

# When Avoiding Unpleasant Emotions Might Not Be Such a Bad Thing: Verbal–Autonomic Response Dissociation and Midlife Conjugal Bereavement

George A. Bonanno  
The Catholic University of America

Dacher Keltner  
University of Wisconsin—Madison

Are Holen  
University of Trondheim

Mardi J. Horowitz  
University of California, San Francisco

It has been widely assumed that emotional avoidance during bereavement leads to either prolonged grief, delayed grief, or delayed somatic symptoms. To test this view, as well as a contrasting adaptive hypothesis, emotional avoidance was measured 6 months after a conjugal loss as negative verbal–autonomic response dissociation (low self-rated negative emotion coupled with heightened cardiovascular activity) and compared with grief measured at 6 and 14 months. The negative dissociation score evidenced reliability and validity but did not evidence the assumed link to severe grief. Rather, consistent with the adaptive hypothesis, negative dissociation at 6 months was associated with *minimal* grief symptoms across 14 months. Negative dissociation scores were also linked to initially high levels of somatic symptoms, which dropped to a low level by 14 months. Possible explanations for the initial cost and long-term adaptive quality of emotional avoidance during bereavement, as well as implications and limitations of the findings, are discussed.

Throughout the life cycle, human beings confront a number of potentially distressing life events. Although it is clear that some people adapt better to adversity than others, there has long been debate over which specific coping responses might predict positive or negative outcomes (Monat & Lazarus, 1985). An early view on this question, rooted in Freud's cathartic model, held that the emotions associated with extreme stressors must be deliberately and consciously experienced or "worked through." The avoidance or minimization of the emotional features of stressful events was believed to increase symptoms (Freud, 1917/1957). More recently, however, multidimensional approaches to coping (Lazarus & Folkman, 1984) have allowed for a potential adaptive function of avoidant processes (Lazarus, 1985). In general, whether or not avoidance is detrimental or effective may depend on a number of

factors, including the time elapsed following the stressor (Levine et al., 1987; Nolen-Hoeksema, 1993; Pennebaker, 1989), the degree of conscious volition associated with the coping behavior (Bonanno & Singer, 1990; Paulhus & Levitt, 1987), and the nature of the stressor event (Krohne, 1986; Monat & Lazarus, 1985; Schwartz, 1990).

## Emotional Avoidance in Bereavement

One type of stressor event to which emotional avoidance has traditionally been viewed as maladaptive is the death of a loved one (Bowlby, 1980; Deutsch, 1937; Doyle, 1980; Horowitz, 1976; Lindemann, 1944; Osterweis, Solomon, & Green, 1984; Parkes & Weiss, 1983; Rando, 1984; Raphael, 1983; Sanders, 1993). For example, coping processes that involve minimization or dissociation of *awareness* of unpleasant emotion associated with the loss have typically been characterized as "disordered" (Bowlby, 1980) or "pathological" (Osterweis et al., 1984). The various manifestations of this view in the bereavement literature may be summarized in three related hypotheses. Investigators ascribing to the most generic of these, the *prolonged grief* hypothesis, have viewed emotional avoidance as ultimately extending or prolonging the mourning process (Rando, 1984) and possibly as even causing "lasting emotional damage" (Marris, 1958). According to a second, *delayed grief* hypothesis, emotional avoidance during bereavement may minimize symptoms initially, but overt distress is expected to emerge eventually as delayed grief reactions (Bowlby, 1980; Deutsch, 1937; Horowitz, 1976; Osterweis et al., 1984; Parkes & Weiss, 1983; Rando, 1984; Raphael, 1983; Sanders, 1993). A third

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George A. Bonanno, Department of Psychology, The Catholic University of America; Dacher Keltner, Department of Psychology, University of Wisconsin—Madison; Are Holen, Department of Community Medicine, University of Trondheim, Trondheim, Norway; Mardi J. Horowitz, Department of Psychiatry, University of California, San Francisco.

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Correspondence concerning this article should be addressed to George A. Bonanno, Department of Psychology, The Catholic University of America, Washington, DC 20064.

variant, the *delayed somatic symptoms* hypothesis, holds that emotional avoidance is linked to the delayed appearance of somatic symptoms (Horowitz, Bonanno, & Holen, 1993; Osterweis et al., 1984; Raphael, 1983; Sanders, 1993). For instance, Sanders (1993) reported delayed somatic symptoms among a loosely defined group of bereaved individuals who "suppressed" their emotional reactions during bereavement to the extent that "they were not aware that such a defense was being used" (p. 260).

Historically, the hypothesized association of emotional avoidance during bereavement with one of these three outcomes—prolonged grief, delayed grief, or delayed somatic symptoms—has been accepted almost without question by the majority of practitioners in the field (W. Stroebe & Stroebe, 1987). More recently, however, it has been pointed out that little empirical evidence for any of these hypotheses is actually available (Wortman & Silver, 1989). Furthermore, recent reviews of the existing empirical literature have not supported the compatible assumptions that the absence of emotional distress during bereavement leads to more problematic outcomes (Wortman & Silver, 1989) or that "working through" the emotions associated with grief is essential for its successful resolution (M. S. Stroebe & Stroebe, 1991).

Indeed, while the complete denial of the loss of a loved one would present obvious difficulties, it seems plausible that some distraction or transitive shifts in awareness to more benign content would lessen the emotional impact of the loss (W. Stroebe & Stroebe, 1987) and provide the time needed to integrate its more painful implications (Paulay, 1985). The capacity to regulate or "dose" feelings of grief would also help bereaved individuals meet ongoing responsibilities at work and with other important people in their lives (Shuchter & Zisook, 1993). This might be achieved by switching the focus of attention to other internal signals, for example, positive imagery (Barber & Hahn, 1962), to events occurring at another time and place (Bonanno, Davis, Singer, & Schwartz, 1991), or to external stimulus features (Ahles, Blanchard, & Leventhal, 1983). Such emotional dissociations have been considered effective short-term means of coping with distress (Ahles et al., 1983; Leventhal, 1984) and may be sufficient to produce longer term amelioration of grief symptoms (T. L. Rosenthal, 1993; Wortman & Silver, 1989).

In the present study we sought to test the hypothesized links between emotional avoidance and the three different maladaptive grief patterns, as well as the possible adaptive aspects of emotional avoidance, in a midlife conjugally bereaved sample. In keeping with the descriptions in the bereavement literature, emotional avoidance was conceptualized as an emotion-focused process aimed at the minimization or dissociation of *awareness* of distress related to the loss. A range of possible emotion-focused avoidant coping responses have appeared in the literature (Nolen-Hoeksema, 1993). The most relevant distinction in terms of the avoidance of awareness appears to be a relatively global set of automatic or "unconscious" emotion-focused responses associated with repressive coping (Bonanno & Singer, 1990, 1993; Weinberger, 1990; Weinberger, Schwartz, & Davidson, 1979) and self-deception (Jamner & Schwartz, 1986; Paulhus, 1984; Paulhus & Levitt, 1987).

The avoidant mechanisms attributed to repressive coping and

self-deceptive processes appear to result in a genuinely reduced awareness of distress (Jamner & Schwartz, 1986; Paulhus & Levitt, 1987; Weinberger, 1990). For these individuals, the appraisal of threat appears to activate an automatic "*perceptual avoidance schema*" (Bonanno & Singer, 1990, p. 444) that minimizes or narrows attention to discrete aspects of the threat (Hansen, Hansen, & Shantz, 1992) and thereby reduces the subjective experience of distress. The relatively automatic nature of repressive coping and self-deceptive processes (Paulhus & Levitt, 1987) is contrasted by more controlled, deliberate attempts to divert attention, such as willfully trying to suppress particular thoughts (Horowitz, Wilner, & Alvarez, 1979; Wegner, 1989), intentionally distracting oneself through engrossing activity (Nolen-Hoeksema & Morrow, 1991), or physically avoiding feared stimuli (Foa & Kozak, 1986; Horowitz et al., 1979).

