



1 Nature, Functions, and Beliefs about Depressive Rumination

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Consider the following questions: What is rumination? How does rumination overlap with, and differ from, other cognitive processes and products? What is the role of rumination in depression? What factors are responsible for initiating and maintaining rumination, and how is rumination linked to depression? In this chapter, we address each of these questions by exploring the phenomenology of depressive rumination. The chapter begins by examining definitions of rumination. The second section reviews studies comparing depressive rumination with other forms of repetitive negative thinking. The next section considers the functions of rumination in depression. The final section explores the relationships between rumination, depression, and metacognitive beliefs.

DEFINITIONS OF RUMINATION

Rumination, crudely defined as persistent, recyclic, depressive thinking, is a relatively common response to negative moods (Rippere, 1977) and a salient cognitive feature of dysphoria and major depressive disorder. Examples of ruminative thoughts include: “why am I such a loser?”, “my mood is so bad,” “why do I react so negatively?”, “I just can’t cope with anything,” and “why don’t I feel like doing anything?” A chain of ruminative thoughts may be symptomatic of dysphoria or clinical depression, but it may also be perceived as serving a function. In view of the potential to advance our knowledge of the mechanisms of depressive onset, maintenance, and recurrence, rumination has attracted increasing theoretical and empirical interest in the past 15 years.

An important starting point in the process of understanding ruminative thinking and its link to depression is to examine notions of the concept of rumination. A number of definitions have been proposed from various psychological perspectives. According to Martin and Tesser (1989, 1996) rumination is a generic term that refers to several varieties of recurrent thinking. That is, rumination refers to the entire class of thought that has a tendency to recur. Martin and Tesser (1996, p. 7) proposed the following definition of rumination:

Rumination is a class of conscious thoughts that revolve around a common instrumental theme and that recur in the absence of immediate environmental demands requiring the thoughts. Although the occurrence of these thoughts does not depend on direct cueing by the external environment, indirect cueing by the environment is likely given the high accessibility of goal-related concepts. Although the external environment may maintain any thought through repeated cueing, the maintenance of ruminative thoughts is not dependent upon such cueing.

Nolen-Hoeksema and colleagues have been instrumental in advancing our knowledge of ruminative thinking in depression. The response styles theory of depression (Nolen-Hoeksema, 1991) conceptualizes rumination as repetitive and passive thinking about symptoms of depression and the possible causes and consequences of these symptoms. According to this perspective, rumination involves “repetitively focusing on the fact that one is depressed; on one’s symptoms of depression; and on the causes, meanings, and consequences of depressive symptoms” (Nolen-Hoeksema, 1991, p. 569).

More recent definitions of rumination have been proposed by investigating rumination on current feelings of sadness or “rumination on sadness” (Conway, Csank, Holm, & Blake, 2000) and rumination about negative inferences following stressful life events or “stress-reactive rumination” (Alloy et al., 2000; Robinson & Alloy, 2003). In Conway et al.’s (2000) definition, rumination “consists of repetitive thoughts concerning one’s present distress and the circumstances surrounding the sadness” (p. 404). According to this definition, the ruminative thoughts (1) relate to the antecedents or nature of negative mood, (2) are not goal-directed and do not motivate individuals to make plans for remedial action, and (3) are not socially shared while individuals are engaged in rumination.

Grounded on the hopelessness theory of depression (Abramson, Metalsky, & Alloy, 1989) and Beck’s (1967) cognitive theory of depression, Alloy and colleagues (Alloy et al., 2000; Robinson & Alloy, 2003) proposed a conceptual extension of Nolen-Hoeksema’s (1991) response styles theory (see also Zullow & Seligman, 1990 for a similar extension). In this extension, Alloy and colleagues developed the concept of stress-reactive rumination to refer to the tendency to ruminate on negative inferences following stressful life events. Here stress-reactive rumination is thought to occur prior to the onset of depressed mood, whereas emotion-focused rumination, as suggested by

Nolen-Hoeksema (1991), is thought to occur in response to depressed mood. Data from the Temple-Wisconsin Cognitive Vulnerability to Depression Project (Alloy & Abramson, 1999) suggest that stress-reactive rumination plays a crucial role in the aetiology of depression. Alloy et al. (2000) demonstrated that the interaction between negative cognitive styles and stress-reactive rumination predicted the retrospective lifetime rate of major depressive episodes as well as hopelessness depressive episodes. In a subsequent study, Robinson and Alloy (2003) found that the same interaction predicted the prospective onset, number, and duration of major depressive and hopelessness depressive episodes (for further details, see Chapter 3).

