Reconsidering the Attribution-Adjustment Relation Following a Major Negative Event: Coping With the Loss of a Child

Geraldine Downey
University of Denver

Roxane Cohen Silver
Program in Social Ecology
University of California, Irvine

Camille B. Wortman
State University of New York at Stony Brook

Field studies have not yet conclusively established how attributions affect adjustment to unanticipated traumatic events. This may be due, in part, to the adoption of several untested assumptions in most prior research. It has usually been assumed that attributional issues are important to people who experience a traumatic event, that such concern is adaptive, and that specific attributions (e.g., self-blame) influence subsequent adjustment. These assumptions were tested with longitudinal data collected over 18 months from 124 parents whose child died of Sudden Infant Death Syndrome. By 3 weeks postloss, 45% of parents were not concerned with attributional issues. These parents were less distressed and less likely to blame themselves or others for the death. Longitudinal analyses did not support the assumption that attributions influence subsequent adjustment. Rather, attributions to oneself or others appear to be symptomatic of distress.

In recent decades, attribution theory has captured the imagination of social psychology. This theory maintains that people are motivated to believe that the world is a controllable, predictable place (Heider, 1958; Kelley, 1971). Consequently, the occurrence of an event that challenges this belief should prompt people to become concerned with explaining "why?" Such concern is considered to be potentially adaptive because coping effectively with the event is expected to depend on locating its cause (Weiner, 1985). The way that people answer the question "why?" is assumed to mediate the impact of the event on their adjustment (Michela & Wood, 1986).

Serious, unanticipated, negative events challenge people's view that the world is controllable, and are thought to be particularly likely to precipitate attributional concern (Kelley, 1971; Weiner, 1985). In fact, several influential discussions of adjustment to such events adopt an attributional approach (Abramson, Seligman, & Teasdale, 1978; Janoff-Bulman, 1979; Lerner & Miller, 1978; Shaver, 1985; Taylor, 1983; Walster, 1966; Wortman, 1976). Reflecting the implicit assumption that negative events prompt attributional concern, these theories have concentrated on the implications of particular attributions for adjustment.

Specifically, much work has focused on the costs and benefits of attributing responsibility for such events to oneself. One tradition argues that self-blame is maladaptive because it undermines self-esteem and engenders feelings of helplessness, thereby increasing risk for depression (Abramson et al., 1978; Peterson & Seligman, 1984). A second tradition argues that self-blame is adaptive (Janoff-Bulman, 1979). It assumes that because self-blame defends against the conclusion that such events are random and uncontrollable, it restores belief in an orderly, controllable world, and thus restores a sense of well-being (see also Bulman & Wortman, 1977; Lerner & Miller, 1978; Shaver, 1985; Wortman, 1976).

Empirical evidence concerning the role of self-blame in adjustment following traumatic events is inconclusive. Some studies have found self-blame to be adaptive (e.g., Bulman & Wortman, 1977; Tennen, Affleck, Allen, McGrade, & Ratzan, 1984; Tennen, Affleck, & Gershman, 1986; Timko & Janoff-Bulman, 1985). Others have suggested that it may be maladaptive (e.g., Affleck, Allen, McGrade, & McQueeney, 1982; M. A. Graham, Thompson, Estrada, & Yonekura, 1987; Kiecolt-Glaser & Williams, 1987; Meyer & Taylor, 1986; Moulton, Sweet, Temoshok, & Mandel, 1987). Still others have found adjustment and self-blame to be unrelated (e.g., Miller & Porter, 1983; Silver, 1982; Taylor, Lichtman, & Wood, 1984; Witenberg et al., 1983). In an effort to explain these inconsistencies, Janoff-Bulman (1979) distinguished behavioral (i.e., modifiable) self-blame, which is viewed as adaptive because it affords control over an event's recurrence, from characterological (i.e., nonmodifiable) self-blame, which is viewed as maladaptive because it precludes such control. However, empirical support for the differential association of behavioral and characterological self-blame with adjustment has been equivocal (Turnquist, Harvey, & Andersen, 1988).

