precisely what they are feeling, and they need to know what they are feeling before experiencing an inclination to repair their feelings (Martínez-Pons, 1997; Salguero, Fernández-Berrocal, Balluerka & Aritzeta, 2010). Evidence for this hierarchical sequence have been found by path analytic methodology (Martínez-Pons, 1997; Palmer, Gignac, Bates & Stough, 2003).

By contrast, individuals with difficulties engaging in this emotional self-regulation process may use rumination as an emotional coping strategy. Some authors have recently suggested that rumination can be described as an avoidant coping strategy (Smith & Alloy, 2009), with high ruminators using rumination as a way to avoid exposing themselves to the negative affect. From this perspective, people who tend to attend to their feelings but who believe themselves incapable of facing them effectively may end up perceiving their own emotions as aversive and threatening, and use rumination as a strategy to avoid them. From the other hand, although a moderate amount of attention may be advantageous allowing an individual to track the progress of his/her moods, a constant monitoring of feelings and moods may lead to a self-focused attention process, which in turn implies higher involvement in the negative affective state and rumination (Swinkels & Giuliano, 1995).

There is some evidence of the relationships between trait meta-mood and rumination. Diverse studies have shown the existence of significant relations, with positive correlations between rumination and emotional attention and negative ones between rumination and emotional clarity and repair, even when controlling for depressive symptomatology (Extremera *et al.*, 2006). For example, Hervás and Vázquez (2006) found that whereas emotional attention was positively correlated with the reflexive and brooding component of rumination, clarity and repair were negatively correlated with the brooding component. Moreover, meta-mood dimensions (clarity and repair) have been associated with lower intrusive and ruminative thoughts in response to laboratory stressors and induced negative mood (Fernández-Berrocal & Extremera, 2006; Ramos, Fernández-Berrocal & Extremera, 2007; Salovey *et al.*, 1995; 2002).

Despite these results, no studies have specifically addressed jointly the relations between trait meta-mood, rumination and depressive symptomatology. The aim of the present work was to show preliminary testing of a hypothesized meta-mood model of rumination and depressive mood (see Figure 1) with a large sample of a non-clinical population. In this model, emotional attention has two pathways in its relation with rumination and depressive symptomatology. On the first, attention to feelings leads to emotional clarity, and emotional clarity leads to emotional repair, diminishing depressive symptomatology, in part, by reducing rumination. In this model, emotional repair represent the final step of a three-phase functional sequence of emotion self-regulation and, thus, is directly associated to less rumination. On the second, a direct path links emotional attention with rumination. In this case, emotional attention is not associated with emotional clarity and repair and gives rise to ruminative thoughts aimed at understanding and controlling the emotional state, which, ultimately, increase the depressive mood state.

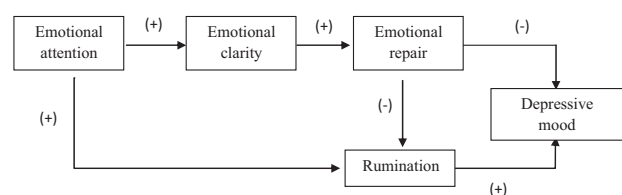


Fig. 1. Hypothesized meta-mood model of rumination and depressive mood.

METHOD

Participants

Participants in the study were 1,154 Spanish individuals (61.3% female, 38.7% male) aged from 16 to 80 ($M = 26.21$, $SD = 13.45$). Of these, 428 were adolescent students from secondary schools (age ranged from 16 to 18, $M = 16.69$, $SD = 0.66$; 60.5% female, 39.5% male), 462 were adult students enrolled in psychology courses (age ranged from 19 to 45, $M = 22.31$, $SD = 2.86$; 66.9% female, 33.1% male) and 263 were non-student adults (age ranged from 21 to 80, $M = 48.54$, $SD = 10.25$; 47.1% female, 52.9% male).

Measures

Trait Meta-mood Scale (TMMS; Salovey et al., 1995). The TMMS is designed to assess how people reflect upon their moods, and it assesses the extent to which people believe that their emotions are an important source of information and they can attend to their feelings (emotional attention), believe that they can feel clear rather than confused about their feelings (emotional clarity) and believe that they can use positive thinking to repair negative moods (emotional repair). Salovey et al. (1995) reported adequate internal consistency as well as convergent and discriminative validity for this scale. We used the well-validated Spanish version of the TMMS (Fernández-Berrocá, Extremera & Ramos, 2004). The Spanish version shows high internal consistency and satisfactory test-retest reliability. Cronbach's alphas of TMMS dimensions in this study were 0.87 for emotional attention, 0.84 for emotional clarity, and 0.82 for emotional repair.