The review of definitions of rumination indicates that, although there are similarities between the various definitions proposed, different theorists define rumination somewhat differently. As noted by Siegle (2000), this problem is clearly reflected in existing measures of rumination. Siegle (2000) investigated the extent to which different measures of rumination represented a single construct in a factor analytic study. The results suggested that there were several separate constructs represented in the measures (for further details, see Chapter 5). Therefore, there appears to be a range of subcomponents of rumination, and it is conceivable that their contribution to dysphoria or depression may differ. Future research on rumination should clearly operationalize the type as well as components of rumination being examined.

COMPARISONS OF DEPRESSIVE RUMINATION WITH OTHER COGNITIVE PROCESSES AND PRODUCTS

Given the above conceptualizations of rumination, there are apparent similarities and differences between this process and other related cognitive processes and products (namely, negative automatic thoughts, self-focused attention or private self-consciousness, and worry). An examination of the overlap and differences between rumination and other cognitive constructs may assist in refining the concept of rumination. However, to date little is known about the similarities and differences between rumination and other cognitive constructs, or whether the similarities or differences are important contributors to psychopathology. This section reviews the literature on the overlapping and distinct features of rumination and other related or similar constructs.

RUMINATION VS. NEGATIVE AUTOMATIC THOUGHTS

Rumination may be distinguished from the negative automatic thoughts that are typical of depression. According to Beck's (1967, 1976) content specificity hypothesis, depression is characterized by thoughts containing themes of past personal loss or failure. Papageorgiou and Wells (2001a) have argued that,

although negative automatic thoughts are relatively brief shorthand appraisals of loss and failure in depression, rumination consists of longer chains of repetitive, recyclic, negative, and self-focused thinking that may well occur as a response to initial negative thoughts. Studies have also demonstrated that ruminative thinking predicts depression over and above its shared variance with several types of negative cognitions (e.g., Nolen-Hoeksema, Parker, & Larson, 1994; Spasojevic & Alloy, 2001).

RUMINATION VS. SELF-FOCUSED ATTENTION AND PRIVATE SELF-CONSCIOUSNESS

A conceptual distinction can be made between ruminative thinking and the depressive self-focusing style (Pyszczynski & Greenberg, 1987). Although the focus of the depressive style is on reducing discrepancies between ideal and real states following failure (Pyszczynski, Greenberg, Hamilton, & Nix, 1991), the focus of rumination is more specific and has been hypothesized to involve coping in the form of problem-solving, which does not necessarily occur following failure (Wells & Matthews, 1994). Rumination may also be differentiated from private self-consciousness (Fenigstein, Scheier, & Buss, 1975), a disposition to chronically self-focus and self-analyse regardless of mood. Nolen-Hoeksema and Morrow (1993) demonstrated that, although rumination remained a significant predictor of depressed mood after statistically controlling for private self-consciousness, private self-consciousness was not a significant predictor of depression after controlling for rumination. In addition to these distinctions, Papageorgiou and Wells (2001a) suggested that, while rumination in depression is likely to involve self-relevant chains of negative thoughts, not all forms of ruminative thinking are necessarily self-relevant. For instance, individuals may ruminate about the humanitarian effects of recent warfare. We believe that depressive rumination specifically encompasses self-focused thinking and negative appraisals of the self, emotions, behaviours, situations, life stressors, and coping. Thus, self-focus is a component of rumination that links to some, but not all, aspects of the content or form that rumination takes.

RUMINATION VS. WORRY

Rumination appears to be closely related to worry. Although worry is a common cognitive feature of anxiety disorders and a cardinal feature of generalized anxiety disorder, it has been reported to be elevated in individuals with depression (Starcevic, 1995). Worry has been defined as “a chain of thoughts and images, negatively affect-laden and relatively uncontrollable; it represents an attempt to engage in mental problem-solving on an issue whose outcome is uncertain but contains the possibility of one or more negative outcomes” (Borkovec, Robinson, Pruzinsky, & DePree, 1983, p. 10). Earlier research

exploring the nature of depressive and anxious thinking showed that these types of cognitions were clearly distinct phenomena (Clark & de Silva, 1985; Clark & Hemsley, 1985). The content of chains of anxious (worrisome) thoughts is likely to differ from depressive (ruminative) thoughts in that the former may be particularly characterized by themes of anticipated threat or danger in the future (Beck, 1967, 1976; Borkovec et al., 1983), while rumination may involve themes of past personal loss or failure (Beck, 1967, 1976). In a content analysis of naturally occurring worrisome thoughts, Szabo and Lovibond (2002) found that 48% of worrisome thoughts could be characterized as reflecting a problem-solving process, 17% as anticipation of future negative outcomes, 11% “rumination”, and 5% as reflecting “palliative” thoughts and “self-blame”. In another study, worrisome thinking was characterized by more statements implying catastrophic interpretations of future events than dysphoric ruminative thinking (Molina, Borkovec, Peasley, & Person, 1998). These studies suggest that there are content differences between rumination and worry.

