

## Ruminative Coping With Depressed Mood Following Loss

Susan Nolen-Hoeksema, Louise E. Parker, and Judith Larson

In a longitudinal study of 253 bereaved adults, people with poorer social support, more concurrent stressors, and higher levels of postloss depression reported more rumination than people with better social support, fewer stressors, and lower initial depression levels. Women reported more rumination than men. People with a ruminative style at 1 month were more likely to have a pessimistic outlook at 1 month, which was associated with higher depression levels at 6 months. People with a more ruminative style were more depressed at 6 months, even after controlling for initial depression levels, social support, concurrent stressors, gender, and pessimism. Additional stressors and high depression scores at 1 month were also associated with higher levels of depression at 6 months.

People who respond to the negative emotions aroused by stressful events by focusing passively and ruminatively on those emotions appear to be at risk for severe and prolonged periods of distress (Carver & Scheier, 1990; Fenigstein, Scheier, & Buss, 1975; Nolen-Hoeksema, 1991; Pyszczynski & Greenberg, 1987). A number of questions about the relationship between passive, ruminative coping and adjustment to negative events remain, however. First, do some people consistently engage in passive, ruminative coping? Second, are there characteristics of people's environment that make it more likely they will engage in passive, ruminative coping? Third, what are some of the mechanisms by which passive, ruminative coping interferes with adjustment? Fourth, might ruminative coping mediate the effects of other well-known risk factors for depression, such as poor social support?

We addressed these questions in a longitudinal study of people coping with the recent death of a loved one after a serious illness. Bereavement provides a rich context in which to study emotion-focused coping because the event arouses strong emotions, but people differ in the duration of these emotions (Osterweis, Solomon, & Green, 1984). In addition, because the loss of a loved one to an illness is an uncontrollable event, we can study strategies for coping with the emotions aroused by this event without being concerned that these coping strategies actu-

ally caused the event. In contrast, many other stressful events, such as divorce, job loss, or failure in school, may sometimes be the result of poor coping strategies.

Bereavement also provides a context for a particularly strong test of the hypothesis that focusing on one's negative emotions prolongs distress, because the classic literature on coping with bereavement has emphasized the importance of focusing on the negative emotions aroused by one's loss in good adjustment to the loss (Bowlby, 1980; Freud, 1917/1964; Horowitz, 1976; Jacobson, 1957; Rando, 1984; Raphael, 1984).

The specific type of emotion-focused coping of interest in this study was a ruminative style of coping, characterized by chronic, passive focus on one's negative emotions and the meanings of these emotions (Nolen-Hoeksema, 1991). We chose to index emotion-focused coping as ruminative coping rather than as wishful thinking, emotional ventilation, or confiding in others, as have some previous studies of emotion-focused coping (Folkman & Lazarus, 1980, 1986; Moos & Billings, 1982), because our hypotheses came from our theory and previous work on rumination and depression, as described in the next section.

### Ruminative Coping

Ruminative responses to depression have been defined as thoughts and behaviors that focus one's attention on one's depressive symptoms and the meanings of these symptoms (Nolen-Hoeksema, 1991). People engaged in ruminative coping worry excessively but passively about their depression. Some examples of ruminative responses to depressed mood include isolating oneself and thinking about one's symptoms (e.g., sitting at home thinking "I just don't feel like doing anything"), worrying about the implications of one's depression (e.g., "What does it mean that I feel this way?"), and worrying about the consequences of one's distress (e.g., "What if I don't get over this?"). Although people may focus on themselves because they want to solve the problems that lead to their depression (Carver & Scheier, 1990), correlational studies show that people who use ruminative coping, as defined here, do not tend to use structured problem solving to cope (Nolen-Hoeksema & Morrow,

---

Susan Nolen-Hoeksema and Judith Larson, Department of Psychology, Stanford University; Louise E. Parker, Institute for Social Research, University of Michigan, Ann Arbor (now at the Department of Social Policy, RAND Corporation).

This study was supported by U.S. Public Health Grant 1 R01 43760. We thank the following hospices and home health care agencies for recruiting participants into this study: Hospice of Contra Costa, Hospice Caring Project of Santa Cruz County, Hospice of Marin, Hospice of the Valley, Lifesource of Larkspur and Mountain View, Mills-Peninsula Hospital, Mission Hospice, Vesper Hospice, Visiting Nurse Association of San Jose, and Visiting Nurses and Hospice of San Francisco.

Correspondence concerning this article should be addressed to Susan Nolen-Hoeksema, Department of Psychology, Stanford University, Building 420, Stanford, California 94305.

1991). Instead, they simply think about or talk about how unmotivated, sad, or lethargic they feel without doing anything to relieve their symptoms.

Ruminative coping differs from the depressive self-focusing style described by Pyszczynski and Greenberg (1987). Pyszczynski and Greenberg emphasized that the defining feature of their depressive style is the tendency to focus on insurmountable discrepancies between ideal and real self-images following failure, which causes and then maintains depressed mood (cf. Pyszczynski, Greenberg, Hamilton, & Nix, 1991). In contrast, we view ruminative coping as the tendency to focus on and worry about an existing depressed mood rather than the tendency to focus on one's failures. In addition, we expect ruminative responses to be associated with more severe and longer lasting depressed moods even among people who are not focusing on personal failures. Three recent studies have supported this expectation (Nolen-Hoeksema & Morrow, 1992).

It might be argued that ruminative coping is simply another name for neuroticism, negative affectivity, or private self-consciousness (Costa & McCrae, 1985; Eysenck & Eysenck, 1985; Fenigstein et al., 1975; Watson & Clark, 1984). In correlational studies (Nolen-Hoeksema, 1993; Nolen-Hoeksema & Morrow, 1992), we have found that ruminative coping is not significantly correlated with negative affectivity scores, but it is moderately correlated with private self-consciousness ( $r = .21, p < .05$ ) and with neuroticism ( $r = .37, p < .05$ ). We argue, however, that rumination is not simply the same as private self-consciousness or neuroticism. Instead, we suggest that ruminative coping may be one mechanism by which global traits such as neuroticism or private self-consciousness are related to depression. In support of this argument, Nolen-Hoeksema (1993) found that ruminative coping was a significant predictor of changes in subjects' depression scores over a 3-week period, even after controlling for subjects' levels of neuroticism. In contrast, neuroticism was not a significant predictor of changes in depression after controlling for ruminative coping. Similarly, Nolen-Hoeksema and Morrow (1992) found that ruminative coping remained a significant predictor of depression scores after statistically controlling for private self-consciousness, whereas private self-consciousness was not a significant predictor of depression after controlling for ruminative coping. These results suggest that, although ruminative coping is related to neuroticism and private self-consciousness, it is a better predictor of changes in depression over time than these global variables and may mediate the relationship between neuroticism or private self-consciousness and depression.

### Rumination and the Duration of Depressed Mood

In the laboratory, forcing either moderately depressed participants or participants in whom a depressed mood is induced to ruminate maintains their depressed moods, whereas forcing them to focus on distracting external stimuli leads to significant relief from their depressed moods (Lyubomirsky & Nolen-Hoeksema, 1993a, 1993b; Morrow & Nolen-Hoeksema, 1990; Nolen-Hoeksema & Morrow, 1993). Similar results have been found in studies of diagnosed depressed patients (Fennell & Teasdale, 1984; Gibbons et al., 1985).

Longitudinal studies of naturally occurring depressed moods also show that people who respond to these moods with rumi-

native responses have longer periods of depressed mood, even after controlling for the initial severity of the mood (Nolen-Hoeksema & Morrow, 1991; Nolen-Hoeksema, Morrow, & Fredrickson, 1993; Wood, Saltzberg, Neale, Stone, & Rachmiel, 1990). For example, in a prospective study of distress following the major earthquake that hit the San Francisco, California, Bay area in 1989, Nolen-Hoeksema and Morrow (1991) found that people who had a more ruminative style of coping with their moods before the earthquake were more depressed following the earthquake, even after taking into account preearthquake levels of distress. Similarly, in a study of people who had not recently faced an uncontrollable event, but were nonetheless in a depressed mood, Nolen-Hoeksema et al. (1993) found that people with a ruminative coping style remained depressed longer, even after taking into account the initial severity of their moods.

When applied to the case of bereavement, these studies suggest that people who ruminate about their grief-related depressive symptoms may show longer and more severe periods of distress following their loss. Some previous studies indirectly support this hypothesis (Lund et al., 1985–1986; Parkes & Weiss, 1983). For example, in a 2-year study of 99 widows, Vachon et al. (1982) found that those who were most prone to worry and were most emotionally unstable shortly after their loss tended to remain distressed over the next 2 years. In the present study, we directly tested the hypothesis that bereaved people who have a more ruminative style of responding to their negative emotions will show more severe and long-lasting depressed moods than those with less ruminative response styles.