Beck Depression Inventory (BDI; Beck, Rush, Shaw & Emery, 1979; Beck & Steer, 1987). The BDI is a 21-item self-report inventory. Each item is rated on a scale from zero to three; inventory scores may thus range from zero to 63. The BDI is a reliable and well-validated measure of depressive symptomatology (Beck, Steer & Garbin, 1988). A Spanish version was used that has shown good internal consistency, reliability, and validity in clinical samples ($\alpha = 0.82$, test-retest reliability between 0.65 and 0.72; Sanz and Vazquez, 1998). Cronbach's alpha in this study was 0.89.

Response Styles Questionnaire (RSQ; Nolen-Hoeksema & Morrow, 1991). A shortened (10-item) form of the Ruminative Response Scale (RRS) (Davis & Nolen-Hoeksema, 2000) from the RSQ was used to measure an individual's tendency to ruminate when faced with depressive symptoms. The RRS consists of items measuring how often people engage in responses that are self-focused (e.g., "I think 'Why am I the only person with these problems?'"), symptom-focused (e.g., "I focus on the fact that I am always tired"), and focused on the causes and consequences of having a depressed mood (e.g., "I think 'I won't be able to do

my job because I feel so bad"). The RRS has shown a good test-retest reliability ($r = 0.80$, Nolen-Hoeksema et al., 1994) as well as high internal consistency ($\alpha = 0.89$) and validity in terms of predicting depression (Nolen-Hoeksema & Morrow, 1991). A Spanish version of the RRS short form was used that has shown good reliability and validity in both high school and adult samples (Extremera & Fernández-Berrocá, 2006). In this study, Cronbach's alpha was 0.86.

Procedure

Participants were approached and asked if they were willing to take part in a research project "investigating relations between emotion and cognition." Participation in the research project was entirely voluntary and guaranteed anonymity. The questionnaires were administered in paper-and-pencil format with instructions given in writing. For participating minors, the assessment was carried out in classrooms during the normal school day, and with the approval both of the school authorities and of the pupils' parents. The adult student participants completed the questionnaires in group format and received course credits for their participation, whereas the majority of non-student adults completed them individually.

RESULTS

Overview of data analyses

The statistical package SPSS (version 15.0; Armonk, NY: IBM) was used for computing descriptive statistics, bivariate analysis and internal consistency; LISREL (Jöreskog & Sörbom, 1993, version 8.80) was used for structural equation modeling (SEM). The mean sample scores on the measures for meta-mood dimensions, rumination and depressive symptomatology were consistent with those recorded in previous research using a non-clinical population (Fernández-Berrocá et al., 2004; Sanz & Vázquez, 1998) (see Table 1). The reliability of the measures, in terms of internal consistency, was satisfactory (α ranged from 0.82 to 0.89).

The relationships between trait meta-mood, rumination and depressive symptomatology were assessed by path analysis, a SEM technique that examines only observed variables (Byrne, 1998). The analysis was carried out with the maximum likelihood (ML) method. As departures from multivariate normality and multivariate kurtosis can have a significant impact on maximum-likelihood estimation, prior to conducting SEM analysis we first calculated descriptive analyses measures. Although the BDI scores showed the higher skewness and kurtosis values, all these values were found to be within an acceptable range (skew < 3 and kurtosis < 8 ; Curran, West & Finch, 1996).

Table 1. Means, standard deviation, reliability and correlations among all measured variables

	1	2	3	4	5	M	SD	α
1. Emotional attention	–					3.4	0.7	0.87
2. Emotional clarity	0.17**	–				3.4	0.7	0.84
3. Emotional repair	0.10**	0.38**	–			3.5	0.7	0.82
4. Rumination	0.31**	–0.06*	–0.15**	–		21.8	5.8	0.86
5. BDI	0.19**	–0.19**	–0.25**	0.46**	–	6.7	7.0	0.89

Note: ** $p \leq 0.01$; * $p \leq 0.05$.