Earlier approaches to understanding the nature of different styles of thinking had focused predominantly on the thematic content of thought in depression and anxiety. More recent theoretical and empirical evidence suggests that other dimensions of thinking, apart from content, are involved in vulnerability to, and maintenance of, psychopathology. Wells and Matthews (1994) argue that it is not only the content of perseverative negative thinking that may be relevant to understanding psychopathology but also the nature, flexibility, and beliefs about thinking that have consequences for information processing and self-regulation. According to Wells and Matthews (1994), two components of thinking styles should be considered in this context: (1) process dimensions (e.g., attentional involvement, dismissability, distraction, etc.), and (2) metacognitive dimensions (e.g., beliefs or appraisals about thinking and ability to monitor, objectify, and regulate thinking). Therefore, the study of dimensions of thinking styles may allow us to systematically construct a profile of the constituents of thinking processes that contribute to specific and/or general manifestations of psychological disturbance. To date, two studies have explored the process and metacognitive dimensions of rumination and worry (Papageorgiou & Wells, 1999a, b).

In a preliminary study, Papageorgiou and Wells (1999a) compared the process and metacognitive dimensions of naturally occurring depressive (ruminative) thoughts and anxious (worrisome) thoughts in a non-clinical sample. Participants were provided with a diary for recording and rating the content of their first and second depressive and anxious thoughts occurring during a two-week period. The results revealed that, although ruminative and worrisome thinking shared a number of similarities, they also differed on several dimensions. Figure 1.1 illustrates the differences between rumination and worry on the dimensions assessed. In comparison with rumination, worry was found to be significantly greater in verbal content, associated with more compulsion to

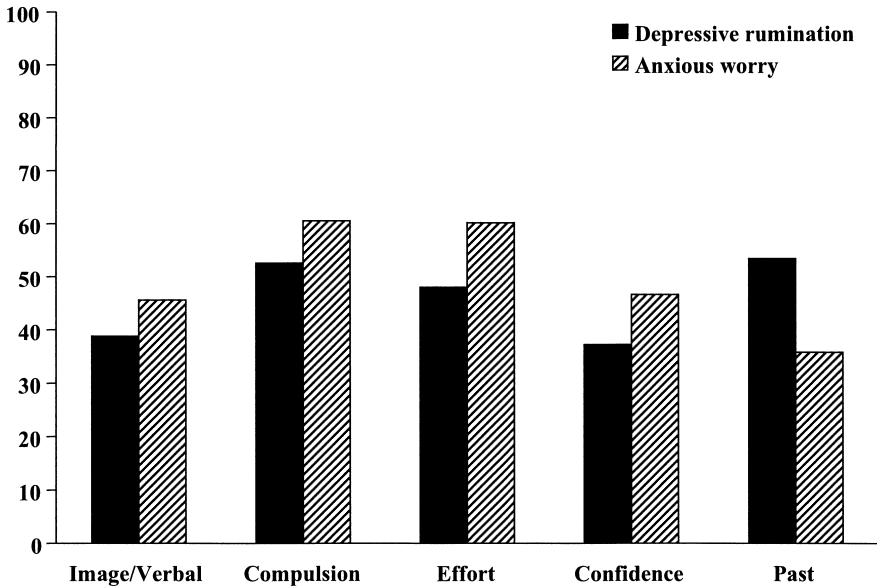


Figure 1.1. Process and metacognitive differences between depressive rumination and anxious worry in a non-clinical sample.

act, and more effort and confidence in problem-solving. Rumination was significantly more past-oriented than worry. Following adjustments for multiple comparisons, the only remaining significant differences were those concerned with dimensions of effort to problem-solve and past orientation. Relationships between dimensions of thinking and affective responses for each style of thinking were also explored in this study. This was achieved by partialling out anxiety when examining correlates of depression intensity and partialling out depression when examining correlates of anxiety intensity. Greater depression was significantly correlated with lower confidence in problem-solving ability and greater past orientation of the ruminative thoughts. In relation to the worrisome thoughts, greater anxiety was significantly correlated with less dismissibility of worry, greater distraction by worry, metaworry (i.e., worry about worry: Wells, 1994), compulsion to act on worry, and more attentional focus on worries. Therefore, these preliminary data appear to be consistent with the notion that different components of thinking style are associated with emotional disturbance (Wells & Matthews, 1994). However, the generalizability of these findings is limited by the non-clinical sample recruited.

