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Rumination and specificity of autobiographical memory in dysphoria

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Low autobiographical memory specificity has been a commonly recurring phenomenon in depression. Difficulty in remembering specific details in autobiographical memory tests has been related to rumination, although the nature of this relation is not clear yet. In the present study, we evaluated differences in overgeneral memory patterns between dysphoric ($n = 65$) and nondysphoric participants ($n = 74$) using a free-recall method that may be more suitable for detecting overgeneral memory patterns than previously used methods. Furthermore, this study examined whether a specific maladaptive component of rumination (i.e., brooding response style) is particularly related to autobiographical memory patterns in depression. Our results showed that dysphoric participants reported less positive specific memories, and more extended and categoric memories than nondysphoric individuals. Furthermore, correlation analyses showed that the maladaptive component of rumination (i.e., brooding), but not the adaptive component of rumination (i.e., reflection), was specifically associated to the reduced autobiographical memory specificity found in dysphoric participants.

Keywords: Depression; Dysphoria; Autobiographical memory; Overgeneral memory; Rumination.

It has been argued that depressed individuals may have difficulties in voluntarily retrieving specific autobiographical memories. Specific autobiographical memories are defined as recollections of personal events that occurred in the span of less than one day, e.g., "the day of my sister's wedding", whereas general memories refer to memories of events that lasted for more than one day (i.e., extended memories), e.g., "my vacation at the beach", or a summary of several similar events (i.e., categoric memories), e.g., "continuous arguments with my boyfriend" (Williams et al., 2007). Cognitive models of depression (Williams, 1996, 2006) postulate that this disorder may be characterized by an overgeneral autobiographical memory, since depressed

participants retrieve more general memories than specific ones, when compared to nondepressed controls.

Williams and Broadbent (1986) originally developed the Autobiographical Memory Test (AMT) to evaluate patterns of overgeneral memory (i.e., OGM). This test is based on a cue word-paradigm where series of words from different emotional categories (positive and negative) are presented and participants are asked to respond to each word with a specific event that the word reminds them of. Using AMT, several studies have shown that clinically depressed patients compared to nondepressed individuals retrieve memories of past autobiographical events with less specificity when responding to emotional cue words (see Williams

et al., 2007, for a review). Studies with subclinical depression samples have produced less consistent results. Although some studies have found that dysphoric individuals have less specific memories than nondysphoric individuals in response to cue words (e.g., Goddard, Dristchel, & Burton, 1997; Popovski & Bates, 2005; Ramponi, Barnard, & Nimno-Smith, 2004; Rekart, Mineka, & Zinbarg, 2006), other studies have failed to replicate this finding (e.g., Debeer, Hermans, & Raes, 2009; Raes, Hermans, Williams, & Eelen, 2007; Raes, Pousset, & Hermans, 2004).

In response to these inconsistencies, Raes et al. (2007) proposed that the standard method of assessing OGM (i.e., AMT) might not be sensitive enough for nonclinical samples. Moreover, Griffith et al. (2009) showed that standard AMT may have limited utility in differentiating individuals across a wide range of autobiographical memory specificity ability. Interestingly, Debeer et al. (2009) did not find relationships between depressive symptom severity and autobiographical memory specificity in a subclinical sample when participants were asked to recall autobiographical memories using standard AMT instruction. However, when participants were asked to recall autobiographical memories using a different minimal AMT instructions, in which participants are asked to generate memories without stressing that these should be specific, there were fewer specific memories related to the participants' depressive symptoms. Raes et al. (2007) used an alternative sentence-completion methodology where participants were instructed to complete incomplete sentences (i.e., "Last year...", "Last week I...") and found that in a nonclinical sample, OGM was associated with higher levels of depressive symptoms. Moffit, Singer, Nelligan, Carlson, and Vyse (1994) used a task where participants were asked to freely describe significant and personal positive and negative autobiographical memories and found that dysphoric participants recalled a greater percentage of general memories and a lower percentage of specific memories than nondysphoric participants.

Overall, these results suggest that methods evoking more natural patterns of autobiographical retrieval, in comparison with the standard AMT method, may be useful for detecting OGM retrieval in dysphoric individuals. Furthermore, studies of the general population have shown that memories recollected as a consequence of spontaneous or noncued retrieval (e.g., "describe situations that come to mind") are more specific than memories deliberately recollected in response to cue words (see Berntsen, 2009, for a review). Thus, lower specific retrieval in free-recall tasks may be interpreted as a reliable indicator of OGM. However, to our knowledge, there are no studies that have tested autobiographical memory specificity in dysphoric individuals using a free-recall method.