### Mechanisms by Which Rumination May Prolong Depressed Mood

Laboratory studies have suggested that one way ruminative responses may prolong a depressed mood is by enhancing pessimistic, maladaptive thinking. Depressed people induced to ruminate in laboratory studies subsequently are more likely to endorse negative, distorted interpretations of events, to give self-defeating attributions for negative events, and to voice negative expectancies for their future than depressed people who first engage in a distracting activity (Lyubomirsky & Nolen-Hoeksema, 1993a; see also Carver, Blaney, & Scheier, 1979; Gibbons et al., 1985; Pyszczynski, Hamilton, Herring, & Greenberg, 1989; Pyszczynski, Holt, & Greenberg, 1987). These negative thoughts may feed a depressed mood directly (Abramson, Seligman, & Teasdale, 1978; Beck, 1967). They may also interfere with the individual's ability to generate good solutions to his or her problems. Lyubomirsky and Nolen-Hoeksema (1993a) found that depressed people induced to ruminate in a laboratory study were both more pessimistic in their attributions for hypothetical interpersonal problems and generated lower quality solutions to these problems than depressed people who first engaged in a distracting task. In contrast, the depressed people who first distracted were just as optimistic in their attributions and generated solutions to the problems that were as high in quality as nondepressed control subjects.

These laboratory studies provide strong evidence that rumination is associated with negative thinking, but they do not tell us whether this negative thinking then leads to longer periods of depression. The current study afforded an opportunity to deter-

mine both whether ruminative coping contributes to negative thinking in a naturalistic setting and whether this negative thinking then contributes to longer term depression. Specifically, we tested the hypothesis that bereaved people who tended to engage in ruminative coping would show more pessimistic thinking than those who did not. In turn, we hypothesized that this pessimistic thinking would be related to more sustained depressed moods following their loss.

### Why Do Some People Ruminative?

If ruminative coping is associated with prolonged depression, what leads a person to engage in ruminative coping? This question has not been thoroughly addressed in previous studies. In the current study, we assessed four factors that may contribute to people's tendency to ruminate.

First, Nolen-Hoeksema (1987) argued that women are more prone than men to ruminate about their depressed moods, and in turn, this contributes to the greater rates of depression in women compared with men. In an observational study, Butler and Nolen-Hoeksema (in press) found that women were significantly more likely than men to choose to focus on their emotional state when they were in a sad mood. In two self-report studies, women said they were more likely to use ruminative responses than men said they were (Butler & Nolen-Hoeksema, in press; Nolen-Hoeksema et al., 1993). In turn, when the gender difference in tendencies to ruminate in these studies was statistically controlled in regression analyses, the gender differences in levels of depression became nonsignificant, suggesting that the gender difference in rumination mediates the gender difference in depression.

A second factor that may affect bereaved people's tendency to ruminate is the number of stressors they are facing in addition to their loved one's death. People who are facing stressors in addition to the loss of a loved one, such as job loss, marital problems, or their own health problems, may have more distress and more life decisions to ruminate about. In addition, people who are beset by multiple stressors may be too cognitively overwhelmed to be able to engage in simple, active coping strategies that could distract them from their ruminations and lift their moods.

Third, the availability of high-quality social support may influence people's tendency to ruminate (Nolen-Hoeksema, 1991; see also Kessler, Price, & Wortman, 1985; Pennebaker & O'Heeron, 1984). Bereaved people who are socially isolated will have more opportunities to ruminate because other people are not available to provide distraction from ruminations. Even if a bereaved person has friends and family available, if the quality of support they provide the bereaved person is low, the bereaved person may be more prone to ruminate. Reviews of the construct of social support have identified several characteristics of low-quality social support (Cobb, 1976; S. Cohen & Willis, 1985; Weiss, 1974). These include unwillingness by others to affirm one's basic values and decisions, to allow one to confide emotional distress, or to provide practical support (e.g., money) when needed. In addition, friends and relatives can sometimes be burdens and create conflict and tension for the individual rather than provide positive support (Coyne & DeLongis, 1986; Fiore, Becker, & Coppel, 1983; Rook, 1984). Bereaved people whose friends and relatives do not support them emotionally

and practically, but instead create conflict and new burdens for them, may be more prone to ruminate because their negative ruminative thoughts will go unchallenged, no one will encourage them to engage in active coping strategies, and the social network itself creates stressors and depressed mood to ruminate about. Some previous studies have found that people who are isolated or who do not receive affirmation and emotional support from others are less likely to use active coping strategies (Cronkite & Moos, 1984; Heller & Swindle, 1983; Holahan & Moos, 1987; Moos & Billings, 1982).

Finally, the greater the depressive symptoms people experience just after their loss, the more likely they may be to ruminate (Teasdale, 1988). We are not suggesting that ruminative coping is simply a consequence or symptom of depression. Longitudinal correlational studies have shown individual differences in the tendency to ruminate among depressed people, and as noted, depressives who ruminate more are more likely to remain depressed than depressives who avoid rumination (Nolen-Hoeksema & Morrow, 1991; Nolen-Hoeksema et al., 1993). Similarly, laboratory studies have shown that even clinically depressed people can voluntarily focus their attention away from themselves and ruminative thoughts, resulting in declines in their levels of depressed mood (Fennell & Teasdale, 1984; Gibbons et al., 1985). Still, the more depressed a person is, the more symptoms he or she will have to ruminate about and the more difficult it may be to refrain from ruminative responses.

In the current study, we tested the predictions that (a) bereaved women would report more use of ruminative coping than would bereaved men, (b) people who face stressors in addition to the death of their loved one would report more ruminative coping than people with no additional stressors, (c) people with poor social support would report more ruminative coping than people with good social support, and (d) people with more severe initial depressive reactions would report more ruminative coping than people with less severe initial depressive reactions.

### Model of Predictors of Adjustment to Loss

Each of the variables that we suggest may contribute to ruminative coping—female gender, additional stress, poor social support, and initially severe depressive reactions—has also been shown to predict adjustment to loss over time (Murrell & Himmelfarb, 1989; Norris & Murrell, 1990; Osterweis, Solomon, & Green, 1984; Vachon et al., 1982; Windholz, Marmar, & Horowitz, 1985). These variables may affect adjustment to loss only by leading people to engage in ruminative coping. Or they may have direct effects on adjustment to loss, in addition to their effects on ruminative coping.

In the current study, we examined the relationships between gender, stressors, social support, rumination, pessimism, and depression in a group of 253 adults who had lost a loved one to a terminal illness. The participants were interviewed 1 month following their loss and again 6 months following their loss. We tested the model indicated by the directional arrows in Figure 1. Specifically, we predicted that people who were female, who experienced stressors in addition to their loss, who had poorer social support, and who had higher levels of depression at the 1-month interview would have a more ruminative style of coping with their depressed moods at the 1-month interview. People

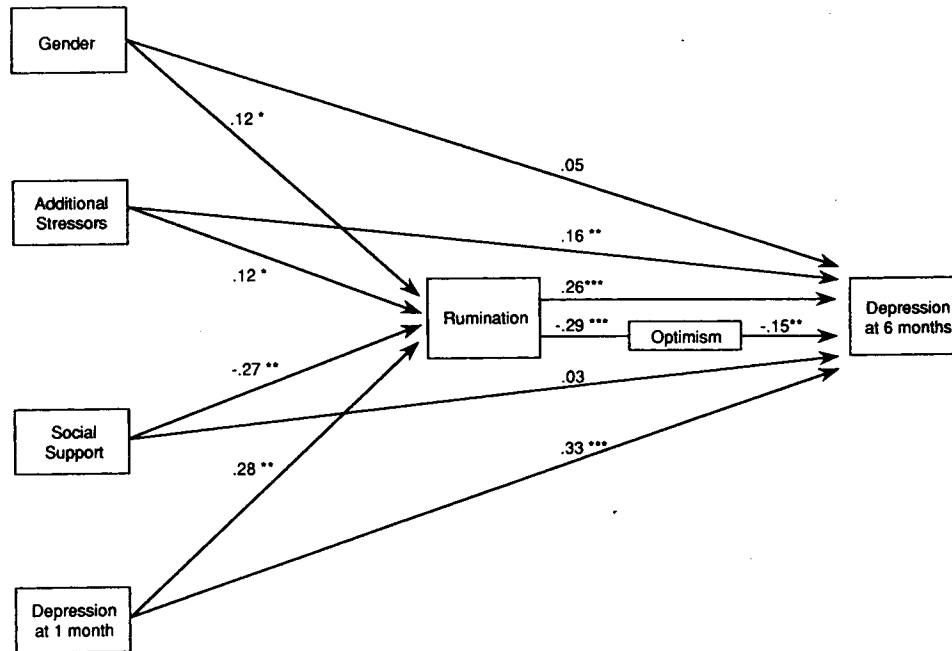


Figure 1. Model of relationships among rumination, optimism, gender, stressors, social support, and depression.

who had a ruminative coping style at the 1-month interview were expected to show more pessimistic thinking at 1 month, and in turn, this pessimistic thinking was expected to be associated with higher levels of depression at 6 months following the loss. We also predicted that rumination would have an additional, direct effect on depression levels at 6 months following the loss, because it may operate through mechanisms in addition to its effects on pessimistic thinking (cf. Nolen-Hoeksema, 1991). Finally, because previous studies have focused on the effects of gender, stress, and social support on adjustment to bereavement, we also tested the prediction that female gender, additional stressors, and poorer social support at 1 month would have direct negative effects on depression levels at 6 months.