Despite the apparent effectiveness of repressive coping in genuinely reducing subjective distress, there is some evidence linking it with decreased immune functioning (Schwartz, 1990) and with increased proneness to neoplastic disease (Jensen, 1987; Bonanno & Singer, 1990). However, the tentative and possibly spurious nature of this evidence has been noted (Bonanno & Singer, 1990), as has the possibility that repressive coping may also serve a health-promoting function (Schwartz, 1990). The conceptually related construct of self-deception (Paulhus & Levitt, 1987) has similarly shown a positive correlation with adjustment (Paulhus & Reid, 1991). In general, however, strategies aimed at reduced awareness of unpleasant emotion have been thought to be less promising during bereavement because the long-term nature of the stressor makes disengagement from self-focus difficult (Pyszczynski & Greenberg, 1987) and because of the general unwillingness or inability many people experience in accepting the finality of the loss (Horowitz, Bonanno, & Holen, 1993).

### Verbal-Autonomic Response Dissociation

The measurement of repressive and self-deceptive coping processes has a long and protracted history (Bonanno & Singer, 1990; Weinberger, 1990). Although deliberate avoidant behaviors are, by definition, readily available to conscious self-report (Horowitz et al., 1979), repressive coping processes are not likely to be available to introspection (Wegner & Pennebaker, 1993). Thus, repressive and self-deceptive habits have been assessed indirectly through self-report questions that *imply* a defensive inhibition of affect (Weinberger et al., 1979) and a relatively limited self-awareness (Paulhus, 1991) and through behavioral measures of avoidant attention and encoding processes (Bonanno et al., 1991; Hansen et al., 1992; Jamner & Schwartz, 1986).

One behavioral measure linked to repressive coping that seemed particularly applicable to the question of dissociated awareness during bereavement is the discrepancy between subjective emotion and cardiovascular activation (Newton & Contrada, 1992). There is a well-established consensus that emotions are not single unitary phenomena but rather manifest in multiple response modalities, including the subjective "felt" experience, visceral-physiological reactions, and expressive-behavioral reactions (Buck, 1988; Ekman, 1992; Izard, 1977, 1989, 1992; Lang, 1979; Lang, Kozak, Miller, Levin, & McLean, 1980; Leventhal,

1984, 1991). Discrepancies between emotional response indicators are not uncommon (Izard, 1977, 1992; Lang, 1968; Lang, Levin, Miller, & Kozak, 1983). Emotions may be experienced subjectively, for example, in the absence of their overt behavioral expression (Schwartz, Fair, Greenberg, Freedman, & Klerman, 1974; Schwartz, Fair, Salt, Mandel, & Klerman, 1976). Similarly, observable emotional responses or physiological changes may be dissociated, or not fully experienced at the level of subjective awareness (Izard, 1977; Lang et al., 1983; Leventhal, 1991; Schwartz, 1982).

When there is a minimal subjective experience of negative emotion despite evidence of the processing of threat-related emotion at other response modalities, emotion-focused avoidant coping process are presumed to be operative (Leventhal, 1984; Newton & Contrada, 1992). Consistent with this presumption and the links to the more generalized repressive coping style, individuals categorized as *repressors* have consistently reported low levels of negative affect during stressful situations while simultaneously exhibiting the type of higher levels of autonomic arousal indicative of a negative emotional response (Asendorpf & Scherer, 1983; Davis & Schwartz, 1986; Gudjonsson, 1981; Jamner & Schwartz, 1986; Newton & Contrada, 1992; Weinberger et al., 1979). This pattern of (–) *verbal-autonomic response dissociation* (Newton & Contrada, 1992) then suggests a regulatory coping response, active primarily at the level of conceptual processing (Leventhal, 1991; Mayer & Gaschke, 1988), which monitors and reduces the direct subjective awareness of distress. In contrast, cardiovascular activity appears to be less readily influenced by these same reflective and conceptual processes and to be more directly coupled with the cognitive appraisal of threat (Fowles, 1980; Leventhal, 1991; Newton & Contrada, 1992). Thus, when verbal-autonomic dissociation is observed, it is reasonable to assume that the threat has not been fully consciously experienced but that some form of threat-related appraisal has occurred and has resulted in increased cardiovascular activity.

### The Present Investigation

The measurement of verbal-autonomic response dissociation during bereavement then offers an operational definition of emotion-focused avoidant coping and a means of testing its relationship to different patterns of grief course. In the present study, we measured verbal-autonomic response dissociation in a group of conjugally bereaved individuals 6 months after the loss and compared it with grief severity measured at 6 and 14 months post loss. To obtain the verbal-autonomic dissociation scores at 6 months, narrative interviews were conducted in which bereaved participants were asked to describe their relationship to the deceased and, as a comparison, to describe their relationship with the current most important person in their lives. Self-ratings of emotion and autonomic physiology obtained from these interviews were then contrasted to form verbal-autonomic response dissociation scores. To obtain the 6- and 14-month measures of grief severity, both overt grief symptoms from a structured clinical interview and somatic symptoms from a self-report index were collected at these time points.

We operationalized the historic generic assumption—that

emotional avoidance will exacerbate grief relatively early in the bereavement and will reduce the likelihood of symptom reduction over time—as the *prolonged grief hypothesis*: Bereaved individuals who evidence (–) verbal-autonomic response dissociation at 6 months post loss will exhibit high levels of overt grief symptoms at both 6 and 14 months. We also tested the presumed link between emotional avoidance and the two different types of delayed grief. For overt grief symptoms, we operationalized the *delayed grief hypothesis*: Bereaved individuals who evidence (–) verbal-autonomic response dissociation at 6 months post loss will evidence low grief symptoms at 6 months but will evidence elevated or “delayed” grief symptoms at 14 months. We operationalized the somatic variant of this assumption as the *delayed somatic symptoms hypothesis*: Bereaved individuals who evidence (–) verbal-autonomic response dissociation at 6 months post loss will evidence low levels of somatic symptom patterns at 6 months but will evidence elevated or “delayed” somatic symptoms at 14 months.

We tested these three predictions in contrast to a competing hypothesis based on the more recent view that emotional avoidance may play a relatively adaptive role in grief (Shuchter & Zisook, 1993; W. Stroebe & Stroebe, 1987). Accordingly, we operationalized the *adaptive hypothesis*: Bereaved individuals who evidence (–) verbal-autonomic response dissociation at 6 months post loss will exhibit both “minimal” overt grief symptoms at 6 and 14 months and “minimal” somatic symptoms at 6 and 14 months.

Finally, we also attempted in this study to improve on the methods used in previous investigations of avoidance during bereavement. First, the grief-specific symptom scores were based on a structured clinical interview. The validity of the categorical distinctions of high and low symptom levels produced by the interview was then assessed in relation to standardized indexes of related symptoms (e.g., the Beck Depression Inventory) and in relation to independent clinical assessments of categorically severe versus mild grief. Second, an attempt was made to establish the convergent and discriminant validity of the verbal-autonomic response dissociation score as an index of the avoidance of emotional awareness. Convergent validity was assessed in relation to comparable and independent assessments of the Avoidance of Emotional Awareness (AEA) scale. Discriminant validity was assessed in relation to a contrasting self-report measure of deliberate avoidant behaviors specifically defined in relationship to bereavement (Horowitz et al., 1979).

### Method

#### Participants

Conjugally bereaved participants were recruited by newspaper advertisements, posted notices, and referrals from a variety of institutions within the San Francisco Bay area (e.g., medical centers, religious organizations) that requested paid volunteers who had sustained the death of a spouse between 3 and 6 months earlier. Respondents participated in a structured telephone screening interview. Inclusion criteria stated that participants must be between the ages of 21 and 55, had been married or living with their deceased partner for at least 3 years, and had not experienced serious physical or mental disorders, binge eating, and drug or alcohol abuse during that time. Informed consent was re-

quested for participation in several videotaped interview sessions during the course of the following year. Participants were paid \$10.00 per hour.