Most studies of OGM have aimed to evaluate group differences in the specificity of positive and negative memories (van Vreeswijk & de Wilde, 2004; Williams et al., 2007), and have explored if OGM bias in depression varies as a function of the emotional valence of the memories. Findings in dysphoric samples have been mixed with some studies showing an OGM bias for both positive and negative events (e.g., Goddard et al., 1997; Ramponi et al., 2004). However, most studies have found that OGM patterns in dysphoric individuals compared to nondysphoric individuals are typically found for positive events (see Williams et al., 2007). For instance, Moffit et al. (1994) found that dysphoric participants recalled significantly less specific events in response to a request for a positive memory than did nondysphoric participants, whereas there were no group differences in response to a negative memory request. Therefore, further research should analyse if OGM bias in dysphoria is specific for positive memories by using free-recall paradigms.

With regard to the mechanisms underlying the OGM phenomenon in depression, research has prominently focused on the role of rumination (Sumner, 2012; Williams, 2006). Rumination is defined as persistent and recurrent "thoughts that focus one's attention on one's depressive symptoms and on the implication of those symptoms" (Nolen-Hoeksema, 1991, p. 569). It has been found to be associated with more severe and prolonged depressive symptoms as well as heightened vulnerability to experiencing major depressive episodes (see Nolen-Hoeksema, Wisco, & Lyubomirsky, 2008, for review). According to Williams (1996, 2006), high and self-focused rumination is associated with OGM. Several studies using the standard version of AMT have shown that rumination is related to OGM in clinical depression (i.e., Raes et al., 2005, 2006). Studies evaluating OMG in subclinical depression samples have not found significant associations between specificity of memories and rumination when using the standard AMT method (Debeer et al., 2009; Raes et al., 2007). However, these

authors reported a significant association between rumination and less specific memories when using the sentence-completion method (Raes et al., 2007) or minimal AMT instruction (Debeer et al., 2009) to assess less guided autobiographical retrieval. These results suggest that methods aiming to evoke less guided and more natural patterns of retrieval may be reliable not only to assess OGM patterns in dysphoric individuals, but also to clarify the association of OGM and ruminative thinking styles in individuals with different depression severities.

There has also been a growing interest in distinguishing distinct subtypes of rumination. Treynor, Gonzalez, and Nolen-Hoeksema (2003) have identified two distinct rumination factors (i.e., brooding and reflection) with different functional relationships with depression. Brooding is considered as "a passive comparison of one's current situation with some unachieved standard", whereas reflection is defined as "a purposeful turning inward to alleviate one's depressive symptoms" (Treynor et al., 2003, p. 256). Several studies have also found this distinction and have demonstrated that brooding and reflection, respectively, can be considered as a maladaptive and an adaptive component of rumination (Burwell & Shirk, 2007; Joormann, Dkane, & Gotlib, 2006; Raes & Hermans, 2008). In regard to the relationship between rumination components and OGM, a recent study showed that brooding and reflection components have different effects on memory specificity (Debeer et al., 2009). More specifically, brooding was significantly associated with lower autobiographical memory specificity, whereas reflection was not significantly associated to memory performance. Again, this relationship was only found when using minimal AMT instruction, since the standard AMT method did not yield significant results. This suggests the importance of using free-recall methods to clarify the relationship between rumination components and OGM in dysphoria.

The present study was designed to test two hypotheses. First, we examined if dysphoric individuals show an OGM bias in comparison to nondysphoric individuals. As noted earlier, previous studies using the AMT have not always reported evidence of OGM in subclinical samples (i.e., Popovski & Bates, 2005; Raes et al., 2007). However, studies using methods to evoke a less guided autobiographical retrieval have reported a steady OGM bias in subclinical depression (Debeer et al., 2009; Moffit et al., 1994; Raes et al., 2007). In the present study, we use a free-recall task to evaluate natural patterns of autobiographical memory. We hypothesised that dysphoric individuals are characterised by an OGM bias compared to nondysphoric individuals.