## Method

### Participants

Participants were 253 (29% male and 71% female) adults who had experienced the death of a family member approximately 1 month before the first interview. Sixty-six were the wives or female partners of the deceased, 31 were the husbands, 74 were daughters, 24 were sons, 15 were sisters, 3 were brothers, 14 were mothers, 7 were fathers, and the remaining 19 had other relationships to the patient (e.g., daughter-in-law, best friend, and granddaughter). All of the participants who were not the spouse, child, parent, or sibling of the deceased were either the primary caregiver while the deceased was alive or reported having had a close emotional relationship to the deceased. We recruited people with a variety of familial relationships to the deceased so that we could determine whether adjustment to loss differed as a function of familial relationship to the deceased.

The participants ranged in age from 20 to 86 years, with a mean of 51 years ( $SD = 14.08$ ). Eighty-two percent of the participants were White,

3% were African American, 7% were Hispanic, 3% were Asian or Pacific Islander, 1% was Native American, and 4% were of other ethnic groups. Participants' annual family income ranged from less than \$10,000 to over \$100,000, with a mean and median of \$35,000 to \$40,000, typical for the San Francisco Bay area. Participants' highest level of education ranged from elementary school to a graduate or professional degree; 75% of the participants had at least some college credit, but only 39% had a bachelor's degree and only 15% had a graduate or professional degree.

Fifty-nine percent of the participants (65% of the women and 57% of the men) had been the primary caregivers to the deceased person when he or she was alive. All deceased individuals had resided in their own homes or the homes of the primary caregivers rather than in nursing homes or other institutions before their death. The median number of months they had been seriously ill before dying was 12 months.

### Procedure

Participants were recruited through 11 hospices in the Bay area. Social workers and nurses assigned to the families approached family members to inquire whether they might be interested in being interviewed. Only one family member per patient was recruited for this study.<sup>1</sup> Social workers and nurses were asked to select randomly which family member to approach, with one exception: If there was a male family member who had been close to the patient, social workers and nurses were asked to approach that man first, because we expected it would be more difficult to recruit men than women into the study. Of the family members approached about the study, 80% agreed to participate.

A total of 295 family members were interviewed 1 month following

<sup>1</sup> When more than one family member requested to be interviewed, we obliged. For the analyses reported here, we included only one randomly chosen family member per family.

the death of their loved one; of these, 253 family members were reinterviewed 6 months following their loved one's death. Thus, only 14% of the original group dropped out of the study between interviews. We compared the participants who dropped out of the study with those who remained in the study on gender, relationship to the patient, and all other variables assessed at the first interview. There were no significant differences between the groups on any variable. The analyses reported here used only those 253 participants who participated in both interviews.

We administered all measures in the context of an interview. For each measure, the interviewers read the instructions to the participant (the instructions provided for published measures were adapted slightly to reflect the interview format), then they read each item or question on the measure to the participant. If the answers to the questions required participants to use a Likert scale or to choose from among a group of possible answers, the interviewers presented the participant with a card with the possible answers printed on it and asked the participant to use the card to choose his or her answer. All participants were interviewed in their homes by an extensively trained clinical interviewer. All interviewers were female, advanced graduate students or professionals in clinical or counseling psychology. The interview took approximately 2 hr. The follow-up interview was nearly identical to the initial interview, except that we did not ask for basic demographic data at the follow-up interview. Each interview a subject participated in was conducted by a different interviewer who was unaware of the participant's answers in the previous interview.

### Measures

Interviewers completed the 17-item Hamilton Rating Scale for Depression (HRSD; Hamilton, 1960) on each subject immediately after the interview. This scale provides an index of participants' current levels of depression. As recommended by Hamilton (1960), information on the presence of specific symptoms of depression came from participants' responses to a structured assessment of depression (the Inventory to Diagnose Depression [IDD]; Zimmerman, Coryell, Corenthal, & Wilson, 1986) that was included in the longer interview. Interviewers were also instructed to use participants' nonverbal behaviors and information provided spontaneously by participants during the interview. Interviewers were extensively trained in the use of the HRSD. The reliability of their ratings of participants on the HRSD was checked by having the audiotapes of 10% of the interviews rated by interviewers who had not conducted the original interview and comparing these ratings with those of the original interviewers. The intraclass correlation coefficient between the original ratings and the secondary ratings was .74. This is comparable to the reliabilities found in other studies of moderately depressed participants and in studies in which one of the raters was not actually present when the subject was being interviewed (see Shaw, Vallis, & McCabe, 1985). The HRSD has been shown to differentiate well between depressives and nondepressed normals and between depressives and nondepressed psychiatric controls (Hedlund & Vieweg, 1979). HRSD scores also correlate significantly with other clinical rating scales for depression and self-report scales of depression (Hedlund & Vieweg, 1979).

*Ruminative coping measure.* The Response Styles Questionnaire (RSQ; cf. Nolen-Hoeksema & Morrow, 1991) was used to assess how participants tend to respond to their own symptoms of negative emotion. Interviewers read the following instructions to participants:

People think and do many different things when they feel sad, blue, or depressed. I'm going to read a list of possibilities. Turn to the next scale in your book and please tell me if you never, sometimes, often or always think or do each one when you feel down, sad or depressed. Please indicate what you generally do, not what you think you should do.

The Ruminative Responses Scale includes 22 items describing re-

sponses to depressed mood that are self-focused (e.g., I think "Why do I react this way?"), symptom-focused (e.g., I think about how hard it is to concentrate), and focused on the possible consequences and causes of their mood (e.g., I think "I won't be able to do my job if I don't snap out of this"). In this study, the internal consistency of this scale (Cronbach's alpha) was .90. Previous studies have reported acceptable convergent and predictive validity for the Ruminative Responses Scale (Butler & Nolen-Hoeksema, in press; Nolen-Hoeksema & Morrow, 1991). For example, participants' responses to this scale correlated significantly ( $r = .62$ ) with their use of ruminative responses to depressed mood in a 30-day diary study. In addition, in a controlled laboratory study participants who scored above the median on this scale were significantly more likely than participants who scored below the median to choose to engage in an emotion-focused task rather than a task unrelated to emotion while they were in a depressed mood.

*Optimism-pessimism.* The Life Orientation Test (LOT; Scheier & Carver, 1985) was used to assess respondents' optimism-pessimism. The LOT has eight items of the sort "In uncertain times, I usually expect the best." Respondents rate each item from 1 (*strongly agree*) to 5 (*strongly disagree*); scores are summed so that higher scores mean more optimism. The coefficient alpha for the LOT in this sample was .78. Scheier and Carver (1985) reported that the scale shows strong convergent validity with other conceptually related scales.

*Social support measures.* Social support was assessed with the Social Support and Activities Scale (O'Brien, Wortman, Kessler, & Joseph, 1989). Twenty-three items on this scale assess participants' sense of isolation from others and qualitative aspects of social support, such as others' willingness to listen and to provide emotional and practical support, and conflict with others. We submitted these items to a principal-components factor analysis, and five factors emerged: Confidant Available (e.g., "Would someone be available to talk to you if you were upset, nervous, or depressed?" and "Is there someone around to confide in or talk to about yourself and your problems if you want to?," Cronbach's  $\alpha = .85$ ), Friction (e.g., "Have people in your personal life gotten on your nerves?" and "Have you felt irritated or resentful toward them?," Cronbach's  $\alpha = .87$ ), Affirmation (e.g., "Do the people in your personal life approve of the way you do things?" and "Do they tend to size up things and people the same way you do?," Cronbach's  $\alpha = .71$ ), Isolation (e.g., "Have you felt isolated from others?" and "Have you wished for more friends?," Cronbach's  $\alpha = .69$ ), and Practical Help (e.g., "Is there someone you could turn to if you needed to borrow several hundred dollars for an emergency?" and "Is there someone who would help take care of you if you were confined to bed for several weeks?," Cronbach's  $\alpha = .76$ ). Participants answered each question on a scale ranging from 1 to 5, with high scores on the positive factors (Confidant Available, Practical Help, and Affirmation) indicating the participant reported more of these positive qualities of social support in his or her life and high scores on the negative factors (Friction and Isolation) indicating that the participant reported more social friction and isolation.

*Stressful life events.* The Life Change Events Scale (Moos, Cronkite, Billings, & Finney, 1986) was used to assess the participants' number of negative life events in the past year. We used only the 24 items assessing negative life events, such as divorce or separation, loss of a job, problems with child care, and financial problems. The item "death of a family member" was revised to ask participants if they had experienced the death of another family member in addition to the loved one we knew had recently died. We tallied the number of events the participant reported to obtain a total stressful events score.