These contradictory findings have led several authors to conclude that despite a decade of research, little has been firmly established about the role of attributions in adjustment to traumatic events (Michela & Wood, 1986; Turnquist et al., 1988).
We believe that five limitations of previous work may have contributed to this conclusion. First, two important assumptions underlying attribution theory—that people who experience negative events are concerned with attributions and that such concern is adaptive—have essentially remained untested, with a few notable exceptions. Studies that have addressed questions relevant to these assumptions suggest that people may differ in their levels of attributional concern following negative events, and that such differences may influence the types of attributions made and their impact on adjustment (e.g., Silver, 1982; Witenberg et al., 1983). Second, most field research on reactions to negative events has been cross-sectional (for exceptions, see Affleck, McGage, Allen, & McQueeny, 1985; Affleck, Tennen, Croog, & Levine, 1987; Major, Mueller, & Hildebrandt, 1985). Thus, even when theoretically relevant attribution—adjustment associations have been identified, the causal direction of these associations has remained ambiguous. Third, cross-sectional designs also preclude the detection of temporal changes in the attribution process. It is possible, for example, that causal concerns that are initially adaptive may become maladaptive over time (Michela & Wood, 1986; Wortman, 1983). If the attribution process changes over time, then variation across and within studies in the time frame studied may have contributed to the contradictory results of prior research.

A fourth limitation of prior work is that relatively few studies have addressed the possibility that contextual aspects of traumatic events (e.g., prior life circumstances) may influence the attribution process and attribution—adjustment relations. This is surprising given that several influential theories hold that life experiences shape one's beliefs about the world, and thus influences one's reaction to traumatic events (e.g., Lerner & Miller, 1978; Peterson & Seligman, 1984). Fifth, the objective qualities of many events examined in prior field research pose difficulties for interpreting individual differences in attributions and adjustment. Such differences may reflect variations in subjective appraisals of the same objective event. Alternatively, these differences may reflect variations in objective qualities of the events studied. To ensure interpretive clarity, respondents should not vary in their objective role in causing the event, and the severity of the event should be similar for everyone. Each of these issues is elaborated in more detail below.

The Importance and Adaptiveness of Attributional Concern

It is widely believed that unexpected negative events generate attributional activities (Weiner, 1985; Wong & Weiner, 1981). Attribution theory holds that such activity reflects an underlying concern with finding an explanation for the event. However, although individual differences in such concern have not been addressed directly, there is some evidence that not everyone who experiences an unexpected negative event is concerned with the broader question of “why?” In studies of accidents leading to severe burns (Kiecolt-Glaser & Williams, 1987) or physical disabilities (Silver, 1982), less than half of the respondents reported ever asking the question “Why me?”

Furthermore, there is some evidence that concern about attributional issues is associated with poorer adjustment. Witenberg et al. (1983) found that, among hemodialysis patients, concern with assigning blame for their illness was associated with greater distress. Similarly, those physically disabled patients (Silver, 1982) and survivors of childhood incest (Silver, Boon, & Stones, 1983) who reported asking the question “Why me?” showed the greatest distress, although other studies (e.g., Kiecolt-Glaser & Williams, 1987; Witenberg et al., 1983) have not found this relation. Nonetheless, these studies lead us to question the adaptiveness of concern with issues of meaning and explanation following negative life events.

The suggestion that individuals may differ in their level of attributional concern raises the question of what such differences might imply for the relation between attributions and adjustment. There are two possibilities. First, perhaps attributions influence adjustment only among people who are concerned with attributing responsibility for the event (Silver, Wortman, & Klos, 1982; Witenberg et al., 1983). Alternatively, perhaps people with attributional concerns make attributions to causes that are linked with poorer adjustment than do those individuals who are not concerned with such issues. Neither alternative has been tested adequately in prior research.

The Causal Relation Between Attributions and Adjustment

There are at least three possible explanations for a cross-sectional relation between attributions for a traumatic event and adjustment. Consider, for example, a positive relation between self-blame and distress. The interpretation that is implied by attributional theories of adjustment is that self-blame has a causal impact on distress (e.g., Janoff-Bulman, 1979; Peterson & Seligman, 1984). We term this model the coping/recovery model (Brewin, 1985). A second interpretation is that distress induces self-blame. As Rubin and Peplau (1973) have observed, self-blame may be a “spill-over of affect . . . . People who receive bad lots [may become] unhappy and consequently feel bad about things, themselves included” (p. 85). We term this model the distress-driven model. Both the coping/recovery and the distress-driven models assume that attributions and distress are distinct constructs. A third interpretation is that self-blame is merely another symptom of distress; that is, it co-occurs with distress but plays no causal role in its origin or course. We term this model the symptom model.