In a subsequent study, we set out to extend these findings in clinical samples (Papageorgiou & Wells, 1999b). For this purpose, individuals whose predominant style of thinking is characterized by depressive rumination (e.g., individuals with major depressive disorder) and anxious worry (e.g., individuals with panic disorder) were recruited into the study. To reduce the overlap of

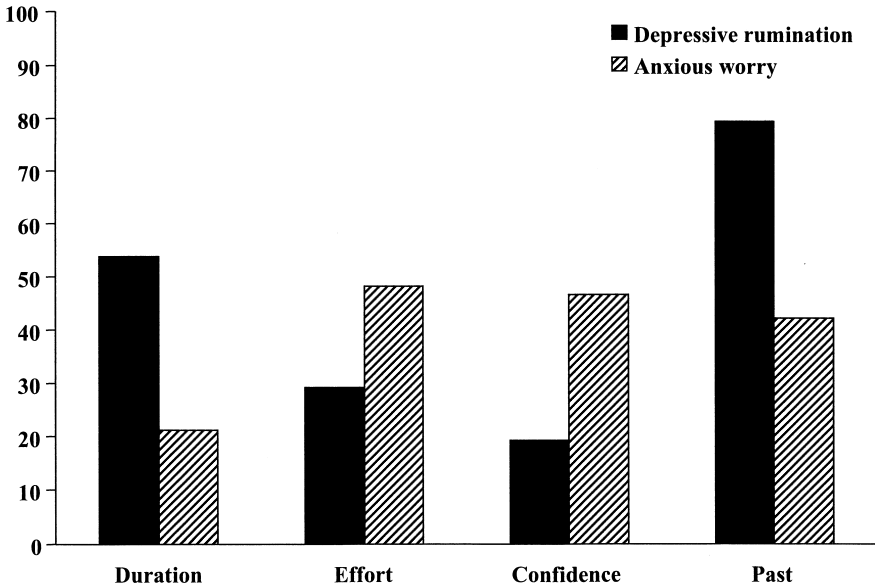


Figure 1.2. Process and metacognitive differences between depressive rumination and anxious worry in individuals with major depressive disorder.

rumination and worry, it was ensured that there was no diagnostic overlap between the two clinical samples. A non-clinical group was included in order to control for “pathological” status. We assumed that a non-clinical group would show non-pathological varieties of rumination and worry, thus enabling us to identify differences between normal and abnormal thinking styles. In this study, we aimed to address three fundamental questions. In the first question, we set out to determine whether process and metacognitive dimensions distinguish between the rumination and worry of individuals with major depressive disorder. The data showed that, in comparison with worry, the rumination of the depressed group was rated as significantly longer in duration, lower in effort to problem-solve, lower in confidence in problem-solving, and greater in past orientation. These data are presented in Figure 1.2. Following adjustments for multiple comparisons, the only remaining significant differences were those concerned with dimensions of confidence in problem-solving and past orientation.

In the second question, the objective was to establish similarities and differences between the predominant styles of pathological thinking in each disorder (i.e., rumination in major depressive disorder vs. worry in panic disorder). In comparison with the worry of the panic disorder group, the rumination of the depressed group was rated as significantly longer in duration, less controllable, less dismissible, and associated with lower effort to problem-solve, lower confidence in problem-solving, and a greater past orientation. These data are