### Results

We conducted repeated measures analyses of variance (ANOVAs) on depression scores and the other variables to test for the effects of time (i.e., changes from 1 month to 6 months) and for any interactions involving time, gender, and relationship

Table 1  
*Mean Scores on All Variables by Gender and Relationship to the Deceased*

Variable	Relationship to deceased							Main effects
	Women ( <i>n</i> = 184)	Men ( <i>n</i> = 69)	Partners/ spouses ( <i>n</i> = 97)	Adult children ( <i>n</i> = 98)	Siblings ( <i>n</i> = 18)	Parents ( <i>n</i> = 21)	Other ( <i>n</i> = 19)	
1-month interview								
Depression	10.08	6.59	9.09	9.20	7.90	9.79	9.14	G
Rumination	1.87	1.67	1.69 <sub>a</sub>	1.95 <sub>b</sub>	1.84	1.75	1.74	G, R
Optimism	29.65	29.52	29.20	29.40	31.50	30.87	29.73	
Additional stressors	2.20	2.17	1.83 <sub>a</sub>	2.56 <sub>b</sub>	2.44	1.63	2.60	R
Isolation	1.30	1.38	1.17 <sub>a</sub>	1.49 <sub>b</sub>	1.32	1.43	1.13	R
Confidant available	4.72	4.58	4.72	4.65	4.90	4.63	4.53	
Affirmation	4.00	3.81	4.11 <sub>a</sub>	3.80 <sub>b</sub>	3.70 <sub>b</sub>	4.08	3.98	G, R
Practical Help	4.45	4.60	4.54	4.49	4.79	4.69	4.57	
Friction	2.00	1.96	1.65 <sub>a</sub>	2.28 <sub>b</sub>	2.25 <sub>b</sub>	1.97	1.96	R
6-month interview								
Depression	8.70	6.21	7.38	8.15	9.14	8.25	9.47	G
Rumination	1.79	1.62	1.62 <sub>a</sub>	1.86 <sub>b</sub>	1.88	1.64	1.68	G, R
Optimism	30.23	29.82	30.02	29.59	32.06	30.24	31.60	
Additional stressors	2.63	2.09	1.91 <sub>a</sub>	2.99 <sub>b</sub>	3.71 <sub>b</sub>	1.57 <sub>ac</sub>	2.67	R
Isolation	1.32	1.34	1.13 <sub>a</sub>	1.47 <sub>b</sub>	1.57	1.21	1.50	R
Confidant available	4.74	4.62	4.75	4.70	4.74	4.63	4.58	
Affirmation	3.92	3.86	4.05 <sub>a</sub>	3.78 <sub>b</sub>	3.69	3.67	4.29 <sub>a</sub>	R
Practical Help	4.59	4.58	4.54	4.61	4.74	4.61	4.47	
Friction	2.12	1.98	1.80 <sub>a</sub>	2.30 <sub>b</sub>	2.38	2.11	2.11	R

Note. Means with different subscripts are significantly different. G = significant main effect of gender. R = significant main effect of relationship to the deceased.

to the deceased. The only significant main effect of time was for depression scores,  $F(1, 239) = 6.60, p < .05$ . Mean scores on the HRSD declined significantly from the 1-month to the 6-month interviews ( $M_s = 9.01$  and  $8.03$ , respectively).

There were no significant main effects of time on rumination or any of the other variables. In addition, there were no significant two-way or three-way interactions involving time, gender, and relationship to the deceased for depression or any of the other variables. Thus, the ANOVAs were redone, omitting time as a factor. Separate  $2$  (gender)  $\times$   $5$  (relationship to the deceased) ANOVAs were done for the data obtained at the 1-month interview and for the data obtained at the 6-month interview to determine whether the effects found at the first interview were replicated at the second interview.<sup>2</sup> Mean scores on all variables are presented separately by gender and relationship to the deceased in Table 1.

Significant main effects of gender were found for depression and rumination at both 1 month and 6 months and for affirmation at 1 month, with women showing higher levels of depression and rumination and reporting more affirmation than men (all  $p_s < .05$ , see Table 1). Significant main effects of relationship to the deceased were found at both 1 month and 6 months for rumination, additional stressors, social isolation, affirmation, and friction (all  $p_s < .05$ , see Table 1). Post hoc pairwise comparisons (Student Newman-Keuls) of the different familial groups on the rumination, stressors, and social support variables showed that the most consistent differences were between partners or spouses of the deceased individuals and adult children of the deceased individuals. Adult children reported more of a tendency to ruminate, more stressful events, more social isolation, less affirmation, and more social friction than

partners or spouses. In addition, adult siblings of the deceased individuals tended to report less affirmation and more friction than partners or spouses.

The participants' income, ethnicity, and the length of the deceased loved ones' illness were not significantly correlated with depression scores at either 1 month or 6 months. In addition, there were no significant differences in either 1-month or 6-month depression scores between participants who had been primary caregivers and those who had not. Thus, all further analyses are conducted collapsing across these variables.

#### *Correlations Among Rumination, Optimism, Pessimism, Additional Stressors, and Social Support*

Table 2 presents the cross-sectional correlations among each of the social support variables, stressors, optimism, and rumination. The correlations above the diagonal are for data from the 1-month interview. The correlations below the diagonal are for data from the 6-month interview. The correlations on the diagonal are the test-retest correlations between scores on each variable measured at 1 month and at 6 months. At both the 1-month and 6-month interviews, participants who reported us-

<sup>2</sup> Very similar results with regard to the main effects of gender and relationship to the deceased on depression and the predictor variables were found in the omnibus  $2$  (time)  $\times$   $2$  (gender)  $\times$   $5$  (relationship to the deceased) repeated measures ANOVAs. We present the results of the  $2$  (gender)  $\times$   $5$  (relationship to the deceased) ANOVAs because they are simpler to view in a table and because this allows us to examine whether significant effects of gender and of relationship to the deceased were found at both interviews.



Table 2  
*Cross-Sectional Correlations Among Rumination, Optimism, Additional Stressors, Social Support Indices, and Depression and Test-Retest Correlations*

Variable	1	2	3	4	5	6	7	8	9
1. Rumination	<b>.80***</b>	-.36***	.26***	.51***	-.11	-.16**	-.01	.48***	.56***
2. Optimism	-.30***	<b>.72***</b>	.00	-.31***	.17**	.18**	.17**	-.24***	-.29***
3. Additional stressors	.34***	-.07	<b>.47***</b>	.28***	-.05	-.19**	-.06	.37***	.37***
4. Isolation	.51***	-.28***	.27***	<b>.60***</b>	-.26***	-.35***	-.17**	.51***	.45***
5. Confidant available	-.10	.25***	-.18**	-.31***	<b>.36***</b>	.58***	.65***	-.16*	-.20**
6. Affirmation	-.18**	.31***	-.21***	-.32***	.43***	<b>.50***</b>	.49***	-.27***	-.25***
7. Practical help	.00	.22***	-.11	-.19**	.70***	.39***	<b>.55***</b>	-.11	-.28*
8. Friction	.50***	-.26***	.40***	.56***	-.33***	-.46***	-.21***	<b>.65***</b>	.41***
9. Depression	.42***	-.36***	.20***	.37***	-.09	-.16**	-.12	.33***	<b>.51***</b>

Note. Correlations above the diagonal are from the 1-month interview. Correlations below the diagonal are from the 6-month interview. Correlations along the diagonal (boldfaced) are test-retest correlations for the variables between the 1-month and 6-month interviews.  
 \*  $p \leq .05$ . \*\*  $p \leq .01$ . \*\*\*  $p \leq .001$ .

ing more ruminative coping also reported less optimism, a greater number of additional stressors, being socially isolated, not feeling affirmed by others, and more friction in their social networks. In addition, at both interviews, participants who reported more stressors in addition to their loss said they were more socially isolated, felt less affirmed, and had more friction in their social networks. At the 6-month interview, participants who reported more stressors also said that confidants were less available to them. At both interviews, participants who were less optimistic reported more isolation and friction, fewer confidants, less social affirmation, and less practical help from others.

In general, the social support scales were significantly intercorrelated. To have one overall measure of social support to use in the regression analyses reported later, we calculated a total social support score by recoding items on all five individual social support scales so that higher numbers mean less isolation and friction and more positive social support. The cross-sectional correlations between total social support scores and rumination scores were  $-.38$  ( $p < .001$ ) at 1 month and  $-.40$  ( $p < .001$ ) at 6 months, indicating that participants with poorer social support were more likely to report ruminative coping. Similarly, the cross-sectional correlations between total social support scores and numbers of stressors reported were  $-.29$  ( $p < .001$ ) at 1 month and  $-.34$  ( $p < .001$ ) at 6 months, indicating that participants with poorer social support reported more stressors. Finally, the cross-sectional correlations between total social support scores and optimism were  $.31$  ( $p < .001$ ) at 1 month and  $.37$  ( $p < .001$ ) at 6 months, indicating that participants with poorer social support were less optimistic.

### *Correlations Between Predictor Variables and Depression*

Table 2 also presents the cross-sectional correlations between all predictor variables and depression at the 1-month and 6-month interviews. Participants who were more depressed reported more ruminative coping, less optimism, more additional stressors, more social isolation, less affirmation from friends and relatives, and more friction in their social network at both the 1-month and the 6-month interviews. In addition, at the 6-

month interview, participants who were more depressed were more likely to lack a confidant and were not receiving as much practical help from friends and relatives. When we examined the cross-sectional correlations between the total social support variable described above and depression scores, we found that participants who had more overall positive social support tended to be less depressed at both 1 month ( $r = -.32$ ,  $p < .001$ ) and at 6 months ( $r = -.43$ ,  $p < .001$ ).