We randomly selected 42 participants from those who responded to the recruitment for inclusion in this study. Consideration of the full recruited sample is in preparation elsewhere and will be discussed as appropriate in this article. The means and standard deviations of the present experimental sample along several sociodemographic variables are presented in Table 1. A multivariate analysis of variance revealed no differences in scores on these variables between experimental participants ( $n = 42$ ) and participants from the larger bereavement sample ( $n = 46$ ) who did not participate in the present study ( $p < .20$ ).

### Overview of Procedure

The current study had four phases. First, respondents meeting inclusion criteria were mailed self-report questionnaires. These were returned in stamped preaddressed envelopes. In the second phase, participants were scheduled for a structured grief symptom interview at approximately 6 months ( $M = 5$  months, 18 days) after the death of the spouse. In the third phase, on average 17 days later, a semistructured narrative interview was conducted. Finally, in the fourth phase, participants again completed the grief symptom interview 14 months following the death of the spouse.

### Phase 1: Initial Questionnaires (3–6 Months)

Questionnaires were accompanied by instructions specifying that they be completed in a quiet, comfortable location and without discussing the material with others. Three different types of questionnaires were used, including (a) a basic demographic questionnaire and (b) scales measuring variables commonly thought to moderate grief severity: Remembered relationship adjustment in the conjugal relationship was measured with the 32-item Dyadic Adjustment Scale (DAS; Spanier, 1976). Reliability for the DAS has been established at .96 and .94 for the total scale (Spanier, 1976). The DAS has proven a meaningful measure of relationship adjustment during bereavement (Bonanno, Hartman, Field, & Horowitz, 1994). Social support was measured in terms of both the perceived availability of support and interactions with affiliative networks (Kessler, Kendler, Heath, Neale, & Eaves, 1992; Kessler & MacLeod, 1985) by adapting items from several domains reported by Kessler et al. (1992). A third type of questionnaire was (c)

scales typically associated with grief severity: Depression was measured with the Beck Depression Inventory (BDI; Beck & Steer, 1987) and the Symptom Check List (SCL-90-R; Derogatis, 1983). Anxiety also was measured with the SCL-90-R. Intrusive and avoidant experiences specific to the loss were measured with the subscales of the Impact of Event Scale (IES; Horowitz et al., 1979). The Avoidance subscale, which we used to assess discriminant validity of the verbal-autonomic dissociation score, consists of 8 items describing deliberate attempts to avoid thoughts of the stressful event ("I tried to remove it from memory") or reminders of the stressful event ("I stayed away from reminders of it"). The reliability and validity of the IES have been demonstrated in a number of studies within a variety of populations.

### Phase 2: Structured Grief Symptom Interview (6 months)

We chose 6 months post loss for initial measurements because the first few months after a loss tend to be characterized by considerable intraindividual variability (Lund, Caserta, & Dimond, 1993) as well as by the immediate need to attend to practical matters (e.g., legal arrangements, etc.). We reasoned that the 6-month point minimized these confounds but was still early enough in the bereavement to capture the quality of initial coping responses (Dyregrov & Matthiesen, 1991; Gerber, Rusaleem, Hannon, Battin, & Arkin, 1975; Windholz, Marmar, & Horowitz, 1985). Somatic symptoms were assessed with an 18-item self-report checklist used in the Whitehall II study, a large scale study of morbidity among civil servants in London, England (Marmot et al., 1991; Stansfeld, Smith, & Marmot, 1993). Grief-specific symptoms were assessed by means of an interview designed to accommodate the broad range of symptoms and difficulties observed in both single case studies (Horowitz, Stinson, et al., 1993; Stinson, Milbrath, & Horowitz, 1995) and large sample studies (Lehman, Wortman, & Williams, 1987; Lundin, 1984; Zisook, DeVaul, & Click, 1982) of severe grief. On the basis of initial pilot testing (Horowitz, Siegel, Holen, & Bonanno, 1995), we selected 30 items as symptomatic of severe grief reactions, including intrusive experiences (e.g., unbidden memories or images of the deceased), behaviors that delay or minimize the finality of the loss (e.g., an inability to part with the deceased's possessions), and difficulties adapting to the loss (e.g., feeling in limbo or that life has come to a standstill, experiencing unusual irritability or outbursts of anger, or difficulty being as emotionally available in significant relationships). Additional item and factor analyses based on the larger bereaved sample are in preparation elsewhere (Horowitz et al., 1995; Siegel, Horowitz, Bonanno, & Holen, 1995).

**Grief interview format.** The 30 grief symptom items were scored by the interviewer as present or absent during the past month. Each item included an eliciting question, for example, "In the last month, did you feel a lot worse when you were in a situation that reminded you of (deceased)?" and an explicitly defined criterion, for example, "Markedly increased sadness or distress, during the past month, in situations that symbolize or remind the subject of the deceased." In addition, the interviewers used clinical judgments and observations and asked as many additional questions as deemed necessary to ascertain the presence or absence of the symptom. A score was determined for each item before the next item was discussed.

The clinicians conducting the grief-specific symptom interview also determined the expectedness of the loss. An *expected loss* was defined as one having greater than 1 week of forewarning, and an *unexpected loss* was defined as having 1 week or less forewarning (Bonanno et al., 1994). Using this categorization, we determined that 16 participants (38%) had lost their spouses unexpectedly, and 26 participants (62%) had had relatively expected losses. Finally, at the completion of the interview, the interviewer rated participants for the AEA, a single-item

Table 1  
Sample Characteristics for Sociodemographic Measures ( $n = 42$ )

Measure	Characteristic
Age	46.0 years ( $m$ )
Gender	60% female 40% male
Education level	12.4 years ( $m$ )
Ethnicity	75% Caucasian 10% Asian-American 10% African-American 3% Hispanic-American 3% Other
Employment status	52% full time 24% part time 26% unemployed
Family income	\$62,000 ( $m$ )
Duration of relationship	182 months ( $m$ )

scale constructed for this study. AEA judgments were made on a 0 to 100 scale with extreme scores (near 100) given when "the subject appeared to be *successfully* keeping unpleasant or undesirable feelings *out of awareness*" and when it could be inferred "that negative affect was present on some level but had not been fully, consciously experienced." An extremely low AEA score (near 0) was given when "the subject seemed to experience an acute awareness of unpleasant or undesirable feelings and thoughts." AEA scores were expected to show a mild to moderate relationship to the more precisely defined verbal-autonomic dissociation score.

**Interrater reliability of grief symptoms.** The grief interviews were conducted by three doctoral candidates in clinical psychology who were blind to the goals and hypotheses of the study. The three interviewers participated in more than 100 hours of training using videotaped interviews and pilot participants. For purposes of reliability estimation, a subset of 25 participants was interviewed within 1 month of the original interview by a different interviewer. The ratings of the different interviewers produced a kappa score of .78 for the entire 30 items.

**Validity of the grief symptoms score.** The total grief symptom score was highly correlated with depression on the BDI ( $r = .60$ ), with the Depression subscale on the SCL-90-R ( $r = .54$ ), and with the Intrusion ( $r = .59$ ) and Avoidance ( $r = .51$ ) subscales of the IES, and was moderately correlated with the Anxiety subscale on the SCL-90-R ( $r = .34$ ). For categorical analyses, we divided the 30-item total grief symptom score into high and low scores on the basis of the sample median of 10 symptoms. To obtain a concurrent measure of the validity of the median split as an index of mild versus severe grief, a subset of 24 participants was assessed by one of three psychotherapists experienced with cases of severe grief. The therapists had no knowledge of the hypotheses guiding the study or of any of the results of the study. The therapist conducted each interview approximately 1 month after the structured grief symptom interview in the therapist's private offices, using whatever interview formats he or she would normally use to assess a new patient. The grief ratings produced by the psychotherapists were scored on a Likert scale that explicitly allowed comparison with categorical grief ratings: 0–4 represented low to moderate levels of grief; 5–7 represented a severe level of grief.