In order to test our hypotheses, the following analytic procedure was undertaken. Firstly, SEM analysis was performed to test the fit of the hypothesized meta-mood model (Figure 1). In case the model did not fit the data, modification indices provided by LISREL were inspected to change the model in a theoretically consistent way in order to obtain a good fit of the model with the data. If at any stage a well-fitting model was found, no subsequent alterations were made. Second, since this study used a cross-sectional design, we considered it important to explore alternative models about the relation between trait meta-mood dimensions, rumination and depressive symptomatology. We explored three alternative and theoretically possible models. In the first, the effect of rumination on depressive symptomatology is partially mediated by meta-mood dimensions. In the second, rumination leads to higher depressive symptomatology and meta-mood dimensions are a consequence of these depressive symptoms. In the third, depressive symptomatology leads to higher rumination and meta-mood dimensions are a consequence of rumination.

Given the sensitivity of the chi-square statistic to sample size (Floyd & Widaman, 1995), measures of fit less dependent on simple size were used: (a) the comparative fit index (CFI); (b) the non-normed fit index (NNFI); (c) the goodness of fit index (GFI); and (d) the root mean square error of approximation (RMSEA), including the 90% confidence interval for the RMSEA point estimation. For the CFI, NNFI, and GFI, values exceeding 0.90 are indicative of a good fit. For the RMSEA, values below 0.08 are considered a reasonable fit, whereas values below 0.05 are indicative of good fit (e.g., Finch & West, 1997; Kelloway, 1998).

Bivariate analyses

We calculated the Pearson correlation coefficients between scores on the dimensions of the trait meta-mood, depressive symptomatology and rumination (see Table 1). As expected, emotional attention was positively related both to depressive symptomatology ($r = 0.19$) and rumination ($r = 0.31$), and to emotional clarity ($r = 0.17$) and repair ($r = 0.10$). Emotional clarity showed negative correlations with depressive symptomatology ($r = -0.19$) and rumination ($r = -0.06$), and positive correlations with emotional repair ($r = 0.38$). Likewise, emotional repair showed negative correlations with rumination ($r = -0.15$) and depressive symptomatology ($r = -0.25$). The highest correlations were found between rumination and depressive symptomatology ($r = 0.46$).

Path analyses

The fit of the hypothesized meta-mood model (see Figure 1) did not provide a good fit with the data (χ^2 (df = 4) = 36, $p < 0.05$), RMSEA = 0.08 (90% CI = 0.06–0.11); NNFI = 0.88; CFI = 0.95; GFI = 0.99). In order to obtain a well-fitting model, the modification indices were inspected. The largest modification indexes were a direct path from emotional clarity to depressive symptomatology and a direct path from emotional attention to depressive symptomatology. These paths are theoretically reasonable as emotional clarity (negatively) and emotional attention (positively) have been associated in the literature with depressive mood (Kennedy, Cohen, Panter *et al.*, 2010; Salguero & Iruarrizaga, 2006). Thus,

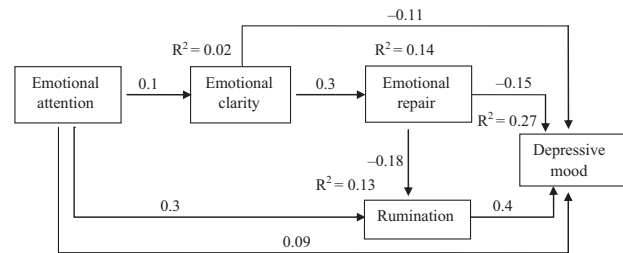


Fig. 2. Structural equation model of the meta-mood model of rumination and depressive mood.

the meta-mood model was re-specified to include these paths. The model resulted in a good fit with the data (χ^2 (df = 2) = 6.51, $p < 0.05$), RMSEA = 0.04 (90% CI = 0.001–0.08); NNFI = 0.97; CFI = 0.99; GFI = 1.00). All paths were significant ($p < 0.01$) and the model accounted for 27% of variance of depressive symptomatology and for 13% of variance of rumination. Figure 2 presents the final model with standardized beta coefficients displayed in the figure.