Table 3 presents the zero-order correlations between each of the predictor variables measured at 1 month and depression scores measured at 6 months. People who had more ruminative coping styles, were less optimistic, experienced more stressors, reported more social isolation, less affirmation and more social friction, and had overall poorer social support at 1 month had higher depression scores at 6 months. And as noted earlier, women had higher depression scores at 6 months than men.

It is possible that the relationships between depression and the predictor variables vary by gender or by relationship to the deceased. First, to examine whether gender moderated the relationship between depression at the 1-month interview and the predictor variables, we conducted a series of regression analyses in which depression at the 1-month interview was the depen-

Table 3  
*Relationships Between Predictor Variables Measured at 1 Month and Depression Scores at 6 Months*

Predictor variables at 1-month interview	Correlation with 6-month depression
Rumination	.48*
Optimism	-.31**
Additional stressors	.30**
Isolation	.36**
Confidant available	-.01
Affirmation	-.16**
Practical help	-.04
Friction	.28**
Total social support	-.26**
Gender	.18*

Note. Gender was coded as 1 = male and 2 = female.  
 \*  $p \leq .01$ . \*\*  $p \leq .001$ .

dent variable and the first independent variables forced into the equation were gender (dummy coded 1 = male and 2 = female) and one of the predictor variables (e.g., rumination); then we forced into the equation the cross-product of the predictor variable and gender (e.g., Rumination  $\times$  Gender). J. Cohen (1978) argued that if this cross-product term then explains significant variance in the dependent variable in such an analysis, this indicates that the relationship between the predictor variable (rumination) and the dependent variable (depression) varies significantly by gender. We also ran a parallel series of regression analyses using depression at the 6-month interview as the dependent variable. The cross-product term did not explain significant variance in any of the equations predicting either 1-month depression scores or 6-month depression scores, indicating that gender did not moderate the relationship between depression and any of the predictor variables.

To examine whether relationship to the deceased moderated the associations between depression at 1 month or 6 months and any of the predictor variables, we first created dummy variables for four of the five relationship categories (e.g., the first dummy variable was coded 1 = partner and 2 = any other relationship, the second dummy variable was coded 1 = adult child and 2 = any other relationship, etc.). We then created cross-products of each of these dummy variables and each of the predictor variables. Finally, we conducted a series of regression analyses in which the dependent variables were depression scores at 1 month or depression scores at 6 months. First, we forced into the equation one of the predictor variables and one of the dummy variables. Then we forced into the equation the cross-product of that predictor variable and that dummy variable. None of the cross-product terms explained significant variance in either 1-month or 6-month depression scores, indicating that relationship to the deceased also did not moderate the association between depression and any of the predictor variables. Thus, all further analyses were conducted collapsing across relationship to the deceased.

#### *More Detailed Analyses of the Relationship Between Rumination and Depression*

The response styles theory argues that rumination will be associated with longer periods of depressed mood both among people with initially severe depressed moods and people with more moderate depressed moods, although rumination should be a better predictor of depressed mood duration among people with initially severe moods because there are more symptoms for rumination to act on in these people. To test this assertion directly, we conducted a regression analysis in which 6-month depression was the dependent variable and the independent variables were 1-month depression scores and rumination scores and the cross-product of 1-month depression and rumination. This cross-product term accounted for significant variance in 6-month depression over and above the variance accounted for by its constituent terms ( $t = 2.49, p < .01$ ). This indicates that the relationship between rumination and 6-month depression varied by the participants' 1-month levels of depression. To clarify this interaction, we conducted further analyses. When Time 1 depression was one standard deviation above the mean, the unstandardized beta for rumination was 2.57. When Time 1 depression was one standard deviation be-

low the mean, the unstandardized beta for rumination was 1.14. Thus, rumination explained more variance in 6-month depression among the participants with higher initial depression scores. Rumination was a significant predictor of 6-month depression scores among people with initially high depression scores and among people with initially low depression scores, however.

Furthermore, the response styles theory would suggest that, although a ruminative coping style may be a stable characteristic of some people, other people may be able to stop ruminating about their depressed moods, and these people should show greater decrease in depression. We conducted two analyses to test this assertion. First, we calculated a simple change score separately for depression and for rumination by subtracting participants' depression scores at 6 months from their depression scores at 1 month and by subtracting participants' rumination scores at 6 months from their rumination scores at 1 month, respectively. The correlation between these two change scores was .21 ( $p < .01$ ), indicating that the more participants decreased in rumination, the more their depression scores decreased.

For a second and stronger test of our assertion, we conducted a hierarchical multiple regression analysis to determine whether the extent to which participants were still ruminating at 6 months predicted how depressed they were at 6 months, after statistically controlling for their rumination scores at 1 month and depression at 1 month. In this equation, the dependent variable was depression at 6 months. We first forced depression at 1 month into the equation, and this variable accounted for 26% of the variance in depression scores at 6 months ( $F = 90.39, p < .0001$ ). Then we forced rumination scores at 1 month into the equation, and this variable predicted an additional 8% of the variance in depression at 6 months ( $F = 32.22, p < .0001$ ). Then we forced rumination scores at 6 months into the equation. This variable explained an additional 7% of the variance in depression at 6 months ( $F = 31.32, p < .0001$ ). Thus, both ruminative coping at 1-month and the extent to which participants were still engaging in ruminative coping at 6 months were significant predictors of depression at 6 months.

#### *Testing the Full Model*

The predictions in this study, however, concerned several other variables in addition to rumination. Figure 1 presents the model described in the introduction for the relationships between gender, stressors, social support, rumination, optimism and depression. According to this model, female gender, additional stressors, poorer social support, and higher levels of depression at the 1-month interview all contributed to the tendency to ruminate at 1 month. Then, the tendency to ruminate contributed to more pessimism at 1 month. Finally, all of these variables were tested for their direct effects on depression levels at 6 months.

Three multiple regression analyses were conducted to test this model. In the first analysis, the dependent variable was rumination at 1 month, and the independent variables were gender (coded 1 = male and 2 = female), additional stressors, total social support,<sup>3</sup> and depression measured at 1 month. Depres-

<sup>3</sup> We used the total social support variable instead of the individual social support scales in these analyses to reduce the number of variables



sion at 1 month was forced into the equation first. The change in the squared multiple correlation was .17 ( $F = 52.97, p < .0001$ ). Then, gender, stressful events, and social support were all added to the equation simultaneously, because we did not have a priori hypotheses to guide the order of entry of these variables. The change in the squared multiple correlation was .10 ( $F = 10.95, p < .0001$ ). As can be seen in Figure 1, female gender, the presence of additional stressors, poor social support, and higher initial levels of depression were all associated with a greater tendency to ruminate at 1 month. Figure 1 reports standardized partial beta weights after all variables were added into the model; thus, each of these partial beta weights represents the effect of that variable on rumination after statistically controlling for the effects of the other variables.

In the second regression analysis, the dependent variable was optimism and the only predictor variable was ruminative coping. As can be seen in Figure 1, the more participants engaged in ruminative coping, the more pessimistic they were ( $R^2 = .09, F = 23.92, p < .0001$ ).

In the third multiple regression analysis, the dependent variable was depression at 6 months and the predictor variables were depression at 1 month, gender, additional stressors, social support, rumination, and optimism as measured at 1 month. Depression at 1 month was forced into the equation first and accounted for 26% of the variance in depression at 6 months ( $F = 90.39, p < .0001$ ). Ruminative coping was forced into the equation next, because this was the predictor variable of greatest interest in this study. Ruminative coping accounted for an additional 8% of the variance in depression at 6 months ( $F = 32.22, p < .0001$ ). All the other variables were then forced into the equation together, because we had no a priori hypotheses to guide their order of entry. These variables accounted for an additional 4% of the variance in depression at 6 months ( $F = 3.75, p < .01$ ). As the partial beta weights in Figure 1 indicate, pessimism and additional stressors, in addition to rumination and high levels of depression at 1 month, all predicted significant variance in 6-month depression. Again, each of these partial beta weights represents the effects of that variable on 6-month depression, statistically controlling for the effects of the other variables.<sup>4</sup>

## Discussion

Much of the early literature on coping with stressful events focused on identifying and categorizing all the ways people might possibly cope (e.g., Folkman & Lazarus, 1980, 1986; Moos & Billings, 1982). The label *emotion-focused coping* was applied to a wide range of coping behaviors, including wishful thinking, seeking information and social support, ventilating emotions, suppression or denial, engaging in pleasant activities to distract oneself from one's mood, and engaging in potentially dangerous activities (e.g., drinking alcohol). Given this disparate collection of strategies, it is not surprising that some subse-

quent studies concluded that emotion-focused coping is associated with high levels of distress following stressful events, whereas other studies concluded that emotion-focused coping is associated with low levels of distress following stressful events (e.g., Aldwin & Revenson, 1987; Berman & Turk, 1981; Billings & Moos, 1984; Carver, Scheier, & Weintraub, 1989; Costanza, Derlega, & Winnstead, 1988; Coyne, Aldwin, & Lazarus, 1981; Felton & Revenson, 1984; Pennebaker & O'Heeron, 1984; Tolor & Fehon, 1987). Some researchers argued that the adaptiveness of emotion-focused coping depends on the type of situation the individual is facing (Folkman, 1984). Other researchers separated the different types of strategies categorized as emotion-focused coping and examined the relationships between these different strategies and adjustment to stress. A few consistent findings have been reported across such studies; for example, wishful thinking and engaging in dangerous activities tend to be associated with higher levels of distress (e.g., Coyne et al., 1981; Felton & Revenson, 1984).