The therapist's continuous ratings of grief severity correlated highly ( $r = .67$ ) with total grief symptoms. Importantly, the therapists' categorical ratings (low to moderate vs. severe grief) were consistent with binary categories produced by the 6-month structured grief symptom interview in 20 out of 24 participants, or 83% agreement. Latent class modeling, reported elsewhere (Siegel et al., 1995), in which several grief and distress measures in the larger bereaved sample are compared ( $n = 88$ ), also has confirmed the efficacy of the 10-symptom median split as a sound group distinction.

### Phase 3: Narrative Interview (6 months)

**Baseline.** The narrative interview was conducted in an  $8' \times 10'$  ( $2.4 \text{ m} \times 3.0 \text{ m}$ ) room. Participants were seated in a comfortable chair facing a similar unoccupied chair and two wall-mounted cameras. Participants were informed that the interview would be videotaped and that physiological responses would be recorded. After physiological sensors were attached, participants were instructed to sit quietly and to relax for a few minutes. The baseline period lasted 10 min.

**Narrative interview.** After baseline, the interviewer entered and read a script informing participants that they would be asked to speak for 18 min about specified persons in their lives, that the interviewer would keep track of the time, that the best way to approach the task was to "try to relate as openly as possible whatever comes to your mind," and that the interviewer would seldom speak other than to ask clarifying questions. To encourage spontaneous discourse, the interviewer stated that

"if at any time you go blank, or run out of things to say, just relax and give yourself time to think about something else related to the topic." The specified topic persons were (a) the deceased and (b) the most important person currently in the participant's life (current other), in randomized order across participants. Each interview topic lasted 18 min. The interviewer first asked participants to describe their relationship with the specified person and, approximately 6 min into the interview, requested specific episodic memories involving the participant and the topic person.

**Self-rated emotion.** After each interview topic, participants were asked to rate "how often" during the discussion (0 = *not at all* to 3 = *almost constantly*) they had experienced each of three positive (interest, surprise, enjoyment) and four negative (fear, guilt, anger, distress) emotions. These self-ratings were then aggregated for separate positive and negative scores.<sup>1</sup> To encourage honesty in responding, participants were informed that the interviewer would not view their responses.

**Heart rate.** Heart rate (HR) was determined by electrocardiogram (EKG) from a wrist and forearm sensor placement. EKGs were processed in real time by an R-wave detector (Vitalog corporation) that generated a pulse signal at the occurrence of each waveform. The timing of this signal can be accurately assessed by sampling at 800–1,000 Hz. HR data were derived from the weighted average of R–R intervals (Veldern & Graham, 1988) yielding a second-by-second time series. Average beats per minute (BPM) were then calculated. HR change was computed by subtracting each participant's average baseline HR from their average HR during each interview topic.<sup>2</sup> The total number of words used by each participant was not significantly correlated with HR change in the deceased topic ( $r = .17, p = .26$ ) and in the current-other topic ( $r = .18, p = .25$ ), indicating that verbal output did not meaningfully influence HR (Weber & Smith, 1990).

### Phase 4: Repeat of Structured Grief Symptom Interview (14 months)

We designated 14 months post loss as a follow-up date for the repeat of the structured clinical interview because (a) symptom reduction ap-

<sup>1</sup> We also collected self-rated frequencies of emotions experienced during the baseline period on a subset of participants ( $n = 20$ ). Only 3 of these participants (15%) reported having experienced any positive emotion during the baseline period, and only 1 participant (5%) reported having experienced any negative emotion during the baseline period. None of the participants reporting emotion during the baseline period reported more than the minimum possible frequency of emotion. Because so little emotion was reported, and because a number of participants expressed displeasure with the task or stated that they had found it confusing, we assessed the relative usefulness of collecting baseline emotion. We accomplished this by comparing the change in self-rated frequency of positive and negative emotion from baseline to each interview topic with the unadjusted self-rated emotion scores from each interview topic. The change in self-rated frequency of emotion showed almost perfect correlation with the unadjusted emotion ratings both in the deceased topic (positive,  $r = .97$ ; negative,  $r = .98$ ) and in the current-other topic (positive,  $r = .98$ ; negative,  $r = .99$ ). Thus, collecting self-rated frequency of emotion scores during the baseline provided relatively little additional information. To minimize the discomfort of the bereaved participants, the baseline self-report was discontinued. Baseline data were not considered in subsequent analyses.

<sup>2</sup> As was done for the baseline self-report data, we assessed the usefulness of collecting baseline HR by calculating change scores from baseline to each interview topic. In contrast to the near-perfect correlations for the self-report measures, however, we observed lesser correlations between HR change scores and unadjusted HR during the narrative interview (deceased,  $r = .57$ ; current other,  $r = .59$ ). Thus, the changes

pears to occur relatively gradually beyond the first year (Lundin, 1984; Vachon et al., 1982), and (b) this date avoids the possible confound of 1-year anniversary reactions to the loss.

## Results

### Data Analyses

First, we categorized each participant into one of four possible longitudinal patterns of overt grief symptoms.<sup>3</sup> Then we conducted separate analyses of variance (ANOVAs) for the self-rated emotion and the HR increase data to verify their unique relationship to the grief patterns and thus the appropriateness of their combination as a single verbal-autonomic dissociation score. The next analysis evaluated the predictions that verbal-autonomic response dissociation, measured at 6 months post loss, would be associated with either prolonged high grief across 6 and 14 months (prolonged grief hypothesis) or delayed high grief at 14 months (delayed grief hypothesis). Next, we categorized the sample into four possible longitudinal patterns of somatic symptoms, and a subsequent analysis evaluated the prediction that verbal-autonomic response dissociation at 6 months would be associated with delayed somatic symptoms at 14 months (delayed somatic symptom hypothesis). These analyses also allowed evaluation of the competing hypothesis that verbal-autonomic response dissociation at 6 months would result in minimal symptoms across the 6- and 14-month measurements (adaptive hypothesis). Additional analyses explored possible moderating variables for the observed effects and established preliminary convergent and discriminant validity for the verbal-autonomic dissociation score as a measure of emotional avoidance.

### Longitudinal Grief Patterns

We defined four possible longitudinal grief patterns, based on high and low levels of grief-specific symptoms relative to the sample median (10 symptoms) at 6 months and whether or not that status changed by the 14-month symptom interview. *Prolonged grief* participants were those with greater than 10 grief symptoms at both points of measurement; *recovered grief* participants were those with greater than 10 grief symptoms at 6 months, but fewer than 10 symptoms by the 14-month point; *minimal grief* participants were those with fewer than 10 grief symptoms at both points of measurement; and *delayed grief* participants were those with fewer than 10 grief symptoms at 6 months, but greater than 10 symptoms at 14 months.

The mean score and cell frequency of each category are displayed in Table 2. The participants with low levels of grief at 6 months (41%) showed on the average a small decrease in symptoms by 14 months ( $M = -2.06$ ).<sup>4</sup> Furthermore, none of the initial low-grief participants evidenced a sufficient increase in symptoms by 14 months to indicate delayed grief. Thus, these findings offer no support for the delayed grief hypothesis and

were consistent with the absence of delayed grief in previous studies (Wortman & Silver, 1989). The portion of the sample evidencing prolonged high grief symptoms from 6 to 14 months (24%) was well within the range observed in previous studies for this same time period (Bornstein, Clayton, Halikas, Maurice, & Robins, 1973; Vachon et al., 1982; Zisook & Shuchter, 1991).

### Verbal-Autonomic Response Dissociation

We adopted two criteria for the legitimate use of the verbal-autonomic dissociation score (Newton & Contrada, 1992). First, we expected the self-report and autonomic variables to be relatively uncorrelated with one another. Consistent with this criterion, HR change and self-rated negative emotion showed nonsignificant correlations ( $p < .30$ ) in the deceased topic ( $r = -.13$ ) and in the current-other topic ( $r = -.19$ ). The second criterion was that the self-report and autonomic variables show an opposite predictive relationship with grief. To satisfy this criterion, self-reported emotion and HR change served separately as the dependent variable in ANOVAs. The independent variables in these ANOVAs were the repeated measurements in each interview topic (deceased, current other), the longitudinal grief patterns (prolonged, recovered, minimal), and gender. Significant effects attributed to the grief patterns were followed by planned linear contrast analyses for decreasing patterns of grief severity (prolonged to recovered to minimal symptom patterns). The portion of possible benefit score (POPBS) was reported for each contrast as a measure of the variance explained by a contrast after removal of the chance variance that might be explained by any single degree of freedom from the basic effect (R. Rosenthal & Rosnow, 1985).