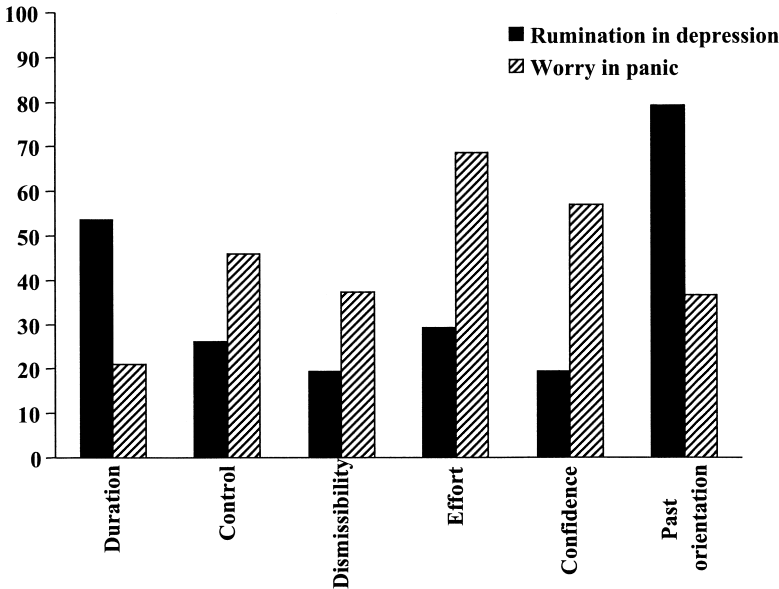


Figure 1.3. Process and metacognitive differences between rumination in patients with depression and worry in patients with panic disorder.

illustrated in Figure 1.3. Nonetheless, after adjustments for multiple comparisons, the only remaining significant differences were those concerned with dimensions of effort to problem-solve, confidence in problem-solving, and past orientation.

Finally, we addressed the question of whether dimensions of rumination differ across disorders (i.e., is pathological rumination in depression different from that in panic disorder patients and non-clinical samples whose rumination is less problematic?). The analyses demonstrated that, in comparison with the rumination of panic patients and non-clinical participants, that of the depressed group was rated as more intrusive, comprising greater metaworry, and associated with lower effort and less confidence in problem-solving, and a greater past orientation. The duration of rumination in both the depressed and panic disorder groups was significantly longer than that in the non-clinical sample. Moreover, the depressed group paid significantly more attention to their ruminative thinking than did the non-clinical sample. These data are shown in Figure 1.4. Following statistical adjustments, only the duration of rumination in the depressed group remained significantly longer than that in non-clinical participants. Thus, empirical evidence suggests that although rumination and worry share a number of similarities, they also differ on several dimensions (Papageorgiou & Wells, 1999a, b). The most reliable differences found between these two styles of thinking are effort and confidence in

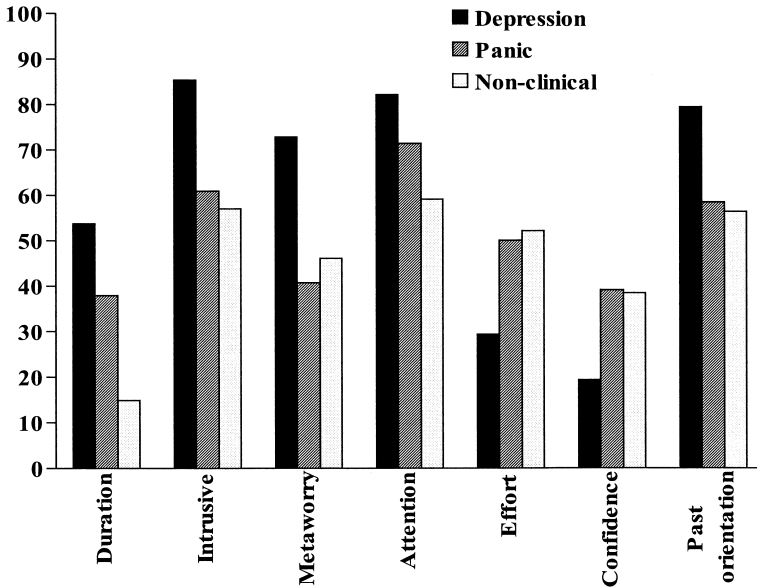


Figure 1.4. Process and metacognitive differences in rumination between patients with depression, patients with panic disorder, and non-clinical participants.

problem-solving and past orientation. It appears that pathological rumination and worry differ in terms of their motivational characteristics and metacognitive judgements of problem-solving confidence. This may be important since both rumination and worry have been conceptualized as coping strategies (Wells & Matthews, 1994), and yet the characteristics of rumination seem ill-suited to problem-solving or coping when compared with worry. These data also shed light on the differences between abnormal (depressive) and normal (non-clinical) varieties of rumination. Clearly, further research is required to explore the process and metacognitive dimensions of rumination and worry.