Both experimental and longitudinal studies can provide the methodological leverage needed to test these alternative models. We are aware of only one experimental study that attempted to manipulate people’s attributions of causality for a traumatic event. In that study, Mueller and Major (1989) designed an intervention to decrease attributions of characterological blame for an unwanted pregnancy. Although the intervention did reduce characterological self-blame, it did not reduce depressive symptomatology, as the coping/recovery model would predict.

In a longitudinal study, support for the coping/recovery model requires demonstrating that attributions predict subsequent changes in distress. Support for the distress-driven model requires showing that distress predicts subsequent changes in attributions. Support for the symptom model requires showing that attributions, especially self- and other-blame, and measures of distress are highly correlated within
each time period, and that neither of the other patterns of results are found.

To date, findings from longitudinal field studies are inconclusive. Some have supported the coping/recovery model, others have supported the symptom model, and few have tested the distress-driven model (see Brewin, 1985, for a review). Moreover, most of the studies may be of limited relevance to understanding the attribution-adjustment relation following traumatic events. The majority of studies investigated attributions about hypothetical events (e.g., Riskind, Rhone, Brannon, & Burdick, 1987), about the most stressful event experienced during a specified time period (e.g., Cochrans & Hammen, 1985; Cutrona, 1983), or about anticipated achievement events of minor significance (e.g., mid-term examinations; Metalsky, Halberstadt, & Abramson, 1987).

We have, however, identified two longitudinal studies of the attribution-adjustment relation following the same traumatic life event. Major et al. (1985) found that attributions for an unwanted pregnancy prior to an abortion were unrelated to changes in emotional adjustment following it. Similarly, Affleck et al. (1985) found that attributions made by mothers for their newborn infants' developmental disabilities were unrelated to subsequent changes in distress. Consistent with the symptom model, attributions and distress were significantly related cross-sectionally in both studies. These results suggest that attributions may not have a causal impact on subsequent distress. Neither study tested the distress-driven model. In addition, one cannot rule out the possibility that the findings of both studies reflect individual differences in objective features of the events experienced (i.e., the cause of the unwanted pregnancy or the severity of the infant's difficulties), rather than representing true individual differences in attributions made by respondents.

Temporal Changes in the Attribution Process

Although much has been written about the impact of time on adjustment to traumatic events (see Silver & Wortman, 1980; Wortman & Silver, 1989), the effects of the passage of time on attributions have received less research attention. Nonetheless, there is some evidence that the focus of attributions may shift over time from the self to situational factors (Bulman & Wortman, 1977; Miller & Porter, 1980). The attribution-adjustment relation may also diminish with time (Michela & Wood, 1986; Schulz & Decker, 1985; Silver et al., 1983; Wortman, 1983). A comparison of the self-blame-adjustment association among recent ($r = .67$; Bulman & Wortman, 1977) and long-term ($r = .23$; Schulz & Decker, 1985) patients with spinal cord injuries supports this suggestion. Overall, these findings suggest that attributions and their relation to distress may change with the passage of time since the event. However, changes over time in the attributional process within individuals who have experienced the same traumatic event have not been examined in prior research. If such changes occur, it would be important to consider time since the event in interpreting attributions and their relation to adjustment following traumatic events.

Attributional Processes in Context

Several influential attributional theories assume that prior life experiences shape people's efforts to make sense of serious, unexpected, negative events. For example, Seligman and his associates have argued that a pessimistic explanatory style (i.e., a tendency to make stable, global, and internal attributions for negative events) is shaped by repeated exposure to uncontrollable negative events (Abramson et al., 1978; Peterson & Seligman, 1984). This perspective would lead one to expect that people's life circumstances and prior experiences would shape their attributional responses to unexpected events. Thus, people who live in environments that expose them repeatedly to uncontrollable negative events (e.g., inner city, low socioeconomic [SES] neighborhoods) might be expected to react differently to traumatic events than people in more stable environments (e.g., suburban, middle-class neighborhoods). Although a few studies have sought to examine whether sociodemographic factors modify the attributional process following a specific event (see Michela & Wood, 1986), small, relatively homogeneous samples have hampered these efforts. To assess whether life circumstances modify attributional processes and adjustment following a negative life event, investigators need to obtain a sample that is relatively large and heterogeneous.