*Self-rated emotion.* Whereas the ANOVA for positive emotion did not yield significant effects involving the grief-specific symptom categories ( $p > .30$ ), the grief categories did show a

<sup>3</sup> In light of the various hypotheses associating emotional avoidance with differing patterns of grief course, we reasoned that changes in grief severity were most meaningful in relation to categories of relative change across time. Absolute levels of change by themselves might obscure important differences in longitudinal patterns. For example, the observation of few grief symptoms at both 6 and 14 months would indicate a relatively positive outcome, yet in an analysis based solely on change scores, participants with such a "minimal" grief pattern would not be distinguished from participants who exhibited "prolonged" high levels of grief at both measurement points. Absolute change scores are also susceptible to floor effects that may result in spurious findings. Cases in which grief was initially mild, for example, would not be likely to change much over time and thus would appear as less desirable than cases in which grief was initially high and had decreased over time. Accordingly, we created a single categorical distinction to accommodate the various patterns of grief course hypothesized in relation to emotional avoidance.

<sup>4</sup> Compared with participants with initially low levels of grief, participants with high levels of grief at 6 months showed a significantly greater decrease in symptoms ( $M = -5.75$  symptoms) from 6 to 14 months,  $t(40) = 2.75$ ,  $p < .001$ . The relatively small decrease in symptoms shown by participants with initially low levels of grief is consistent with the assumption that change in the absolute level of grief in these participants is susceptible to floor effects.

in HR from baseline to each interview topic showed considerable variation in relationship to unadjusted HR scores. Accordingly, HR change scores were considered in all subsequent analyses.

Table 2  
Mean Grief-Specific Symptoms and Cell Frequency for Longitudinal  
Grief-Specific Symptom Categories

Time interval	Longitudinal grief symptom patterns									
	Prolonged ( <i>n</i> = 10)		Recovered ( <i>n</i> = 15)		Minimal ( <i>n</i> = 17)		Delayed ( <i>n</i> = 0)		Sample ( <i>n</i> = 42)	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
6 months	15.10	2.80	12.26	2.46	4.64	2.36	—	—	9.85	5.18
14 months	14.50	3.47	5.33	2.80	2.58	3.16	—	—	6.40	5.64

significant effect for negative emotion,  $F(2, 36) = 8.38, p < .001$ . As shown in the upper half of Figure 1, the mean levels of reported negative emotion at 6 months were highest for participants with prolonged grief ( $M = 4.70$ ) and lowest for partici-

pants with minimal grief ( $M = 1.79$ ), with recovered grief participants showing an intermediate level ( $M = 2.54$ ). A linear contrast analysis confirmed this impression,  $F(1, 36) = 15.52, p < .001$ . The linear contrast explained most of the variance from the main effect (POPBS = 85%).

**HR change.** An ANOVA for the effects of grief category on baseline HR did not approach significance ( $p > .30$ ). The longitudinal grief patterns did show a significant main effect for HR change during the interview,  $F(2, 36) = 5.84, p < .01$ . As shown in the lower half of Figure 1, this effect was in the opposite direction of that observed for self-rated negative emotion—the smallest increase in HR during the 6-month interviews was evidenced by participants with prolonged grief ( $M = 2.56$  BPM) and the largest by participants with minimal grief across time ( $M = 7.40$  BPM). Intermediate levels of HR increase were found in participants with the recovered grief pattern ( $M = 3.69$  BPM). A linear contrast analysis confirmed this relationship,  $F(1, 36) = 10.67, p < .01$ . This linear contrast explained most of the variance from the main effect (POPBS = 83%).

These analyses also yielded other main effects for gender and topic. Specifically, more negative emotion was reported in the deceased topic ( $M = 3.32$ ) than in the current-other topic ( $M = 2.19$ ),  $F(1, 36) = 7.54, p < .01$ . Male participants had higher baseline HR ( $M = 82.28$ ) than female participants ( $M = 71.17$ ),  $F(1, 36) = 8.60, p < .01$ . Finally, gender also showed a main effect on HR change scores,  $F(1, 36) = 8.42, p < .01$ , which was qualified by a significant interaction between gender and interview topic,  $F(1, 36) = 5.93, p < .05$ . In the deceased topic, female participants evidenced significantly greater HR increase ( $M = 7.38$  BPM) than male participants ( $M = 2.41$  BPM),  $t(40) = 2.96, p < .005$ , whereas in the current-other topic, levels of HR change were not significantly differentiated by gender ( $p < .20$ ).

#### Verbal-Autonomic Response Dissociation and Overt Grief

Because the preceding analyses satisfied the two a priori criteria, we computed verbal-autonomic dissociation scores by (a) converting self-rated negative emotion and HR change to *z* scores based on the sample mean and then (b) subtracting each participant's standardized HR score from his or her standardized self-rated negative emotion score (Asendorpf & Scherer, 1983; Newton & Contrada, 1992). Thus, the dissociation of

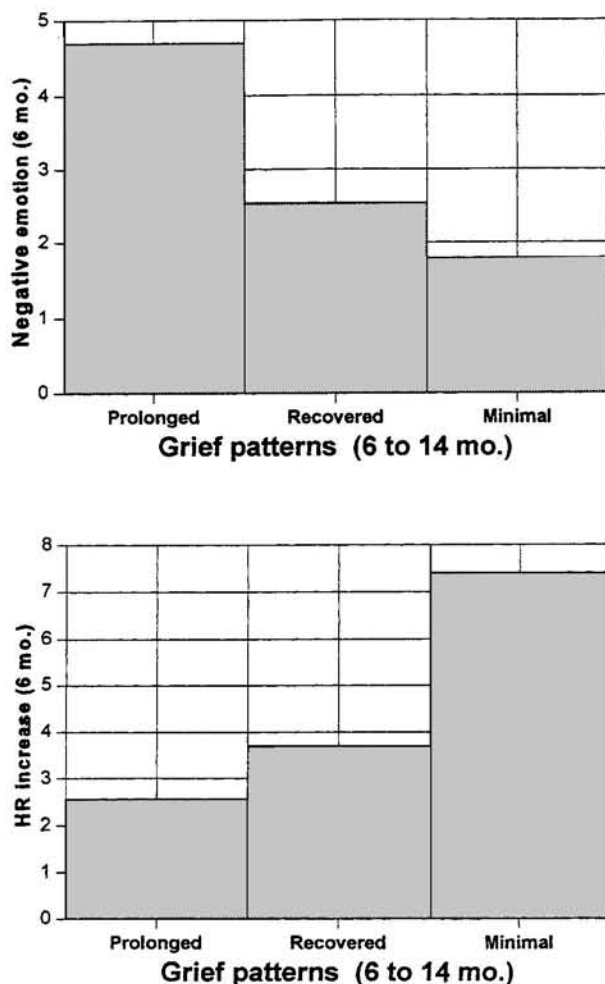


Figure 1. Mean levels of self-reported negative emotion and heart rate (HR) increase at 6 months (mo.) as a function of longitudinal grief pattern.



negative emotion was indicated by a (–) verbal–autonomic score (negative emotion < HR increase; Newton & Contrada, 1992). Using the same repeated measures ANOVA design, we found a highly significant main effect for longitudinal grief pattern,  $F(2, 36) = 10.90, p < .001$ . This effect, graphed in Figure 2, again indicated a linear relationship in the opposite direction of the presumed severity of the grief patterns, such that a negative verbal–autonomic dissociation score at 6 months was associated with minimal grief from 6 to 14 months ( $M_{\text{dissociation}} = -0.98$ ), whereas positive verbal–autonomic dissociation score at 6 months was associated with prolonged high grief from 6 to 14 months ( $M_{\text{dissociation}} = +1.32$ ). The recovered grief pattern was associated with a verbal–autonomic score near 0 ( $M_{\text{dissociation}} = -0.01$ ). A linear contrast confirmed this relationship,  $F(1, 36) = 21.13, p < .001$ . This linear contrast explained almost all of the possible variance from the main effect (POPBS = 98%).<sup>5</sup>