In addition to the above studies investigating the relationships between rumination, worry, depression, and anxiety, other studies have relied on self-report measures of both rumination and worry to further explore the overlap and differences between these constructs (Fresco, Frankel, Mennin, Turk, & Heimberg, 2002; Segerstrom, Tsao, Alden, & Craske, 2000). In these studies, rumination has been assessed in the way conceptualized by Nolen-Hoeksema (1991), using the Ruminative Responses Scale (RRS: Nolen-Hoeksema & Morrow, 1991), while worry has been measured using the Penn State Worry Questionnaire (PSWQ: Meyer, Miller, Metzger, & Borkovec, 1990). Segerstrom et al. (2000) found strong correlations between rumination and worry, suggesting an overlap of 16–21%, in both non-clinical and clinical samples. Moreover, using structural equation modelling, they reported that a latent variable (described as “repetitive thought”) involving manifest variables

of rumination and worry was significantly correlated with depression and anxiety. These data led the authors to conclude that goal interruption, failures of emotional processing, and information processing may result in repetitive thought that increases negative mood states, such as depression and anxiety. In the study by Fresco et al. (2002), the items from the RRS and PSWQ were subjected to factor analysis. This revealed a four-factor solution consisting of two rumination factors labelled “dwelling on the negative” and “active cognitive appraisal”, and two worry factors labelled “worry engagement” and “absence of worry”. The “dwelling on the negative” and “worry engagement” factors emerged as distilled measures of rumination and worry, respectively. Fresco et al. (2002) also reported that scores on these factors were highly correlated with each other and demonstrated equally strong relationships to depression and anxiety. Therefore, consistent with naturalistic studies of the dimensions of rumination and worry (Papageorgiou & Wells, 1999a, b), research using questionnaire measures of rumination and worry indicates that, although rumination and worry have a number of overlapping features, they also represent distinct cognitive processes that are closely related to depression and anxiety, respectively.

FUNCTIONS OF RUMINATION

Laboratory, cross-sectional, and prospective studies have shown that rumination in response to experimentally induced or naturally occurring depressed mood is associated with several deleterious outcomes. In a review of these negative consequences, Lyubomirsky and Tkach (for further details, see Chapter 2) list the following: prolonged and more severe negative affect and depressive symptoms, negatively biased thinking, poor problem-solving, impaired motivation and inhibition of instrumental behaviour, impaired concentration and cognition, and increased stress/problems. In addition to these consequences, rumination has been found to delay recovery from major depression in cognitive-behavioural therapy (Siegle, Sagrati, & Crawford, 1999). Despite these consequences of rumination, it is puzzling to understand why people choose to ruminate. However, a number of theoretical accounts have been proposed.

In their generic conceptualization, Martin and Tesser (1989, 1996) view rumination as a function of goal progress. They propose that rumination is instrumental to the attainment of higher-order goals (i.e., rumination serves the function of discrepancy reduction). By this definition, however, Martin and Tesser do not imply that rumination is always beneficial. According to these authors, although rumination does not always lead individuals to progress toward their desired goals, that is its function. In Nolen-Hoeksema's (1991) response styles theory, it is suggested that rumination helps individuals to focus

inwardly and evaluate their feelings and their problematic situation in order to gain insight. In an experimental study, Lyubomirsky and Nolen-Hoeksema (1993) found that dysphoric participants induced to ruminate believed that they were gaining insight about themselves and their problems, even though they were producing relatively poor solutions to these problems.

BELIEFS ABOUT RUMINATION

Identification of beliefs about rumination may contribute to understanding the functions of rumination within the context of information processing models. An information processing model that appears promising in achieving this goal is the Self-Regulatory Executive Function (S-REF) model of emotional disorders (Wells & Matthews, 1994). In the S-REF model, perseverative negative thinking, in the form of rumination or worry, is conceptualized as one of several ubiquitous factors involved in disorder vulnerability and maintenance. Rumination and worry are viewed as coping strategies. The model accounts for the information processing mechanisms that are involved in initiating and maintaining perseverative negative thinking of this kind. More specifically, Wells and Matthews proposed that the knowledge base (beliefs) of emotionally vulnerable individuals is responsible for predisposing them to select and engage in rumination (i.e., perseverative negative thinking is thought to be associated with, and directed by, underlying metacognitive beliefs concerning its functions and consequences). Emerging empirical evidence supports this notion.