Recent reviews of coping scales, however, have raised serious questions about the conceptual basis for the coping scales, the relatively poor predictive power of the coping scales, and the usefulness of situation-specific coping scales (cf. Stone, Greenberg, Kennedy-Moore, & Newman, 1991). We believe that, rather than remaining tied to conceptualizations of coping that were derived empirically and not theoretically, a more useful approach to studying the effects of coping on adjustment is to turn to basic research in cognitive, personality, and social psychology to develop theoretically based conceptualizations of adaptive and maladaptive strategies for coping with negative emotion and a model for the processes by which these strategies enhance or reduce distress following a wide range of possible stressors. In this study, we tested such a model.

According to our model, people who passively ruminate on their negative emotions following a stressful event will be more prone to pessimistic thinking and in turn will show more severe and prolonged distress following the event. This model was supported in the study reported here: Bereaved people with a ruminative style of coping with their depressed mood 1 month after their loss were more pessimistic about the future and in turn had higher levels of depressed mood 6 months after their loss than bereaved people with a less ruminative coping style. The results of this study of bereavement, in conjunction with our previous studies of earthquake-related distress (Nolen-Hoeksema & Morrow, 1991) and dysphoria resulting from everyday stressors (Nolen-Hoeksema et al., 1993) support our assertion that ruminative coping is associated with prolonged depressed moods both in the face of severe stressors and in the face of mild stressors and across a variety of populations. Further support for this assertion comes from two recent studies of adolescents by Compas and colleagues (Compas & Grant, 1993; Compas, Malcarne, & Fondacaro, 1988). They found that adolescents

<sup>4</sup> We ran parallel regression equations, replacing the total social support scores with scores on social isolation and friction, which were the social support scales most strongly correlated with depression. Neither social isolation nor friction was a significant predictor of depression at 6 months after controlling for the other variables in the equation, but ruminative coping, pessimism, additional stressors, and depression scores at 1 month remained significant predictors of 6-month depression scores.

in the equations and because the individual social support scales tended to be significantly intercorrelated. The same pattern of results was obtained, however, when the individual social support variables that correlated significantly with rumination were used in place of the total social support scale in the regression equations.

who tended to engage in ruminative coping, as assessed through self-report and interview methods, had greater levels of depressed mood in response to academic failure and in response to hearing that a parent was diagnosed with cancer.

The present study of bereavement adds to our previous studies of ruminative coping in several ways. We found evidence that one way ruminative coping may prolong depressed mood is by enhancing pessimistic thinking. This extends findings from controlled experimental studies (Lyubomirsky & Nolen-Hoeksema, 1993a, 1993b) by showing that ruminative coping is associated with more pessimistic thinking in a naturalistic setting and that this pessimistic thinking is then associated with increased risk for depressed mood over time.

The present study also identified four characteristics of people and their environments that may contribute to a tendency to engage in ruminative coping. In turn, our results suggest that ruminative coping may mediate the relationship between previously studied risk factors for depression and adjustment to a major stressor. First, women were more likely to report using ruminative coping than men (see also Butler & Nolen-Hoeksema, in press; Ingram, Cruet, Johnson, & Wisnicki, 1988; Nolen-Hoeksema et al., 1993). The women in this study also had higher levels of depression than the men, but gender did not have a direct effect on levels of depression once we statistically controlled for ruminative coping and the other psychosocial risk factors. This suggests that gender differences in depression are mediated by gender differences in psychosocial factors such as rumination.

Second, people who were more socially isolated, who did not feel affirmed by others, and who had higher levels of friction in their social network were more likely to report engaging in ruminative coping. But, as with gender, poor social support was related to depression only through its relationship with ruminative coping; there was no direct effect of poor social support on depression. Although poor social support has often been linked to poor adjustment to loss and other stressors (cf. Coyne & DeLongis, 1986; Gottlieb, 1983; Kessler et al., 1985; Vachon & Stylianos, 1988; Windholz et al., 1985), the mechanisms by which social support affects adjustment have not been extensively studied. Our results suggest one such mechanism: People who are socially isolated may have more opportunity to ruminate, and people whose values and decisions are not affirmed by important others and who face conflict in their social relationships may have more reason to ruminate. Rumination then impairs adjustment to a stressor.

Third, people facing stressors in addition to the loss of their loved one were more likely to report using ruminative coping. This suggests that the relationship between cumulative stressors and depression that has been found in previous studies (Lloyd, 1980) may be mediated by the effects of stressors on people's tendencies to ruminate. In this study, however, cumulative stressors at the time of loss appeared to have both direct and indirect effects on people's ability to adjust to the loss. For example, one woman in this study had lost her father to cancer and at the 1-month interview was still caring for her elderly mother who had Alzheimer's disease. She also had recently lost her job and was in debt. She did not have the time to search for a job or the money to hire someone to sit with her mother while she searched for a job. These stressors may have directly contributed to this woman's high level of depression both at the 1-

month and 6-month interviews. But the woman also commented that she would spend her days at home with her mother worrying about her financial situation and the deterioration in her own physical and emotional health. Thus, the stressors she was facing may also have contributed to her depressed mood by making it more likely she would engage in rumination.

Fourth, people who had more severe depressive symptoms 1 month after their loss were more likely to report ruminating. The more severe a person's depressive symptoms, the more compelled he or she will be to self-focus and evaluate his or her emotional condition (see Teasdale, 1988). It is important to emphasize, however, that ruminative coping at 1 month was associated with higher levels of depression at 6 months, even after controlling for people's levels of depression at 1 month. Thus, although initially severe depressive reactions may contribute to a tendency to ruminate, people who ruminate tend to remain at higher levels of depression even when their initial levels of depression are only moderate.

### *The Stability of Ruminative Coping*

Although gender, social support, cumulative stressors, and the severity of initial depressive reactions seemed to influence people's tendencies to ruminate, there also was evidence that ruminative coping is a stable characteristic of individuals. The test-retest correlation between ruminative coping scores at 1 month and 6 months was high (.80). In addition, although mean levels of depression declined significantly from 1 month to 6 months, mean levels of ruminative coping did not show significant change over time, indicating that there was no overall change in tendencies to ruminate in this group of bereaved people. Other evidence that ruminative coping is a stable characteristic comes from a study of participants who had not recently faced a major trauma but who were nonetheless moderately depressed (Nolen-Hoeksema et al., 1993). Participants in this study kept track of their moods and their responses to these moods daily for 1 month. Over 80% of them were consistent in their tendencies to use either rumination or active, distracting behaviors to cope with their depressed moods.

Some people did show change in their tendency to ruminate over the 6 months covered by this study, however. As response styles theory would predict, those who showed a decrease in their rumination also tended to show a decrease in depressed mood; those who showed an increase in rumination tended to show an increase in depressed mood.

### *Effects of Relationship to the Deceased*

There were no differences in depression between participants with different familial relationships to the deceased. Because the results of previous studies of familial ties and bereavement depression have been somewhat mixed (Osterweis et al., 1984), our results do not necessarily represent a failure to replicate previous trends.

Yet, there may be an indirect effect of relationship to the deceased on depression mediated through social support, rumination, and the experience of additional stressors. Adult children of the deceased reported more of a tendency to ruminate, more stressful events, more social isolation, less affirmation, and more social friction than partners or spouses. In addition,

adult siblings of the deceased reported less affirmation and more friction than partners. Comments made by participants during the interviews suggest that family and friends may be more likely to "rally around" people who have lost a spouse or partner, protect them from stressors, and actively intervene to help them cope than they do for people who lose a parent or sibling.

### *Limitations of the Study*

The primary limitation of this study is that we cannot make firm conclusions about causal relationships between variables, because it is a correlational study. Yet, the longitudinal design of the study did allow us to test our hypotheses about what variables measured at 1 month predicted depression at 6 months, statistically controlling for the effects of depression at 1 month. In addition, this study can be viewed as one in a series of studies, including controlled laboratory studies, providing converging evidence in support of our hypotheses about ruminative coping (cf. Nolen-Hoeksema, 1991).

The second limitation of this study is that most of the variables were measured through self-report. We emphasize, however, that our major dependent variable—depression—was obtained by having interviewers assess participants' levels of depression using a well-established psychiatric rating scale. In addition, these ratings of depression levels at the 1-month and 6-month interviews were done by different interviewers; thus, the interviewers' ratings of the participants at 6 months could not be biased by a knowledge of participants' levels of depression or scores on other variables at 1 month.

A third limitation is that bereaved people who are associated with a hospice while their loved one is alive may not be a representative group of bereaved people. Our participants may have been less distressed than many bereaved people because they benefited from the assistance and compassion of the hospice. Alternatively, people who are referred to hospice services may be more distressed than the average person caring for a dying loved one. We do know that almost all of the participants had no contact with the hospices once their loved one had died, so they were not receiving counseling or other services from the hospices during the 6 months following their loss, which is the period of time covered by our study.