### Longitudinal Somatic Symptom Patterns

Self-reported somatic symptoms were not available for 2 participants, reducing the total sample for these analyses to 40 participants. The total somatic complaint score for the sample at 6 months ranged from 0 to 12 ( $M = 5.78, SD = 2.89$ ) and at 14 months ranged from 0 to 16 ( $M = 4.58, SD = 3.74$ ). The correlations of somatic symptoms and overt grief-specific symptoms did not approach significance ( $p > .30$ ) at 6 months ( $r = .14$ ) and at 14 months ( $r = .20$ ), suggesting that the separate treatment of these two variables was justified. Accordingly, we categorized participants into one of the four possible longitudinal somatic symptom patterns (prolonged, recovered, minimal, and delayed) on the basis of high and low scores relative to the sample median (5 symptoms) at 6 months and whether or not this status changed when symptoms were measured again at 14 months. The means and cell frequency for the longitudinal somatic patterns are displayed in Table 3. As was the case for overt grief symptoms, the percentage of respondents reporting prolonged high levels of somatic symptoms (22%) was within

the range observed in previous studies (W. Stroebe & Stroebe, 1993). Unlike the absence of delayed overt grief, delayed elevations in somatic symptoms were reported by 6 (15%) participants. Thus, the delayed somatic symptoms pattern is considered in the analyses below.

### Verbal–Autonomic Response Dissociation and Somatic Symptoms

The (+/–) verbal–autonomic dissociation score was again considered in the same repeated measures ANOVA design used in previous analyses and yielded a significant main effect for longitudinal somatic symptom pattern,  $F(3, 36) = 4.87, p < .01$ . As shown in Figure 3, a positive verbal–autonomic score at 6 months was associated with prolonged somatic symptoms from 6 to 14 months ( $M_{\text{dissociation}} = +1.23$ ). In contrast to the findings for overt grief symptoms, however, a negative verbal–autonomic score at 6 months was associated with the recovered somatic symptom pattern ( $M_{\text{dissociation}} = -1.17$ ). Thus, emotional avoidance at 6 months, as operationalized in the negative verbal–autonomic score, was associated with initially elevated levels of somatic symptoms that abated to low levels by 14 months. Verbal–autonomic dissociation scores near 0 were associated with both minimal somatic symptoms across measurements ( $M_{\text{dissociation}} = -0.17$ ) and with the delayed increase in somatic symptoms by 14 months ( $M_{\text{dissociation}} = -0.18$ ). A post hoc contrast analysis using this weight pattern (prolonged +1, recovered –1; minimal 0, delayed 0) yielded a highly significant effect,  $F(1, 36) = 14.61, p < .001$ . This contrast again explained nearly all of the possible variance from the main effect (POPBS = 97%).

### Potential Moderating Variables

The potential moderating effects of variables previously found to be predictive of grief severity were examined. We considered three such variables (remembered relationship adjustment (DAS), perceived social support, and the expectedness of

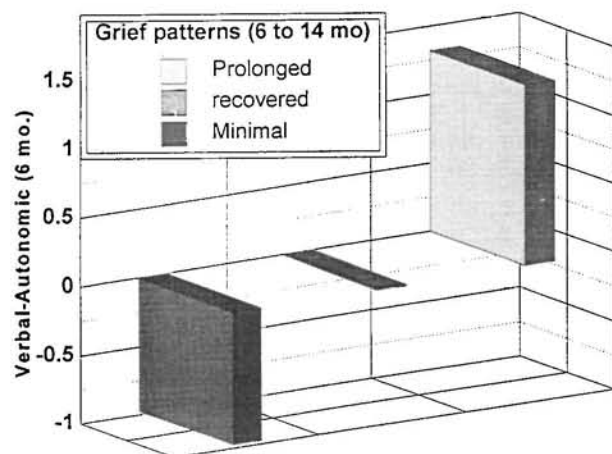


Figure 2. Mean verbal–autonomic response dissociation at 6 months (mo) as a function of longitudinal grief pattern.

<sup>5</sup> We noted that an analyses based on absolute changes in grief severity would not adequately capture the relationship between verbal–autonomic response dissociation and minimal grief across time (adaptive hypothesis). The data bear out this point. Mean verbal–autonomic response dissociation at 6 months was highly correlated with grief symptoms at 6 months ( $r = .53, p < .001$ ) and still moderately correlated with grief symptoms measured at 14 months ( $r = .31, p < .05$ ), again pointing up the association between negative verbal–autonomic dissociation at 6 months and fewer grief symptoms across time. Yet the correlation between verbal–autonomic dissociation at 6 months and the absolute change in grief symptoms from 6 to 14 months was not significant ( $r = .19, p < .25$ ). As would be expected, this same result was also evidenced in an ANOVA for grief severity in which the independent variables were the time of measurement (6 and 14 months) and the categorical distinction of negative and positive verbal–autonomic scores. A significant main effect for verbal–autonomic dissociation emerged,  $F(1, 38) = 5.12, p < .05$ , indicating again that the negative verbal–autonomic score was associated overall with less grief, but the interaction between verbal–autonomic dissociation and time of measurement did not approach significance ( $p < .30$ ).



Table 3  
Mean Somatic Symptoms and Cell Frequency for Longitudinal Somatic Symptom Categories

Time interval	Longitudinal somatic symptom patterns									
	Prolonged ( <i>n</i> = 9)		Recovered ( <i>n</i> = 10)		Minimal ( <i>n</i> = 15)		Delayed ( <i>n</i> = 6)		Sample ( <i>n</i> = 40)	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
6 months	8.77	1.72	8.36	1.16	3.21	1.56	4.49	0.55	5.92	2.88
14 months	8.22	4.61	2.70	1.82	2.00	1.60	8.66	4.63	4.57	3.74

death) by categorizing each into high and low scores based on the sample median. The repeated measures ANOVAs for verbal–autonomic dissociation score were then repeated separately with each potential moderator added as an additional independent variable. None of the effects attributed to these variables or their interactions with the grief-specific symptom and somatic symptom categories yielded significant findings ( $p > .15$ ).

#### Reliability and Validity of the Verbal–Autonomic Dissociation Score

To assess the extent that the verbal–autonomic dissociation score might reflect a stable coping response rather than a transient response to the initial stages of grief, a subset of randomly selected participants ( $n = 20$ ) repeated the narrative interview at the 14-month follow-up. A comparison of 6- and 14-month verbal–autonomic dissociation scores from the deceased topic revealed a highly significant correlation ( $r = .63, p < .001$ ). The stability of the categorical (+/–) dissociation score also was suggested in that 18 of the 20 participants (90%) evidenced the same categorical (+/–) dissociation score during the deceased topic in both interviews.

We explored the validity of the negative verbal–autonomic dissociation score (a) in zero-order correlations with the clinical judges' ratings on the AEA scale and (b) with the partici-

pants' responses to the IES Avoidance subscale. We also computed these same correlations between these measures and self-rated negative emotion by itself (see Table 4). Consistent with the assumption that the negative verbal–autonomic score represented dissociated or minimized awareness of negative emotion, correlations of the verbal–autonomic dissociation score from both interview topics with AEA ratings were in the expected direction and in the moderate range. In contrast, the more deliberate type of avoidance measured by the IES Avoidance subscale was mildly correlated and in the opposite direction with verbal–autonomic dissociation in the deceased topic and to a lesser extent in the current-other topic. Furthermore, the IES Avoidance scale was also inversely correlated with the AEA ratings ( $r = -.27, p < .05$ ).