In a preliminary study, Papageorgiou and Wells (2001b) used a semi-structured interview to explore the presence and content of metacognitive beliefs about rumination in patients with *DSM-IV* (American Psychiatric Association [APA], 1994) recurrent major depressive disorder without concurrent Axis I disorders. The results showed that all of the patients held both positive and negative metacognitive beliefs about rumination. The content of positive metacognitive beliefs reflected themes concerning rumination as a coping strategy (e.g., “I need to ruminate about my problems to find answers to my depression,” “ruminating about my depression helps me to understand past mistakes and failures”). Negative metacognitive beliefs about rumination reflected themes concerning the uncontrollability and harm of rumination (e.g., “ruminating about my problems is uncontrollable,” “ruminating could make me harm myself”) and the interpersonal and social consequences of rumination (e.g., “people will reject me if I ruminate,” “everyone would desert me if they knew how much I ruminate about myself”). Additional examples of positive and negative metacognitive beliefs about rumination are presented in Table 1.1. The results are consistent with the notion that positive and negative metacognitive beliefs about rumination may be related to ruminative thinking in individuals with depression. The metacognitive beliefs elicited in this study were subsequently utilized to develop measures of positive and negative metacognitive beliefs about rumination to

Table 1.1. Examples of positive and negative metacognitive beliefs about rumination

Positive beliefs about rumination	Negative beliefs about rumination
In order to understand my feelings of depression, I need to ruminate about my problems	Ruminating makes me physically ill
I need to ruminate about the bad things that have happened in the past to make sense of them	When I ruminate, I can't do anything else
I need to ruminate about my problems to find the causes of my depression	Ruminating means I'm out of control
Ruminating about my problems helps me to focus on the most important things	Ruminating will turn me into a failure
Ruminating about the past helps me to prevent future mistakes and failures	Ruminating means I'm a bad person
Ruminating about my feelings helps me to recognize the triggers for my depression	It is impossible not to ruminate about the bad things that have happened in the past
Ruminating about the past helps me to work out how things could have been done better	Only weak people ruminate

Source: Papageorgiou & Wells, 2001a, 2001b; Papageorgiou et al., in preparation

examine relationships between rumination, depression, and metacognition. These relationships are discussed in the next section.

RELATIONSHIPS BETWEEN RUMINATION, DEPRESSION, AND METACOGNITIVE BELIEFS

To date, cross-sectional and prospective studies from our research programme have supported the link between rumination, depression, and specific metacognitive beliefs. These studies have relied on instruments that were constructed using the pool of items derived from the positive and negative metacognitive beliefs reported by individuals with depression in the study by Papageorgiou and Wells (2001b). These instruments include the Positive Beliefs about Rumination Scale (PBRS: Papageorgiou & Wells, 2001a) and the Negative Beliefs about Rumination Scale (NBRS: Papageorgiou, Wells, & Meina, in preparation). The PBRS and NBRS have been shown to have good psychometric properties of reliability and validity (for further details, see Chapter 10).

Empirical evidence has demonstrated that positive metacognitive beliefs

about rumination, as measured by the PBRS, are significantly and positively associated with rumination and depression in non-clinical samples (Papageorgiou & Wells, 2001a, Study 4; 2001c; 2003, Study 2) and individuals with clinical depression (Papageorgiou & Wells, 2003, Study 1; Papageorgiou et al., in preparation). Similarly, both subtypes of negative metacognitive beliefs about rumination (i.e., beliefs concerning uncontrollability and harm and the interpersonal and social consequences of rumination), as measured by NBR1 and NBR2, respectively, have been found to be significantly and positively correlated with rumination and depression in non-clinical samples (Papageorgiou & Wells, 2001c; 2003, Study 2) as well as samples of clinically depressed individuals (Papageorgiou & Wells, 2003, Study 1; Papageorgiou et al., in preparation). Research has also demonstrated that both positive and negative metacognitive beliefs about rumination significantly distinguish patients with recurrent major depression from patients with panic disorder and agoraphobia, and patients with social phobia (Papageorgiou & Wells, 2001a, Study 5; Papageorgiou et al., in preparation).

On the basis of Wells and Matthews' (1994) S-REF model of emotional disorders and empirical evidence supporting the relationships between rumination, depression, and metacognition, we recently constructed a clinical metacognitive model of rumination and depression (Papageorgiou & Wells, 2003). This model is illustrated in Figure 1.5. According to this model, positive beliefs about the benefits and advantages of rumination are likely to motivate individuals to engage in sustained rumination. Once rumination is activated, individuals then appraise this process as both uncontrollable and harmful (negative beliefs 1) and likely to produce detrimental interpersonal and social consequences (negative beliefs 2). The activation of negative beliefs and appraisals about rumination then contributes to the experience of depression. Therefore, a number of vicious cycles of rumination, depression, and specific metacognitive beliefs may be responsible for the maintenance of the depressive