Objective Qualities of the Event

There is some evidence that individual differences in attributions made for a traumatic event reflect the severity of the event experienced (Michela & Wood, 1986; Turnquist et al., 1988). For example, self-blame appears to increase as the outcome becomes more severe (e.g., Affleck et al., 1985; Tennen et al., 1986). One might also expect that attributions made about a negative outcome would reflect the factual basis of the event. However, the extent to which attributions can depart from objective expectations is surprising. For example, in Bulman and Wortman's (1977) study of patients with spinal cord injuries, some respondents who blamed themselves had been injured while participating in high-risk activities such as skydiving; others who blamed themselves were passengers in cars hit by a drunken driver. Similarly, Kiecolt-Glaser and Williams (1987) described a subject who set himself on fire but attributed all blame for the event to his father-in-law, whom he said made him angry. Thus, variations in attributions made for a traumatic event may reflect the severity of the event, the objective circumstances surrounding the event, or the respondent's subjective interpretation of the outcome.

To help disentangle objective from subjective assessments of blame when investigating the relation between attributions and adjustment, a negative outcome should be similar in objective cause and severity for all who experience it. Events selected for study by previous researchers have met one but not both criteria. For example, many medical outcomes that have been investigated, including breast cancer (Taylor et al., 1984), satisfy the first criterion. The objective cause of such events is unknown, and medical staff often communicate this information to patients (Tennen et al., 1986). However, in many of these medical conditions, the prognosis varies in severity. In contrast, other events that have been studied, including unwanted pregnancy (Major et al., 1985), are similar in objective severity for all participants. Yet, respondents differ in their role in bringing about these outcomes. For example, in the Major et al. study, some unwanted pregnancies resulted from a contraceptive failure,
whereas others resulted from unprotected sex. To our knowledge, no study has ruled out differences in both the severity and objective cause of the event as alternative explanations for patterns of attributions and adjustment that have been obtained.

The Present Study

To address the limitations of prior work, we designed a longitudinal study to ask a broad range of questions about attributions and adjustment among individuals who had encountered the same unexpected, traumatic event. Specifically, we designed an 18-month longitudinal study of parents who had lost an infant to Sudden Infant Death Syndrome (SIDS). SIDS is defined as "the sudden death of any infant or young child, which is unexpected in history, and in which a thorough post-mortem examination fails to demonstrate an adequate cause for death" (Bergman, Beckwith, & Ray, 1970, p. 18).

Several features of this event make it particularly suitable for studying the role of attributions in adjustment. First, the event is serious, unexpected, and uncontrollable—the type of event assumed to be most likely to promote an attributional search (Seligman, 1975; Weiner, 1985). Second, the outcome meets the two criteria that help ensure that all respondents are experiencing the same objective event. By medical definition, there is no variability in the role played by the parent in bringing about the negative outcome. This allows us to distinguish objective blame or responsibility for the event from respondents' subjective perceptions of it. The event is also similar in severity for all respondents, eliminating a further alternative explanation for individual differences in attributions generated for an unexpected negative event. Together, these objective features of SIDS ensure that, to a greater extent than has been possible in previous research, we could investigate individual differences in attributions following the same objective event.

Specifically, our goals were (a) to examine the largely untested assumption that serious, unexpected, negative events generate attributional concern and that such concern is adaptive; (b) to investigate the impact of individual differences in attributional concern for the particular attributions made and for adjustment; (c) to test the assumption that attributions mediate the impact of negative events on adjustment by examining the three different models of the attribution-adjustment relation outlined above; (d) to examine temporal changes in the attributional process following negative events, and (e) to examine the impact of prior experience and life circumstances on attributions and adjustment in an economically and racially diverse sample. Although a small number of previous researchers have been concerned with some of these questions, the qualities of the event we studied, our longitudinal design, and our relatively large and diverse sample provided us with the methodological leverage to rule out several potential alternative explanations for findings in ways that have not been possible in previous research.