Three alternative and theoretically possible models for the relation between meta-mood dimensions, rumination and depressive symptomatology were also tested. In the first model, the effect of rumination on depressive symptomatology is partially mediated by meta-mood dimensions. There is a direct path from rumination to meta-mood dimensions, from meta-mood dimensions to depressive symptomatology, and from rumination to depressive symptomatology. Therefore, in this model, the tendency toward ruminative thoughts would be apparent in people who are more focused on their feelings and believe that these feelings are confused and cannot be repaired. In the second model, rumination leads to higher depressive symptoms and meta-mood dimensions are a consequence of them. Thus, there is a direct path from rumination to depressive symptomatology and from depressive symptomatology to each meta-mood dimension. In this model, emotional attention, clarity and repair are not precursors of rumination and depressive symptomatology; instead, they are a consequence of depressive mood. In the third model, depressive symptomatology leads to higher rumination and meta-mood dimensions are a consequence of rumination. There is a direct path from depressive symptomatology to rumination and from rumination to each meta-mood dimensions. Here, depressive symptoms give rise ruminative thoughts and rumination leads to higher emotional attention and lower emotional clarity and repair. None of these models provided a good fit with the data. First model: χ^2 (df = 3) = 233.86, $p < 0.05$, RMSEA = 0.26 (90% CI = 0.23–0.29); NNFI = 0.01; CFI = 0.70; GFI = 0.92; second model: χ^2 (df = 6) = 296.38, $p < 0.05$, RMSEA = 0.20 (90% CI = 0.18–0.22); NNFI = 0.35; CFI = 0.61; GFI = 0.91; third model: χ^2 (df = 6) = 326.37, $p < 0.05$, RMSEA = 0.21 (90% CI = 0.25–0.35); NNFI = 0.32; CFI = 0.59; GFI = 0.89.

DISCUSSION

The current study sought to investigate the relationships between trait meta-mood, rumination and depressive symptomatology. On the basis of previous literature, we presented a hypothetic meta-mood model of rumination and depressive mood that is displayed in Figure 1. Path analyses showed that this model, with some

changes – a negative and direct relation between emotional clarity and depressive symptomatology and a positive and direct relation between emotional attention and depressive symptomatology – provided a good fit with the data (see Figure 2) and accounted for a significant percentage of the total variance in depressive symptomatology and rumination in a large non-clinical population.

According to previous research (Salovey *et al.*, 1995), our results provide support for the existence of a hierarchical sequence between the dimensions of emotional attention, clarity, and repair. Through the self-reflective experience of emotion, individuals should first be open to the experience of mood and emotions as important source of information – attending to and monitoring their own feelings. These mood monitoring skills enable individuals to acquire knowledge of the correlates and causes of their emotional experiences and to construct theories of how and why moods are elicited in different context. Finally, this ability to understand and analyze emotional experience might foster effective emotional regulation and short-circuits ruminative cycle reducing negative mood states. This hierarchical sequence among the meta-mood dimensions has been corroborated in previous studies, and it has been suggested that it is a characteristic of the process of emotional self-regulation (Martínez-Pons, 1997; Palmer *et al.*, 2003; Salovey *et al.*, 1995). People who are capable of triggering this process of self-regulation may process their mood adequately, facilitating the use of active coping strategies such as disengagement or seeking social support, which have been shown to reduce both the tendency to ruminate and the depressive symptomatology itself (Lam *et al.*, 2003; Nolen-Hoeksema & Davis, 1999). In this context, although it was not explored herein, diverse works have contributed evidence of a positive association between meta-mood dimensions and active coping strategies such as disengagement, seeking social support, positive reinterpretation, or the use of positive memories (Gohm & Clore, 2002; Hemenover, Augustine, Shulman, Tran & Barlett, 2008; Salovey *et al.*, 2002). People who do not link their tendency to monitor their emotions with the belief that they can understand and repair them may fail to complete this emotional processing resorting to ruminative thoughts in order to understand and control their feelings, which ultimately maintains and intensifies the depressive mood.

Rumination has been described as an avoidant coping strategy (Smith & Alloy, 2009). From this perspective, high ruminators use rumination as a way to avoid exposing themselves to the negative affect. Some evidence has been obtained in support of this hypothesis; thus, rumination has been related to other avoidance strategies such as alcohol consumption or delayed response to symptoms of breast cancer (Lyubomirsky, Kasri, Chang & Chung, 2006; Nolen-Hoeksema & Harrell, 2002). Taking this into account, people who consider it important to attend to their feelings but who believe themselves incapable of understanding and repairing them effectively may become overwhelmed, experiencing emotions as threatening, and using rumination to avoid them. It would be interesting for future research to test these hypotheses, for example, by analyzing the existence of negative beliefs about emotions (e.g., the belief that emotions can cause harm, or the belief that they are unacceptable or intolerable) as possible mediator variables of the relation between trait meta-mood and rumination, or experimentally controlling the level of threat with which emotional states are perceived.