#### Discussion

The results of this study did not support any of the three hypotheses from the view that emotional avoidance during bereavement is an ineffective form of coping. Rather, the findings were consistent with the competing hypothesis that emotional avoidance during bereavement may serve adaptive functions. Emotional avoidance was operationalized as a negative pattern of verbal–autonomic response dissociation (reduced subjective experience of negative emotion coupled with heightened cardiovascular responding). This negative verbal–autonomic pattern proved to be stable over time and evidenced preliminary convergent and discriminant validity when compared with other avoidance measures. The view that emotional avoidance during bereavement is maladaptive was formalized into three hypotheses that linked negative verbal–autonomic dissociation at 6 months post loss to either prolonged grief from 6 to 14 months, delayed grief at 14 months, or delayed somatic symptoms at 14 months. Results were contrary to all three hypotheses but were consistent with the competing adaptive hypothesis in that negative verbal–autonomic dissociation was observed primarily in individuals with minimal grief-specific symptoms at both 6 and 14 months. In addition, there was no evidence of a delayed increase in grief-specific symptoms among any of the participants in the present study. Participants showing negative verbal–autonomic dissociation did report elevated levels of somatic symptoms at 6 months, but these same participants had low levels of somatic symptoms by 14 months. Finally, a small percentage of the sample (15%) reported increased levels of somatic symptoms at 14 months, but this delayed somatic symptom pattern was not statistically related to emotional avoidance.

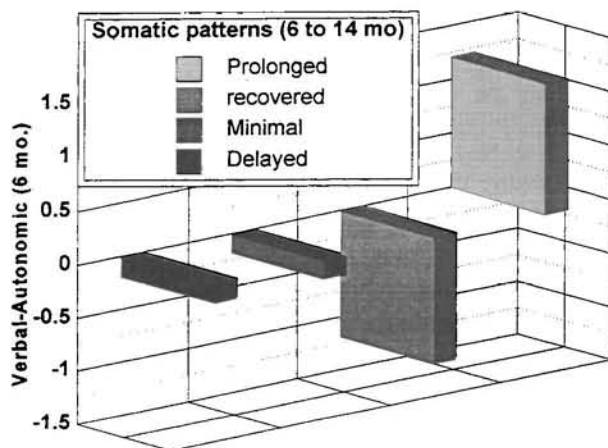


Figure 3. Mean verbal–autonomic response dissociation at 6 months (mo) as a function of longitudinal somatic symptom pattern.

Table 4  
Zero-Order Correlations Between Emotional Response  
Indicators and Measures of Avoidance

Emotional response	AEA	IES Avoidance
Self-rated negative emotion		
Deceased	-.25**	.35***
Current other	-.14	.22*
Verbal-autonomic response dissociation		
Deceased	-.38***	.27**
Current other	-.40***	.20*

Note. The inverse correlation between verbal-autonomic score and Avoidance of Emotional Awareness scale (AEA) indicates higher AEA scores in the direction of (-) verbal-autonomic dissociation. IES = Impact of Event Scale.

\* $p < .10$ . \*\* $p < .05$ . \*\*\* $p < .01$ .

The fact that negative verbal-autonomic dissociation was linked to few symptoms of any kind by 14 months is most compatible with the recently emerging view that emotional avoidance during bereavement may serve important adaptive functions (T. L. Rosenthal, 1993; Shuchter & Zisook, 1993; W. Stroebe & Stroebe, 1987). Shuchter and Zisook (1993), for example, noted the adaptive value of being able to regulate or "dose" the emotional pain of a loss. In their view, it is highly advantageous to defer the emotional pain of grief in situations that may require a high level of functioning, for example, maintaining performance at a job or caring for others. In a similar vein, Kaminer and Lavie (1993) reported that among survivors of the Holocaust, the most well-adjusted individuals evidenced the "low penetration of traumatic memories, avoidance and distancing from threatening stimulus, and repression of emotions" (p. 343).

On the basis of previous findings, the negative verbal-autonomic dissociation score has been assumed to represent a coping process that serves to reduce or "modulate the conscious experience of negative affect following the appraisal of threat" (Newton & Contrada, 1992, p. 160). This same argument also presupposes that the physiological and expressive emotional response systems are regulated by separate and "partially independent" control systems (Buck, 1988; Leventhal, 1984, 1991). Thus, although the subjective experience of negative emotion may be minimized, evidence of a threat appraisal in the form of physical or expressive danger signals may persist and may be captured by other measurements of emotional responding. Individuals categorized as repressors, for instance, have exhibited both verbal-autonomic response dissociation and a similar dissociation between the subjective experience of negative emotion and the perceptible expression of negative affect in the face (Asendorpf & Scherer, 1983). It is these types of observable phenomena that are presumably what clinical accounts have referred to in descriptions of "absent grief" (Osterweis et al., 1984) or "the prolonged absence of conscious grieving" (Bowlby, 1980). In the present study the negative verbal-autonomic dissociation pattern evidenced convergence with clinical observer ratings of the AEA scale made during the grief-specific symptom interview. These ratings, though non-

specific to possible underlying mechanisms, were also based on the clinical descriptions of emotional avoidance prevalent in the bereavement literature and, consequently, on the global impression "that negative affect was present on some level but had not been fully, consciously experienced."

The likelihood that individuals showing negative verbal-autonomic dissociation could effectively minimize the subjective experience of grief or perhaps experience it only fleetingly (Bonanno, 1995) suggests that for these individuals autonomic reactivity may play a minimal or at best undifferentiated role in their subjective experience of emotion (Leventhal, 1991). Yet, just as their increased cardiovascular reactivity stood as evidence that these individuals had at least made an initial appraisal of threat, their reports of high levels of somatic symptoms at 6 months is suggestive of an early grief "response." In other words, for these individuals, grief appears to manifest physically and not without some cost to their physical well-being. Importantly, although it is generally concluded that the physical manifestation of distress is "cumulative" and exacts a larger toll over time (Harber & Pennebaker, 1992; Pennebaker, 1989), these same individuals had reduced somatic symptoms by 14 months. Thus, the dissociation of subjective emotion during this time period appears to have effectively allowed some resolution to the grief processes.

By extension of these findings, it could be expected that individuals who were able to dissociate the subjective experience of negative emotion during the interviews should have had less need to engage in more deliberate and willful avoidant behaviors. Consistent with this conclusion, both negative verbal-autonomic response dissociation and the AEA ratings were mildly inversely correlated with deliberate avoidant behaviors as measured by the Avoidance subscale of the IES. The IES Avoidance scale was a useful first discriminant step in that it measured deliberate avoidant behaviors that are defined specifically in response to the loss. Nonetheless, further research on the distinction between the presumed automatic nature of verbal-autonomic dissociation and the various types of deliberate avoidance is needed. The IES does not distinguish among different types of deliberate avoidance, mixing, for instance, suppressive behaviors (e.g., "I tried not to think about it"), social avoidance (e.g., "I tried not to talk about it"), and physical avoidance (e.g., "I stayed away from reminders of it"). Although elevated scores on the IES generally are concordant with distress (Creamer, Burgess, & Pattison, 1990; Horowitz et al., 1979), it seems probable that some types of deliberate avoidance may be more effective than others. The short-term use of purposeful distraction in response to depression, for example, appears to foster the development of active problem-focused strategies (Nolen-Hoeksema, 1993). This issue could not be addressed further with the present data.

In contrast to the association of negative verbal-autonomic dissociation with minimal symptoms by 14 months, the opposite of this pattern, the positive verbal-autonomic score (subjective distress > autonomic reactivity), occurred primarily among participants with both prolonged grief symptoms and prolonged somatic symptoms. Although this result was not predicted directly from the literature on coping and bereavement, the components of the positive verbal-autonomic dissociation

response are not incompatible with descriptions of prolonged grieving. One component, the exaggerated subjective experience of distress or emotional sensitization (Byrne, 1964), is suggestive of the chronic activation of distress-related schematic structures (Leventhal, 1991; Williams, Watts, Mathews, & MacLeod, 1988) and rigid, inflexible coping (Bonanno & Singer, 1993). Prolonged grief is generally thought of as a complex phenomenon that is often accompanied by similar inflexible and inefficacious coping responses, for example, resistance to change (Parkes, 1993) or inability to "reschematize" internal representations of the lost relationship (Horowitz, Bonanno, & Holen, 1993), as well as a chronic pattern of worry and anxiety (Parkes & Weiss, 1983; Vachon et al., 1982).