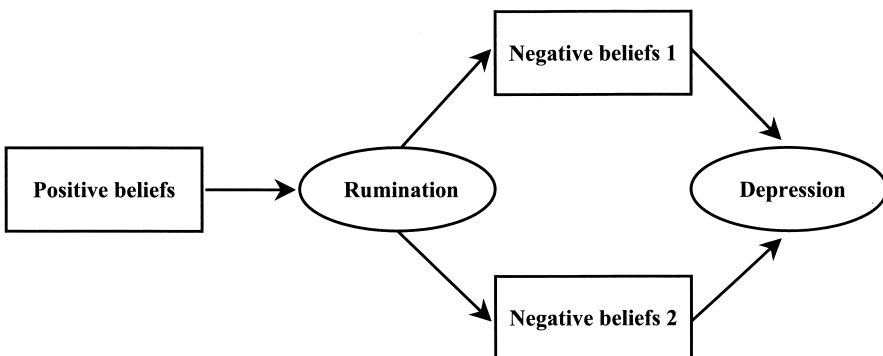


Figure 1.5. Basic components and structure of a clinical metacognitive model of rumination and depression

experience. The statistical fit of this clinical metacognitive model of rumination and depression has been tested in clinical and non-clinical samples. In the study on depressed participants, a good model fit was obtained consistent with S-REF predictions (Papageorgiou & Wells, 2003, Study 1). In the study on non-clinical participants, the data supported the existence of a somewhat structurally different metacognitive model of rumination and depression (Papageorgiou & Wells, 2003, Study 2). One difference in the models appears to be the nature of the relationships between rumination, negative metacognitive beliefs, and depression. Clearly, future studies should aim to conduct further model comparisons in order to formalize mediation relationships. However, the data concerning depressed participants suggest that positive beliefs about rumination are closely linked to a tendency to ruminate in response to depressed mood. Moreover, negative beliefs about rumination seem to serve a key function in mediating the relationship between rumination and depressive symptoms. These relationships as well as the statistical fit of the clinical metacognitive model of rumination and depression have also been supported in a prospective study of metacognitive vulnerability to depression conducted in a non-clinical sample (Papageorgiou & Wells, 2001c).

The above findings have important clinical implications. They suggest that cognitive therapy of depression could focus on strategies specifically designed to modify positive and negative metacognitive beliefs about rumination. Such strategies form an important part of cognitive therapy of generalized anxiety disorder (Wells, 1997). More specifically, cost–benefit analyses of positive beliefs about rumination and verbal reattribution of negative beliefs about rumination, especially those concerned with uncontrollability and harm of rumination, may be effective in the treatment of rumination and clinical depression. Moreover, Wells and Matthews (1994) argue that treatment may focus on increasing metacognitive control or flexibility, which may be achieved through the practice of attention training treatment (ATT: Wells, 1990, 2000). Indeed, in a preliminary study, Papageorgiou and Wells (2000) evaluated the effectiveness of ATT in a single-case series of patients with recurrent major depressive disorder. Following ATT, all patients showed clinically significant reductions across measures of depression, rumination, and metacognition. These gains were maintained at the 12-month follow-up assessments. Therefore, ATT appears to be a promising technique in modifying actual rumination and maladaptive metacognitive beliefs about rumination in individuals with recurrent major depression. It seems to be worthwhile to conduct further studies evaluating the effectiveness of specific strategies designed to modify positive and negative metacognitive beliefs about rumination in depression.

The empirical evidence reviewed in this chapter supports the need to develop specific rumination-focused interventions that target the process, rather than just content, of ruminative thinking in depression. Such interventions are currently being evaluated as part of our research programme.

SUMMARY AND CONCLUSIONS

In this chapter, we began by reviewing a number of definitions of rumination. These definitions have ranged from generic to specific conceptualizations of ruminative thinking in depression. Even specific definitions appear to differ in content and focus, which is reflected in the existing measures of rumination. Further advances in the field are likely to follow from a more detailed and specific definition of depressive rumination and its components. We also examined similarities and differences between rumination and other closely related cognitive constructs. It appears that the content of rumination is not the only feature that distinguishes rumination from worry, and pathological from normal rumination. Moreover, process and metacognitive dimensions appear to correlate with depression. Whether the similarities or differences between rumination and other constructs are critical contributors to psychopathology remains to be determined in future investigations. The hypothesized functions of rumination were also reviewed and empirical support was found for the role of metacognitive beliefs about rumination in depression. Finally, the relationships between rumination, depression and metacognition were examined. Accumulating evidence demonstrates that metacognitive beliefs are associated with depressive rumination, and preliminary data suggest that negative beliefs about rumination may mediate the relationship between rumination and depression.

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