Second, we examined whether brooding and reflection components of rumination show different relationships with OGM bias in dysphoric participants. Previous research (Debeer et al., 2009) suggests that only brooding, but not reflection, may be related to less specificity in autobiographical memory. We hypothesised that this would be the case for dysphoric individuals.

METHOD

Participants

Two hundred undergraduate participants were initially contacted to complete the second edition of the Beck Depression Inventory (BDI-II; Beck, Steer, & Brown, 1996). Dysphoric and nondysphoric participants were selected by using the BDI-II cutoff scores provided by Sanz, Navarro, and Vázquez (2003). According to this criteria, the dysphoric group was composed of 65 participants who scored a 12 or higher on the BDI-II. To ensure that no one in the nondysphoric group was depressed, only participants who scored a 6 or lower on the BDI-II were chosen, which created a total of 74 participants. Participants scoring between 6 and 12 on the BDI-II were not included in the rest of the study ($n = 61$). Thus, the final sample of participants in the experimental protocol consisted of 139 undergraduate students (85.6% female). The mean age was 22 years ($SD = 3.07$).

Questionnaires

Depressive symptoms

The Beck Depression Inventory (BDI-II; Beck et al., 1996) is a 21-item self-report measure of depressive symptom severity. Respondents report the severity of their experience for each depression symptom on a four-point scale, ranging from 0 to 3. BDI-II total scores can range from 0 to 63. This instrument was used to classify participants as either dysphoric or nondysphoric. This measure has shown excellent reliability and validity both in

its original version (Beck et al., 1996) and in the translated version, which was used in this study (Sanz et al., 2003). In the current study, internal consistency was good ($\alpha = .90$).

Ruminative style

Participants completed the Ruminative Response Scale (RRS; Nolen-Hoeksema & Morrow, 1991), which is a 22-item self-report measure that assesses how participants tend to respond to sad feelings and symptoms of dysphoria. The RRS assesses responses to dysphoric moods that are focused on the self (e.g., *You think about all your shortcomings, failings, faults, mistakes*), on symptoms (e.g., *You think about how hard it is to concentrate*), or on possible consequences and causes of moods (e.g., *You analyse recent events to try to understand why you are depressed*). This measure uses a four-point scale (from "almost never" to "almost always") and has shown excellent reliability and validity (Nolen-Hoeksema & Morrow, 1991). Brooding and reflection subscales of the RRS each contain five items. Both subscales have demonstrated good internal consistency and test–retest reliability (Treynor et al., 2003). In the current study, internal consistency was good for the full RSS measure ($\alpha = .93$) as well as for the reflection and brooding subscales ($\alpha = .82$ and $\alpha = .81$, respectively).

Free-recall autobiographical memory task

Participants were asked to list five important events in the last two years of their lives and to write a detailed description of each event. They were instructed to report the first events that came to their minds. This free-recall method, which assesses autobiographical memory accessibility, has been used in previous research studies (e.g., McFarland & Buehler, 1998; Rusting & DeHart, 2000; Smith & Petty, 1995). Memory descriptions provided by the participants were subsequently rated by two independent raters who were unaware of the participant's group assignment in specificity (i.e., specific, extended, or categoric) and emotional valence (i.e., positive or negative). To rate the specificity of memories, raters were trained to use guidelines provided by Williams (2000) to differentiate specific memories (i.e., events that last for a day or less and that

occur at a specific place and time, for example, moments of realisation, or decision making) from extended memories (i.e., events that last for longer than a day) and categoric memories (i.e., repeated memories of activities). Proportion of specific, extended, and categoric memories for each emotional valence were estimated by calculating the number for each type of memories divided by the total number of memories evoked. The five memories retrieved by participants were evaluated by two independent reviewers. Interrater reliability of the emotional valence ranged between .93 and .97, whereas the interrater reliability of the type of memory ranged between .86 and .97.

Procedure

All participants completed the session independently. After providing their informed consent, participants were asked to complete the Beck Depression Inventory (BDI-II) and the Ruminative Response Scale (RRS). Immediately afterwards, participants were instructed to recall detailed descriptions of five memories from the last two years and write them down on a sheet of paper. The experimenter left the room while participants were writing their scenarios. At the end of the session, participants were thanked and debriefed.