**Method**

**Procedure**

The sample was composed of parents from Cook County, Illinois, and Wayne County, Michigan, who had lost an infant to SIDS. These metropolitan counties were selected because of their high incidence of births and, consequently, their high incidence of SIDS deaths. The county medical examiners' offices provided us with the names and addresses of all parents whose infants were suspected of having died of SIDS (i.e., cause unclear) within 48 hr of the death. SIDS was subsequently confirmed by autopsy, which is legally required in all suspected SIDS deaths. All mothers who had lost an infant to SIDS between January 1983 and December 1984 were sent a letter 7 days after their infants' deaths describing the study and inviting their participation. The letter also informed them that a project staff member would contact them shortly to describe the project in more detail, to answer their questions, and, if they agreed to participate, to schedule an interview. If parents had no telephone (approximately 20%), a home visit to schedule an interview was attempted. When parents were located, mothers were first invited to participate in the research. If a mother agreed and the baby's biological father was living with the mother, the father was also invited to participate. The first interview was scheduled between 15 and 30 days postloss. Follow-up interviews occurred at approximately 3 months and 18 months postloss. Interviews took place in the parents' homes or at another convenient location.

Before the first interview began, parents were reminded of the longitudinal nature of the study and of the types of questions they would be asked. Prior to signing a consent form, they were assured of confidentiality and informed that they were free to terminate the interview at any time and to refuse to answer any questions. The interviewer highlighted the importance of open and honest answers. With parents' permission, interviews were tape recorded. At the end of each interview, parents were given material about the National Sudden Infant Death Syndrome Foundation and local referral sources. They were also given $10 in appreciation for their time.

Interviewers from the Institute for Social Research at the University of Michigan conducted the interviews. The 11 female interviewers were mature, well educated, and experienced. All had extensive training in administering the interview in an unbiased fashion and in dealing sensitively with parental grief. Interviewers were blind to all experimental hypotheses. When possible, respondents were assigned to an interviewer of the same race. If both the child's parents agreed to participate, different interviewers were assigned to each parent to reassure them that their responses would not be disclosed to the other parent and to prevent interviewer bias due to knowledge of the other parent's responses. When possible, parents were assigned the same interviewer at all three time points. Procedures were identical at all three interviews.

**Response Rates**

Three hundred thirty infants in Cook County, Illinois, and Wayne County, Michigan, were suspected of having died of SIDS during our study period. Contact was attempted with the 281 mothers who met our eligibility requirements: (a) The death was classified as SIDS on the basis of an autopsy, (b) the mother was English-speaking and at least 15 years old, and (c) a visiting public health nurse had informed the mother prior to our contact that the infant had died of SIDS. Sixty-nine mothers (24.6%) could not be located by the interviewers or could not be scheduled for the first interview during the eligibility period (15–30 days postdeath). Forty mothers who were located (14.2%) refused to be

---

1 Parents of 162 additional infants who died of SIDS during 1983–1984 in the counties under study were randomly assigned to a measurement control condition in which they were invited to participate in our research at one time only—18 months postloss. As these subjects are not part of the results we report here, they will not be discussed further.
interviewed. One hundred seventy-two eligible mothers were interviewed at Wave 1 (61.2% of the total eligible; 81.1% of those located). Eighty-five of the biological fathers were currently living with mothers who agreed to be interviewed. Fifty-six (65.9%) agreed to participate at Wave 1.

At 3 months postloss, 163 respondents (71.5% of the Wave 1 sample) were reinterviewed. Nineteen parents (8.3%) refused our second interview. Two deaths (3 parents) were reclassified as non-SIDS (1.3%), and 43 (18.8%) parents could not be relocated or scheduled during our Wave 2 eligibility period. At 18 months postloss, 124 (or 54.3% of the Wave 1 sample) were interviewed a third time. Nineteen (11.6% of the Wave 2 sample) refused our third interview; an additional 20 (12.2% of the sample) parents could not be located or scheduled during the Wave 3 eligibility period. These response rates and attrition rates compare favorably with rates reported in other longitudinal bereavement studies (see, e.g., Lund, Caserta, & Dimond, 1986; Lund et al., 1985–1986; Parkes & Brown, 1972; Parkes & Weiss, 1983; Vachon et al., 1982; Zisook & Shuchter, 1986).