Our results have revealed the existence of a direct relation between emotional attention (positively) and emotional clarity (negatively) with depressive symptomatology. The existence of these direct relations is in accordance with some results found in the literature (Kennedy *et al.*, 2010; Salguero & Iruarrizaga, 2006). With regard to emotional attention, while a moderate amount of attention allows individuals to track the progress of his/her mood, excessive monitoring one's feelings might not be productive, amplifying depressive symptoms (Mor & Winsquit, 2002). With regard to emotional clarity, a high level of emotional clarity can help people to feel less overwhelmed by their mood, experiencing more clearly other emotions that accompany sadness and may increase its intensity. Some evidence for this hypothesis can be found in studies that have revealed the existence of positive relations between the level of emotional overproduction, considered as the tendency to feel other emotions along with sadness, and depressive symptomatology (Hervás & Vázquez, 2006, 2011), or in studies that reveal negative relations between emotional clarity and anxiety or anger (Salguero & Iruarrizaga, 2006; Salguero, Ruíz, Fernández-Berrocal & González-Ordi, 2008).

Before generalizing our conclusions, it is important to take into account some methodological limitations of this study. First, having used a cross-sectional design does not allow us to establish causality relations. This design also hampers conclusions about temporal relationships between variables. To overcome this limitation, we examined alternative models about the relations between meta-mood dimensions, rumination and depressive symptomatology. Of the tested models, the hypothesized meta-mood model showed the best fit with the data. On the other hand, trait meta-mood dimensions have been shown to be long-term predictors of depressive symptomatology (Kennedy *et al.*, 2010), emotional distress (Salguero *et al.*, 2011) and well-being (Extremera, Salguero & Fernández-Berrocal, 2011) and diverse studies have corroborated the relation between rumination and depression at a prospective level (Nolen-Hoeksema *et al.*, 2008). In spite of these results, future research using prospective or experimental designs is needed to confirm and add evidences to our findings. Second, although we analyzed the association between trait meta-mood, rumination, and depressive symptomatology in a large sample of a non-clinical population, it is necessary to explore the relation between these variables in a clinical sample. This would allow us to determine more precisely the existence of differences in the process of emotional regulation between the non-clinical population and people diagnosed with depression (both adolescents and adults) or with higher vulnerability to depression. Third, the age range of our sample was rather large, including a mixture of adolescents and adults. Although the associations between trait meta-mood, rumination and depression, have been found to be similar in both age groups, it would be important to examine potential differences in the association between these variables across samples due to differential developmental trajectories. Finally, literature has shown the existence of distinct components of rumination: reflection and brooding, the brooding subtype being the one most strongly correlated with depression. The shortened form of the RRS used in this study does not contain the reflection and brooding subscales, and it would be useful in future research to examine the proposed meta-mood model and distinguish these components of rumination.

Despite these limitations, our study provides preliminary evidence of the role of trait meta-mood in rumination and depressive mood. This may have some implications for the treatment of depression. Although in recent years beliefs about how our thinking processes work (e.g., positive and negative meta-cognitive beliefs about rumination) have been shown to be a target in the treatment of depression (Wells, 2009), our results suggest the importance of also analyzing people's beliefs about their emotions. Salovey, Bedell, Detweiler & Mayer (1999) suggest that successful coping depends on the integrated operation of diverse emotional skills and that deficiencies in basic affective process such as attending to, discriminating among and repairing moods might foster the development of maladaptive acts of coping such as rumination. Therefore, beliefs about emotions affect the degree to which depressed individuals engage in processing the emotional aspects of the experience. Since the appropriate processing of threatening emotions is necessary to avoid the development of ruminative thoughts, the intervention at the therapeutic level of beliefs about threatening emotions might be an important part of therapeutic efforts aimed at preventing the appearance of maladaptive reactions in depressed people (Lizeretti & Extremera, 2011). Thus, promoting adequate beliefs about the value of paying attention to own feelings – being aware of them, but reducing an excessive self-focused attention – and increasing the belief that emotions can be understood and regulated may help people to perceive their emotions as less threatening and to reduce the use of ineffective strategies, such as rumination.

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