RESULTS

Participant characteristics

Demographic and clinical characteristics of the two groups of participants are presented in Table 1. Dysphoric and nondysphoric participants did not significantly differ in age and gender. Dysphoric participants reported more depressive symptoms than nondysphoric participants, as well as higher scores on global rumination, brooding and reflection.

Group differences in autobiographical memories

Mean proportions of specific, extended, and categoric memories retrieved by dysphoric and nondysphoric participants for each emotional valence are presented in Table 2. To test our first

TABLE 1
Differences in demographic and clinical characteristics among groups

Variables	Nondysphoric ($n = 74$)		Dysphoric ($n = 65$)		Statistics
	M	SD	M	SD	
Gender (%)					$\chi 2 = 0.29; p = .86$
Female	85.1%		86.2%		
Male	14.9%		13.8%		
Age	21.65	2.22	21.58	1.97	$t(137) = .179; p = .86$
BDI-II	3.15	1.72	17.08	6.46	$t(72) = -16.85; p = .001^{***}$
RRS–Total score	37.57	11.90	50.97	11.79	$t(135) = -6.65; p = .001^{***}$
RRS–Brooding	8.57	3.00	11.78	3.72	$t(122) = -5.56; p = .001^{***}$
RRS–Reflection	9.22	3.51	11.65	3.91	$t(137) = -3.86; p = .001^{***}$

M = mean; SD = standard deviation. BDI-II = Beck Depression Inventory II; RRS = Ruminative Response Scale. $^{***}p < .001$.

hypotheses about differences between groups in the autobiographical memory task, we conducted a $2 \times 3 \times 2$ mixed design ANOVA with groups (dysphoric, nondysphoric) as the between-subject factor and type of memory (specific, extended, categoric) and emotional valence (positive and negative) as within-subject factors. Analyses showed significant main effects for type of memory, $F(2, 274) = 312.64$, $p < .001$, $\eta^2 = .69$, and emotional valence, $F(1, 137) = 61.82$, $p < .001$, $\eta^2 = .31$. Analyses also showed significant interactions of group by type of memory, $F(2, 274) = 10.52$, $p < .001$, $\eta^2 = .07$, and of group by emotional valence, $F(1, 137) = 12.31$, $p < .01$, $\eta^2 = .08$. These effects were qualified by a three-way interaction, $F(2, 274) = 6.40$, $p < .01$, $\eta^2 = .05$. To follow up on the three-way interaction, separate 2 (group) $\times 2$ (emotional valence) ANOVAs were conducted.

TABLE 2
Mean proportion and standard deviations of specific, extended, and categoric memories retrieved in each group

Variables	Nondysphoric ($n = 74$)		Dysphoric ($n = 65$)	
	M	SD	M	SD
Proportion of specific autobiographical memories				
Positive	0.51	0.20	0.34	0.21
Negative	0.26	0.17	0.29	0.22
Proportion of extended autobiographical memories				
Positive	0.19	0.18	0.22	0.21
Negative	0.03	0.08	0.10	0.16
Proportion of categoric autobiographical memories				
Positive	0.00	0.02	0.03	0.09
Negative	0.01	0.03	0.02	0.07

M = mean; SD = standard deviation.

Regarding specific autobiographical memories, analyses revealed significant effects of group, $F(1, 137) = 13.67$, $p < .001$, $\eta^2 = .09$, and emotional valence, $F(1, 137) = 25.29$, $p < .001$, $\eta^2 = .16$, which was qualified by a significant group $\times$ emotional valence interaction, $F(1, 137) = 12.81$, $p < .001$, $\eta^2 = .09$. The Bonferroni test showed that dysphoric participants reported less positive specific memories than nondysphoric participants ($p < .001$), whereas no differences between groups were found for negative specific memories ($p = .35$). Post hoc tests also showed that dysphoric participants did not differ in their recall of positive and negative specific memories ($p = .32$), whereas nondysphoric individuals recalled significantly more positive specific memories than specific negative memories ($p < .001$).

As for extended autobiographical memories, analyses showed significant effect of emotional valence, $F(1, 137) = 40.40$, $p < .001$, $\eta^2 = .23$, explained by a significantly higher proportion of extended positive memories than extended negative memories. Analyses also revealed a significant effect of group, $F(1, 137) = 7.43$, $p < .01$, $\eta^2 = .05$. This effect was explained by a higher proportion of extended memories in the dysphoric group compared with the nondysphoric group. Main effects were not qualified by a significant group $\times$ emotional valence interaction, $F(1, 137) = 1.36$, $p = .25$, $\eta^2 = .01$.