A fourth limitation of this study is that our conclusions may apply to dysphoria but not to "clinical" depression. We believe this limitation is not serious for two reasons. First, our primary hypotheses are about how people's styles of managing their depressed moods affect the duration of these moods, and these predictions apply to depressed moods falling along the entire continuum of severity. Second, factors influencing the chronicity of even moderate depressed moods should be of concern, because these moods can interfere with functioning and put people at risk for more severe depressive episodes (Aneshensel, 1985; Keller, Shapiro, Lavori, & Wolfe, 1982).

### *Relation of Rumination to Emotion Suppression*

Previous studies of bereavement and other stressors suggest that poor adjustment is seen among people who suppress and avoid focusing on their negative emotions (Bowly, 1980; Felton & Revenson, 1984; Freud, 1917/1964; Holahan & Moos, 1987;

Horowitz, 1976; Pennebaker, 1990). How can the results of this study, which suggest that focusing on one's negative emotions is associated with poor adjustment, be integrated with the results of studies on emotion suppression? The simple answer is that suppressing one's negative emotions and ruminating about these emotions may represent the extremes of two different coping strategies, and both of these extremes are maladaptive.

The more complex answer is that people who try to suppress or avoid their negative emotions may seldom be fully successful and may be prone to lapse into rumination. In our study of earthquake-related distress (Nolen-Hoeksema & Morrow, 1991), we found that people who tended to avoid their negative emotions by engaging in reckless activities (e.g., drinking heavily) were also more likely to engage in rumination about their emotions. Similarly, Hull and his colleagues found that alcohol consumption and abuse may often result from attempts to reduce self-referent thinking (Hull, Levenson, Young, & Sher, 1983; Hull & Young, 1983; Hull, Young, & Jouriles, 1986). Finally, Pennebaker and O'Heeron (1984) found that widows who avoided talking with others about their husbands' suicides were more likely to ruminate about their loss than those who had talked about their loss. Thus, people who try to suppress their emotions may often end up ruminating about these emotions.

### Conclusion

Losing a loved one to a terminal illness can be a devastating experience for some people. They are overwhelmed by their sense of emptiness and sadness, and their emotional state never seems to fully recover from the trauma. For others, loss of a loved one may initially lead to feelings of emptiness and sadness. But over time they are able to regain a positive emotional tone in their lives. Some people even speak of discovering strengths in themselves that they did not know they had before the loss (Lund et al., 1985–1986). The results of this study suggest that the ways people respond to their initial symptoms of distress following their loss may influence the long-term impact of the loss on their emotional well-being. Specifically, people who cope with those initial negative emotions with rumination have trouble adjusting to their loss and are at risk for long-term emotional difficulties.

### References

- Abramson, L. Y., Seligman, M. E. P., & Teasdale, J. (1978). Learned helplessness in humans: Critique and reformulation. *Journal of Abnormal Psychology, 87*, 49–74.
- Aldwin, C. M., & Revenson, T. A. (1987). Does coping help? A reexamination of the relation between coping and mental health. *Journal of Personality and Social Psychology, 53*, 337–348.
- Aneshensel, C. S. (1985). The natural history of depressive symptoms: Implications for psychiatric epidemiology. *Research in Community and Mental Health, 5*, 45–75.
- Beck, A. T. (1967). *Depression: Clinical, experimental and theoretical aspects*. Philadelphia: University of Pennsylvania Press.
- Berman, W. H., & Turk, D. C. (1981). Adaptation to divorce: Problems and coping strategies. *Journal of Marriage and the Family, 43*, 179–189.
- Billings, A. G., & Moos, R. H. (1984). Coping, stress, and social resources among adults with unipolar depression. *Journal of Personality and Social Psychology, 46*, 877–891.
- Bowly, J. (1980). *Attachment and loss* (Vol. 3). New York: Basic Books.

- Butler, L. D., & Nolen-Hoeksema, S. (in press). Gender differences in depressed mood in a college sample. *Sex Roles*.
- Carver, C. S., Blaney, P. H., & Scheier, M. F. (1979). Reassertion and giving up: The interactive role of self-directed attention and outcome expectancy. *Journal of Personality and Social Psychology*, *37*, 1859–1870.
- Carver, C. S., & Scheier, M. F. (1990). Origins and functions of positive and negative affect: A control-process view. *Psychological Review*, *97*, 19–35.
- Carver, C. S., Scheier, M. F., & Weintraub, J. K. (1989). Assessing coping strategies: A theoretically based approach. *Journal of Personality and Social Psychology*, *56*, 267–283.
- Cobb, S. (1976). Social support as a moderator of life stress. *Psychosomatic Medicine*, *38*, 300–314.
- Cohen, J. (1978). Partialled products are interactions; partialled vectors are curve components. *Psychological Bulletin*, *85*, 858–866.
- Cohen, S., & Willis, T. A. (1985). Stress, social support, and the buffering hypothesis. *Psychological Bulletin*, *98*, 310–357.
- Compas, B. E., & Grant, K. E. (1993, March). *Stress and adolescent depressive symptoms: Underlying mechanisms and processes*. Paper presented at the biannual meeting of the Society for Research in Child Development, New Orleans, LA.
- Compas, B. E., Malcarne, V. L., & Fondacaro, K. M. (1988). Coping with stressful events in older children and young adolescents. *Journal of Consulting and Clinical Psychology*, *56*, 405–411.
- Costa, P. T., & McCrae, R. R. (1985). *The NEO Personality Inventory manual*. Odessa, FL: Psychological Assessment Resources.
- Costanza, R. S., Derlega, V. J., & Winnstead, B. A. (1988). Positive and negative forms of social support: Effects of conversational topics on coping with stress among same-sex friends. *Journal of Experimental Social Psychology*, *24*, 182–193.
- Coyne, J. C., Aldwin, C., & Lazarus, R. S. (1981). Depression and coping in stressful episodes. *Journal of Abnormal Psychology*, *90*, 439–447.
- Coyne, J. C., & DeLongis, A. (1986). Going beyond social support: The role of social relationships in adaptation. *Journal of Consulting and Clinical Psychology*, *54*, 454–460.
- Cronkite, R., & Moos, R. (1984). The role of predisposing and moderating factors in the stress-illness relationship. *Journal of Health and Social Behavior*, *25*, 372–393.
- Eysenck, H. J., & Eysenck, M. W. (1985). *Personality and individual differences*. New York: Plenum Press.
- Felton, B. J., & Revenson, T. A. (1984). Coping with chronic illness: A study of illness controllability and the influence of coping strategies on psychological adjustment. *Journal of Consulting and Clinical Psychology*, *32*, 343–353.
- Fenigstein, A., Scheier, M. F., & Buss, A. H. (1975). Public and private self-consciousness: Assessment and theory. *Journal of Consulting and Clinical Psychology*, *43*, 522–527.
- Fennell, M. J. V., & Teasdale, J. D. (1984). Effects of distraction on thinking and affect in depressed patients. *British Journal of Clinical Psychology*, *23*, 65–66.
- Fiore, J., Becker, J., & Coppel, D. (1983). Social network interactions: A buffer or a stress. *American Journal of Community Psychology*, *11*, 423–439.
- Folkman, S. (1984). Personal control and stress and coping processes: A theoretical analysis. *Journal of Personality and Social Psychology*, *46*, 839–852.
- Folkman, S., & Lazarus, R. S. (1980). An analysis of coping in a middle-aged community sample. *Journal of Health and Social Behavior*, *21*, 219–239.
- Folkman, S., & Lazarus, R. S. (1986). Stress processes and depressive symptomatology. *Journal of Abnormal Psychology*, *95*, 107–113.
- Freud, S. (1964). Mourning and melancholia. In *Collected works* (Vol. 14, pp. 243–258). London: Hogarth Press. (Original work published 1917)
- Gibbons, F. X., Smith, T. W., Ingram, R. E., Pearce, K., Brehm, S. S., & Schroeder, D. (1985). Self-awareness and self-confrontation: Effects of self-focused attention on members of a clinical population. *Journal of Personality and Social Psychology*, *48*, 662–675.
- Gottlieb, B. H. (1983). Social support as a focus for integrative research in psychology. *American Psychologist*, *38*, 278–287.
- Hamilton, M. (1960). A rating scale for depression. *Journal of Neurology, Neurosurgery, & Psychiatry*, *23*, 56–62.
- Hedlung, J., & Vieweg, B. (1979). The Hamilton Rating Scale for Depression: A comprehensive review. *Journal of Operational Psychiatry*, *10*, 149–162.
- Heller, K., & Swindle, R. W. (1983). Social networks, perceived social support, and coping with stress. In R. D. Felner, L. A. Jason, J. Mortisugu, & S. S. Farber (Eds.), *Preventive psychology theory, research and practice* (pp. 87–103). New York: Pergamon Press.
- Holahan, C. J., & Moos, R. H. (1987). Personal and contextual determinants of coping strategies. *Journal of Personality and Social Psychology*, *52*, 946–955.
- Horowitz, M. J. (1976). *Stress response syndromes*. New York: Aronson.
- Hull, J. G., Levenson, R. W., Young, R. D., & Sher, K. J. (1983). Self-awareness-reducing effects of alcohol consumption. *Journal of Personality and Social Psychology*, *44*, 461–473.
- Hull, J. G., & Young, R. D. (1983). Self-consciousness, self-esteem, and success-failure as determinants of alcohol consumption in male social drinkers. *Journal of Personality*, *44*, 1097–1109.
- Hull, J. G., Young, R. D., & Jouriles, E. (1986). Applications of the self-awareness model of alcohol consumption: Predicting patterns of use and abuse. *Journal of Personality and Social Psychology*, *51*, 790–796.
- Ingram, R. E., Cruet, D., Johnson, B. R., & Wisnicki, K. S. (1988). Self-focused attention, gender, gender role, and vulnerability to negative affect. *Journal of Personality and Social Psychology*, *55*, 967–978.
- Jacobson, E. (1957). Normal and pathological moods: Their nature and function. *Psychoanalytic Study of the Child*, *12*, 73–113.
- Keller, S. E., Shapiro, R. W., Lavori, P. W., & Wolfe, N. (1982). Relapse in major depressive disorder: Analysis of the life table. *Archives of General Psychiatry*, *39*, 911–915.
- Kessler, R. C., Price, R. H., & Wortman, C. B. (1985). Social factors in psychopathology: Stress, social support, and coping processes. *Annual Review of Psychology*, *36*, 531–572.
- Lloyd, C. (1980). Life events and depressive disorder reviewed. *Archives of General Psychiatry*, *37*, 529–548.
- Lund, D. A., Dimond, M. F., Caserta, M. S., Johnson, R. J., Poulton, J. L., & Connolly, J. R. (1985–1986). Identifying elderly with coping difficulties after two years of bereavement. *Omega*, *16*, 213–224.
- Lyubomirsky, S., & Nolen-Hoeksema, S. (1993a). *Mechanisms by which rumination may enhance depressed mood*. Manuscript submitted for publication.
- Lyubomirsky, S., & Nolen-Hoeksema, S. (1993b). Self-perpetuating properties of depressive rumination. *Journal of Personality and Social Psychology*, *65*, 339–349.
- Moos, R. H., & Billings, A. G. (1982). Conceptualizing and measuring coping resources and processes. In L. Goldberger & S. Breznitz (Eds.), *Handbook of stress: Theoretical and clinical aspects* (pp. 212–230). New York: Free Press.
- Moos, R. H., Cronkite, R. C., Billings, A. G., & Finney, J. W. (1986). *Health and daily living form manual*. Unpublished manual, Social Ecology Laboratory, Department of Psychiatry and Behavioral Sciences, Veterans Administration and Stanford University Medical Centers, Palo Alto, CA.
- Morrow, J., & Nolen-Hoeksema, S. (1990). Effects of responses to depression on the remediation of depressive affect. *Journal of Personality and Social Psychology*, *58*, 519–527.
- Murrell, S. A., & Himmelfarb, S. (1989). Effects of attachment bereavement and pre-event conditions on subsequent depressive symptoms in older adults. *Psychology and Aging*, *4*, 166–172.