The other component of positive verbal-autonomic dissociation, the lessened cardiovascular reactivity, suggests the commonly observed pattern of "environmental rejection" following loss (Dawson, Schell, & Catania, 1977). Animal studies of infant separation, for example, have revealed an initial increase in arousal followed by a similar prolonged pattern of cardiovascular inhibition (Hofer, 1973; Reite & Snyder, 1982). There are also data to suggest that a similar autonomic sequence is characteristic of human separation responses (Field & Reite, 1984; Hollenbeck et al., 1980). In other words, the immediate response to the loss for these individuals may have resulted in an appraisal of extreme distress or "unbearable" threat to the continuity of the self which, if persistent and unchecked over the ensuing months, develops into a global sense of hopelessness and a learned pattern of cardiovascular inhibition (Fowles, 1980).

Together, these speculations are compatible with Hofer's (1984) suggestion that severe conjugal grief reflects a form of psychophysical dysregulation. This conclusion is based on evidence that suggests that normally the regulation of biological processes, including autonomic functions, is influenced by feedback from consistent social cues (Buck, 1988; Hofer, 1984). When a group of men sharing the same house were deprived of *Zeitgebers*, or typical daily time cues, for example, they developed synchronous patterns of circadian rhythms with each other (Vernikos-Danellis & Winget, 1979). Similarly, young women living together show similar menstrual cycles (McClintock, 1971). The consistent social feedback provided by a conjugal partner is assumed to fulfill similar regulatory functions and to result, potentially, in psychophysical dysregulation when that conjugal partner is lost (Hofer, 1984).

One possible means by which equilibrium might be maintained during bereavement is by the evocation of positive internal representations of the deceased (Hofer, 1984). It is reasonable to assume, then, that the dissociation of unpleasant emotions during bereavement would facilitate the evocation of stabilizing, positive recollections and attributions pertaining to the deceased. By the same token, emotional sensitization toward the painful emotions associated with the loss would likely make evocation of such positive representations more difficult to achieve and, consequently, would increase the possibility of psychophysical dysregulation. Additional data from the present study, however, did not support this interpretation. Retrospective evaluations of the lost relationship were available in the form of DAS scores, yet no evidence was found for a moderating effect of DAS scores on the observed findings, nor were moder-

ating effects observed for variables related to perceived social support or the expectedness of the death. Thus, although the relationship of differing patterns of verbal-autonomic response dissociation to grief course is consistent with the notions of psychophysical dysregulation, the mechanisms by which these processes might develop are beyond the scope of the present data.

Perhaps a more viable interpretation of the available data is that the prolonged experience of distress indicated by the positive verbal-autonomic response would necessitate the use of more deliberate, and perhaps more dysfunctional, escape responses. This interpretation, in turn, suggests that the clinical assumption that avoidance exacerbates grief might make more sense if a different definition of avoidance is used. Although on the one hand there has been little in the way of empirical evidence to support the purported link between reduced awareness of distress and exacerbated grief (M. S. Stroebe & Stroebe, 1991; W. Stroebe & Stroebe, 1993; Wortman & Silver, 1989), inclusive of the present findings, there is on the other hand considerable empirical evidence to suggest the concurrence of heightened grief and several types of deliberate avoidant responses. In the present study, grief severity was highly correlated with the general IES Avoidance subscale. Severe grief has also been associated in previous studies with nondisclosure to others and with rumination about the death of the spouse (Pennebaker & O'Heeron, 1984). In the case of traumatic experiences in general, more severe symptoms have been associated with deliberate attempts to inhibit the expression of emotion and to withhold disclosure to others (Pennebaker, 1989). In nonclinical samples, deliberate attempts at thought suppression have been found to actually increase the frequency of the targeted thought content (Wegner, 1989; Wegner, Shortt, Blake, & Page, 1990). This appears to be particularly true for emotionally charged thoughts (Wegner et al., 1990) and suggests a possible mechanism underlying depressive cognition (Wenzlaff, Wegner, & Roper, 1988).

It is important to note that the findings of the present study may be constrained by several methodological limitations. One potential limitation was the manner in which severe grief was measured. The interview-based assessment of grief symptoms received important convergent support when compared with other known measures of grief and general distress and with independent ratings of grief severity made by experienced psychotherapists. Nonetheless, there may be other costs of avoidance that were not captured by these measures. The consequences of emotional avoidance may be more apparent, for example, in other domains of the bereaved individual's daily functioning, for example, job performance and social interactions. We are currently exploring this possibility in the same participants. It is also feasible that the assumed delayed consequences of emotional avoidance were not observed because the 14-month point measured in this study was too short a time period. We note, however, that increases in symptom levels after 14 months are rare in empirical studies of bereavement (Wortman & Silver, 1989), whereas high initial symptom levels typically predict severe grief at later dates (e.g., Bornstein et al., 1973; Vachon et al., 1982; Zisook & Shuchter, 1991). Nonetheless, we plan to continue following the present sample for several more years.

In addition, as already mentioned, although the present study provided preliminary convergent and discriminant validity for the negative verbal-autonomic score as an index of reduced awareness of distress, additional research is needed to more clearly define the mechanism on which such a reduced awareness might be based. It is not clear, for example, just how fully verbal-autonomic dissociation depends on strategies that automatically shift attention (Bonanno et al., 1991) versus strategies that involve higher order cognitive reinterpretations of internal experience (Newton & Contrada, 1992; Paulhus & Levitt, 1987). Additional research is also needed to more fully define its distinction from the various types of deliberate avoidant mechanisms, as well as to the possible exacerbating and ameliorating interactions with different types of active problem-focused coping behaviors (Nolen-Hoeksema, 1993).

Finally, some caution is warranted in generalizing too broadly from the present data. It must be noted that the sample on which the present findings were based was relatively homogeneous with regard to possible analyses based on socioeconomic and ethnic distinctions. The meaning of death varies markedly across cultures, as do norms for displaying grief (Rosenblatt, 1993; Wikan, 1990) and somatizing emotional pain (Kleinman & Kleinman, 1985). Cross-cultural studies in grief reactions have also revealed the impact of socioeconomic factors (Scheper-Hughes, 1992), as have studies within the United States (Zisook, Schneider, & Shuchter, 1990). How these factors might influence the prevalence of verbal-autonomic response dissociation or its relationship to grief severity is not yet known. Furthermore, although the basic findings reported in this article did not indicate relevant interactions with gender, it would be premature to rule out the possibility that gender might influence coping during bereavement. Further research with a larger sample may clarify the issue (M. S. Stroebe & Stroebe, 1993).

If the conclusions suggested by the present data are correct, and avoiding unpleasant emotions during bereavement is in fact not such a bad thing, then a number of important implications for clinical interventions are apparent. Most proposed treatments for bereavement prescribe prolonged attention to the subjective emotional aspects of the loss (e.g., Raphael, Middleton, Martinek, & Misso, 1993). In contrast, the present findings suggest that bereaved individuals who are naturally disposed toward emotional dissociation should be encouraged to describe their thoughts, feelings, and memories about the deceased at whatever pace they feel comfortable (Bonanno, 1995; Bonanno & Castonguay, 1994). The fact that such individuals did not evidence delayed grief also corroborates M. S. Stroebe and Stroebe's (1991) observation that an emphasis on "working through" the emotional meaning of the loss may not always be appropriate. On the other hand, therapeutic interventions with individuals who tend toward more vigilant or purposive coping behaviors might use techniques similar to those developed for managing anxiety-related problems, for example, relaxation strategies and the development of alternative coping strategies (Barlow, 1988). Through such techniques, severely grieved individuals might develop the means to defer or minimize emotional processing of the loss and to reconstitute a more normative pattern of emotional regulation.

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