Regarding categoric autobiographical memories, analyses only showed a significant effect of group, $F(1, 137) = 8.09$, $p < .01$, $\eta^2 = .06$, explained by a higher proportion of categoric memories in the dysphoric group compared with the nondysphoric group. No other significant effects were found.

Brooding, reflection, and autobiographical memories

To test our second hypothesis, we first examined the relationships between the scores of the RRS brooding and reflection subscales and the autobiographical memory indices (i.e., mean proportions of positive and negative specific, extended, and categoric memories). Correlation analyses showed that reflection showed a positive association with negative extended autobiographical memories, $r = .21$, $p < .05$. Furthermore, brooding was positively associated with negative extended autobiographical memories, $r = .28$, $p < .01$, and negatively associated with positive specific autobiographical memories, $r = -.27$, $p < .01$.

We then tested if the relations found between brooding and reflection subscales with the autobiographical memory indices were different for dysphoric and nondysphoric participants. Therefore, we calculated separated correlations for each group. Reflection and negative extended autobiographical memories association did not reach significance in any group: nondysphoric, $r = .02$, $p = .83$; dysphoric, $r = .19$, $p = .12$. Regarding to the association between brooding and negative extended autobiographical memories, this relation did not reach significance in the nondysphoric group, $r = .06$, $p = .61$, whereas it showed a trend to reach significance in the dysphoric group, $r = .24$, $p = .051$. Finally, as for the association between brooding and reduced positive specific autobiographical memories, analyses showed different associations for each group. Specifically, the association did not reach significance for the nondysphoric group, $r = .05$, $p = .64$, whereas it was significant for the dysphoric group, $r = -.28$, $p = .025$. We then conducted a test for differences in correlations between brooding and positive specific autobiographical memories between groups, using the Fisher r-to-z transformation. This analysis showed that the relation between brooding and reduced positive specificity of retrieval was significantly stronger for the dysphoric group than for the nondysphoric group, $z = 1.96$. $p = .005$.

DISCUSSION

It has been well established that when clinically depressed individuals are asked to recall specific autobiographical memories in response to cue words (i.e., using the AMT), their memories are less specific than those of nondepressed individuals (Williams et al., 2007). However, AMT studies evaluating memory specificity in subclinical depression samples have produced less consistent results (Debeer et al., 2009; Rekart et al., 2006). Research using less guided recall methods, such as providing sentence stems for past experiences (Raes et al., 2007) or prompting to explicitly evoke negative and positive memories (Moffit et al., 1994), have found evidence of OGM in dysphoric individuals. In the present study, we evaluated natural patterns of autobiographical memory using a free-recall task, where participants were asked to write a brief description of the first five personal and relevant memories that freely came to their minds. Our results confirmed our first hypothesis, showing that dysphoric participants reported less specific recall than nondysphoric participants. These results support the idea that methods directed to evoke free-recall accessibility may be more adequate than standard AMT methods to detect OGM patterns in dysphoria. Moreover, dysphoric participants also reported higher general recall than nondysphoric participants, qualified by higher proportion of both extended and categoric recall. Williams (1996, 2006) argued that OGM in depression is produced by the interruption of searching specific memories, due to avoidance for recalling certain memories. This would facilitate the recall of subsequent general descriptions, which would activate other summarised general descriptions, rather than activating specific memories. Consistent with this idea, our results confirm that when dysphoric participants are asked to freely retrieve personal past events, they have less specific memories and more general memories than nondysphoric individuals.

Dysphoric compared to nondysphoric participants showed a lower specificity in their recall of positive events. This finding is consistent with previous research (e.g., Popovski & Bates, 2005; Moffit et al., 1994), indicating that the free-recall paradigm was suitable to detect the valence effects in OGM previously found in dysphoric individuals. Furthermore, dysphoric individuals showed a similar recall of positive and negative specific memories, whereas nondysphoric individuals recalled more positive than negative specific memories. This result is also consistent with mood congruent paradigms, which posit that people remember information that is relevant to, and congruent with, their cognitive schemas

(Beck, 1967). A meta-analysis on mood and memory showed that depressed individuals recall more negative information than positive, whereas nondepressed individuals are characterised by the exact opposite memory pattern (Matt, Vazquez, & Campbell, 1992). This meta-analysis also found that dysphoric individuals are characterised by a lack of memory bias for emotional information, which may be due to their unstable cognitive schemas (Beck, 1991).