- Nolen-Hoeksema, S. (1987). Sex differences in unipolar depression: Evidence and theory. *Psychological Bulletin*, *101*, 259–282.
- Nolen-Hoeksema, S. (1991). Responses to depression and their effects on the duration of depressive episodes. *Journal of Abnormal Psychology*, *100*, 569–582.
- Nolen-Hoeksema, S. (1993). [The effects of rumination and neuroticism on changes in depressed mood]. Unpublished raw data.
- Nolen-Hoeksema, S., & Morrow, J. (1991). A prospective study of depression and distress following a natural disaster: The 1989 Loma Prieta earthquake. *Journal of Personality and Social Psychology*, *61*, 105–121.
- Nolen-Hoeksema, S., & Morrow, J. (1992). *Ruminations, self-evaluations, and depressed mood: Tests of alternate predictions*. Manuscript submitted for publication.
- Nolen-Hoeksema, S., & Morrow, J. (1993). The effects of rumination and distraction on naturally-occurring depressed moods. *Cognition and Emotion*, *7*, 561–570.
- Nolen-Hoeksema, S., Morrow, J., & Fredrickson, B. L. (1993). Response styles and the duration of episodes of depressed mood. *Journal of Abnormal Psychology*, *102*, 20–28.
- Norris, F. H., & Murrell, S. A. (1990). Social support, life events, and stress as modifiers of adjustment to bereavement by older adults. *Psychology and Aging*, *5*, 429–436.
- O'Brien, K., Wortman, C. B., Kessler, R. C., & Joseph, J. G. (1989). *Social conflict and social support in a cohort at risk for AIDS*. Unpublished manuscript, Institute for Social Research, University of Michigan, Ann Arbor.
- Osterweis, M., Solomon, F., & Green, M. (Eds.). (1984). *Bereavement: Reactions, consequences, and care*. Washington, DC: National Academy Press.
- Parkes, C. M., & Weiss, R. S. (1983). *Recovery from bereavement*. New York: Basic Books.
- Pennebaker, J. W. (1990). *Opening up: The healing power of confiding in others*. New York: William Morrow & Company.
- Pennebaker, J. W., & O'Heeron, R. C. (1984). Confiding in others and illness rates among spouses of suicide and accidental-death victims. *Journal of Abnormal Psychology*, *93*, 473–476.
- Pyszczynski, T., & Greenberg, J. (1987). Self-regulatory perseverance and the depressive self-focusing style: A self-awareness theory of reactive depression. *Psychological Bulletin*, *62*, 122–138.
- Pyszczynski, T., Greenberg, J., Hamilton, J., & Nix, G. (1991). On the relationship between self-focused attention and psychological disorder: A critical reappraisal. *Psychological Bulletin*, *110*, 538–543.
- Pyszczynski, T., Hamilton, J., Herring, F., & Greenberg, J. (1989). Depression, self-focused attention, and the negative memory bias. *Journal of Personality and Social Psychology*, *57*, 351–357.
- Pyszczynski, T., Holt, K., & Greenberg, J. (1987). Depression, self-focused attention, and expectancies for positive and negative future life events for self and others. *Journal of Personality and Social Psychology*, *52*, 994–1001.
- Rando, T. A. (1984). *Grief, dying and death: Clinical interventions for caregivers*. Champaign, IL: Research Press.
- Raphael, B. (1984). *The anatomy of bereavement: A handbook for the caring professions*. London: Hutchinson.
- Rook, K. (1984). The negative side of social interaction: Impact on psychological well-being. *Journal of Personality and Social Psychology*, *46*, 1097–1108.
- Scheier, M. F., & Carver, C. S. (1985). Optimism, coping, and health: Assessment and implications of generalized outcome expectancies. *Health Psychology*, *4*, 219–247.
- Shaw, B. F., Vallis, T. M., & McCabe, S. B. (1985). The assessment of the severity and symptom patterns in depression. In E. E. Backham & W. R. Leber (Eds.), *Handbook of depression: Treatment, assessment, and research* (pp. 372–407). Homewood, IL: Dorsey Press.
- Stone, A. A., Greenberg, M. A., Kennedy-Moore, E., & Newman, M. G. (1991). Self-report, situation-specific coping questionnaires: What are they measuring? *Journal of Personality and Social Psychology*, *61*, 648–658.
- Teasdale, J. D. (1988). Cognitive vulnerability to persistent depression. *Cognition and Emotion*, *2*, 247–274.
- Tolor, A., & Fehon, D. (1987). Coping with stress: A study of male adolescents' coping strategies as related to adjustment. *Journal of Adolescent Research*, *2*, 33–42.
- Vachon, M. L. S., Sheldon, A. R., Lancee, W. J., Lyall, W. A. L., Rogers, J., & Freeman, S. J. J. (1982). Correlates of enduring distress patterns following bereavement: Social network, life situation and personality. *Psychological Medicine*, *12*, 783–788.
- Vachon, M. L. S., & Stylianos, S. K. (1988). The role of social support in bereavement. *Journal of Social Issues*, *44*, 175–190.
- Watson, D., & Clark, L. A. (1984). Negative affectivity: The disposition to experience aversive emotional states. *Psychological Bulletin*, *96*, 465–490.
- Weiss, R. (1974). The provisions of social relationships. In Z. Rubin (Ed.), *Doing unto others* (pp. 17–26). Englewood Cliffs, NJ: Prentice Hall.
- Windholz, M. J., Marmar, C. R., & Horowitz, M. J. (1985). A review of the research on conjugal bereavement: Impact on health and efficacy of intervention. *Comprehensive Psychiatry*, *26*, 433–447.
- Wood, J. V., Saltzberg, J. A., Neale, J. M., Stone, A. A., & Rachmiel, T. B. (1990). Self-focused attention, coping responses, and distressed mood in everyday life. *Journal of Personality and Social Psychology*, *58*, 1027–1036.
- Zimmerman, M., Coryell, W., Corenthal, C., & Wilson, S. (1986). A self-report scale to diagnose major depressive disorder. *Archives of General Psychiatry*, *43*, 1076–1081.

Received April 16, 1992

Revision received May 24, 1993

Accepted November 8, 1993 ■