**Interview Instrument**

We developed the project interview to assess psychological distress, attributional issues, search for meaning, ruminations, emotional ventilation, social support, and additional sources of stress following bereavement. Members of the National SIDS Foundation provided input during the interview construction. It was then pilot tested on 15 parents who had lost a child to SIDS and appropriately modified. Most of the questions were assessed through a structured interview format, although a few were assessed through self-administered scales, and all were identical at each wave. Each interview lasted 2 hr, on average (SD = 35 min).

**Measures**

*Attributional measures.* Because of the sensitive nature of the topic under study and because of ethical concerns raised by parents in the pilot study, the county public health departments, and the National SIDS Foundation, we took great care to construct an instrument that would not induce guilt among parents in our sample. Therefore, the introduction to the attribution questions reiterated what parents had already been told about SIDS deaths (i.e., that the cause is unknown). This was followed by two sets of closed-ended questions about parents’ attributions for the death. The first set asked parents to indicate how often during the previous week they had thought that the death was caused by something they did or something about them as a person. The second set asked parents to indicate how often during the previous week they had assigned responsibility for the death to themselves, to someone else, to God, and to chance. Parents were also asked an open-ended question requesting that they share with us any thoughts or theories they had about why their baby had died.

The importance of attributional concerns was assessed by asking parents how important it was for them in the previous week to figure out who or what was responsible for their baby’s death. Parents indicated on a 5-point scale, ranging from *not at all to extremely*, the extent to which they were distressed by such symptoms as headaches, restless sleep, lack of interest, and feelings of worthlessness. All analyses are based on respondents’ mean scores on the 32 distress symptoms.

**Attrition Analyses**

To determine whether attrition across waves was selective, we compared the responses of parents who participated in all three interviews with those of parents who participated in the first two interviews and with those of parents who completed only the first interview. Variables on which comparisons were made included psychological distress, attribution measures, demographic characteristics (age, race, gender, marital status, education, income, and number of children), perceptions of the baby and the pregnancy, and the baby’s age at death. The three groups of parents did not differ significantly from one another on these measures, with one exception. At the 3-month interview, parents who subsequently were not reinterviewed were less likely to believe that they were responsible for the death, *F*(1, 162) = 4.40, *p* < .05.

Because of our interest in temporal changes in attributions and distress, all analyses reported below are based on the 124 parents who completed all three interviews. However, results based on parents who completed all three interviews did not differ significantly from those based on the complete samples available at Waves 1 and 2. This is consistent with the apparently random nature of sample attrition.

**Sample Demographics**

The final sample of 124 parents was 50% Black, 45% White, and 5% other ethnicity. The high proportion of Blacks in the

---

2 Rather than being asked to report the frequency of attributional concerns on specific attributions in the previous week, pilot respondents were asked to indicate the extent to which they agreed or disagreed with statements such as “It is important to find out who or what is responsible for my baby’s death” or “God is responsible for my baby’s death.” The means for both the pilot and main study assessments of the importance of attributing responsibility were identical (M = 2.9). In three of the remaining five comparable items, the average responses in the pilot study were between .17 and .28 scale points higher on a 5-point scale; in the remaining cases the pilot study means were slightly lower than the means obtained in the main study.