Williams (1996, 2006) have proposed that the failure of retrieval of specific memories could be explained by a self-focused ruminative style of thinking. Research has shown that global rumination is associated with OGM in clinically depressed individuals (Raes et al., 2005, 2006). Studies evaluating subclinical samples have also found this association when using less guided autobiographical retrieval methods compared to the standard AMT (Debeer et al., 2009; Raes et al., 2007). These results suggest that methods evoking more natural patterns of retrieval may be useful in clarifying the association between OGM and ruminative thinking styles in individuals with different depression severity. Consistently, in our study, a free-recall method found a relationship between rumination and less memory specificity.

Furthermore, the present study specifically tested if brooding and reflection components of rumination have different associations with OGM. The brooding component has been considered as the more maladaptive form of rumination (Treynor et al., 2003) and several studies have reported its association to depressed cognitive processing (i.e., Debeer et al., 2009; Joormann et al., 2006). Our results indicated that brooding, but not reflection, was significantly correlated with less positive specific memories. This result is consistent with a previous study that found that less memory specificity was significantly related to brooding, but not to reflection, in a subclinically depressed sample (Debeer et al., 2009). It is important to note that analyses showed that the relationship between memory specificity and brooding was restricted to the dysphoric group. Consistently, previous research has shown that inducing a ruminative state increases the recall of overgeneral autobiographical memories in high-depressed participants, whereas this induction does not affect the autobiographical recall of low-depressed participants (Sutherland & Bryant, 2007). It is possible that maladaptive brooding rumination observed in dysphoric and clinically depressed individuals leads to overgeneral retrieval because it reduces working memory functioning. It has been argued that limitations in working memory capacity may reduce the resources required to complete the search process for specific memories (Williams et al., 2007). Thus, when depressed individuals ruminate on negative thoughts or symptoms, they will have fewer cognitive resources available to devote to retrieval searches for specific memories, which may result in overgeneral memories.

The present study has some limitations. First, although no gender differences were found among groups in the study, it should be noted that the majority of participants in both groups were women. Although this is a common characteristic of studies evaluating the OGM phenomenon in subclinical samples (e.g., Debeer et al., 2009; Raes et al., 2007) this may limit the generalisability of the results. However, to our knowledge, there are no previous studies that have found gender differences in OGM. A second limitation is that the study tested OGM in a subclinically depressed sample and DSM-IV diagnoses of current clinical depressive disorders were not assessed. Although the group selection, based on BDI-II cutoff scores, proved effective in detecting OGM patterns in depression in the present study, these participants may not fully represent the cognitive characteristics of a clinically depressed population. The fact that significant differences emerged in OGM suggests that requesting retrieval of autobiographical memories in free-recall conditions may be a reliable method to assess OGM biases in individuals with different levels of depression severity. To our knowledge, no previous studies have used a free-recall method to assess autobiographical memory specificity in clinically depressed individuals. Further research should be conducted to test the presence of OGM patterns in clinically depressed individuals with free-recall conditions in order to compare the magnitude and direction of this pattern between individuals with clinical and subclinical levels of depression. Moreover, further research should also evaluate free autobiographical retrieval in older dysphoric samples. Previous research has shown that the lifetime period between 15 and 30 years has a relatively high number of self-defining events and perhaps these events tend to be more time limited and positive (e.g., Berntsen & Rubin, 2004; Rubin & Berntsen, 2003). Thus, the high proportion of specific memories showed by participants in our study could be partly due to an age factor. Further

research should replicate our findings in other age ranges.

In sum, our results confirm that dysphoric individuals are characterised by OGM when they are instructed to freely describe personal past events, resulting in less specific positive memories and more general memories than non-dysphoric individuals. Furthermore, our results also indicate that, under conditions of free recall, brooding is associated with less memory specificity for positive autobiographical events in dysphoric individuals. These findings indicate that it is particularly the maladaptive brooding component of rumination, as opposed to its more adaptive reflection component, that is the factor associated with memory specificity in dysphoria.

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