3 The inclusion of data from both mothers and fathers of 26 infants raises the possibility that the nonindependence of data from members of these couples may have distorted our results. However, restricting the analyses to mothers had little effect on the results we report. This is not surprising given that fewer than 20% of the correlations between mothers’ and fathers’ data for the variables of central concern in this study were statistically significant and there was no cross-wave consistency in the pattern of significant relations. Thus, to maximize statistical power and the external validity of our results, we report the analyses based on both mothers and fathers.
sample compared with the U.S. population reflects both the racial composition of the counties from which the sample was obtained (30% Black) and the high rate of SIDS in Black infants. Although SIDS is a rare event, Black infants are almost twice as likely as White infants to die of it (Kraus, Greenland, Bulterys, Nourjah, & Conroy, 1987; National Center for Health Statistics, 1987). Parents' average age was 25 years (SD = 5.33, range = 15–40). The infant's age at death ranged from 9 days to approximately 11 months. Most deaths occurred in infants aged between 2 and 4 months (Mage = 81 days, SD = 49 days). Ninety-eight respondents (79%) were mothers. This reflects the fact that many mothers were not living with the biological father when the study began and that fathers were less likely to agree to participate. One half of the respondents were married, and 15% reported that they were the only adult member of the household. Respondents had, on average, 1.4 children of their own (SD = 1.22, range = 0–5) living with them at the first interview. The median annual family income was approximately $1,000. Family income ranged from less than $1,000 per annum (6.2%) to over $35,000 (6.2%). The mean level of education was 11.6 years; 53% of the respondents had at least 12 years of education (range = 6 to over 17 years). The SES distribution in this sample mirrors that of families who experience SIDS deaths in major metropolitan areas (Kraus et al., 1987; Naeye, Ladis, & Drage, 1976). Overall, respondents showed considerable diversity in terms of their life circumstances.

Contextual Influences on Attributions and Adjustment

The diversity in sample composition allowed us to examine whether differences in life circumstances and experience affected attributions, adjustment, and their relation. Aside from being of intrinsic interest, the answers to these questions had important implications for how we would carry out subsequent analyses (i.e., which variables would need to be statistically controlled or which subgroup analyses would need to be conducted). Thus, we began with an examination of these questions.

First, we examined whether life circumstances and experience affected parents' levels of distress, attributional concern, and the attributions they made. Specifically, we examined these issues in relation to several indices of life circumstances, including the infant's temperament and age at death, presence of other children, parents' role and status characteristics (race, age, gender, education, income, and whether currently living with a partner), parents' attitudes toward the pregnancy, their prior experience with the loss of a loved one, and major life events in the year before the infant's death. Correlational analyses or, where appropriate, analyses of variance, were carried out for all three waves of data. The number of associations that were significant at the .05 level was approximately what would be expected by chance. Only one relation was significant across all waves: Whites were more likely than non-Whites to attribute responsibility for the death to chance (White Ms = 2.63, 2.59, and 2.41; non-White Ms = 2.14, 1.74, and 1.79; Wave 1, t(122) = 1.92, p < .10; Waves 2 and 3, t(122) = 3.63 and 2.59, ps < .05). At 3 weeks postloss, mothers were more likely than fathers to attribute the death to themselves. At that interview, mothers (M = 1.25, SD = .72) were also more distressed than fathers (M = 0.90, SD = .68), t(122) = 2.25, p < .05.

We also assessed whether the association between attributions and distress depended on gender, age, race, education, income, presence of a partner in the home, life events, and prior experience with the death of a loved one. Fewer associations differed significantly by these factors than would be expected by chance, and none were consistent across waves. Overall, these results suggest that demographic and other indices of parental life circumstances and life experience at the time of the infant's death explain little about parents' reactions to their loss.

Are Attributional Concerns Important to Everyone?

Table 1 shows parents' assessments of the importance of attributing responsibility for their loss at the 3-week, 3-month, and 18-month interviews. By approximately the second week after losing an infant, almost 45% of respondents reported that they were "not at all" concerned or "just a little" concerned with attributing responsibility for the death. Only 27% of parents stated that attributing responsibility concerned them "a great deal." The proportion of parents concerned with attributing responsibility declined steadily and significantly over time, F(2, 232) = 36.77, p < .001. By 18 months, only 15% of parents continued to be more than a little concerned with attributing responsibility for their loss.

If respondents ever considered the issue important, they did so at the earliest interview. Only six respondents (5%) who did not consider attributional issues to be important at the 3-week interview later considered them to be important. This implies that a substantial number of parents were never concerned with attributional issues for their child's death. Because parents were first interviewed at 3 weeks postloss, however, we cannot completely rule out the possibility that some had previously been concerned with attributing responsibility (i.e., during the first week postloss).

It is possible, for example, that parents who were not concerned with attributional issues at the first interview were unconcerned because they had already generated an explanation for their loss. To address this question, we examined whether parents who reported at the first interview that attributing responsibility was unimportant were more likely than other parents to have generated a theory for the death. Overall, 72% of the total sample generated a theory for their infant's death in response to the open-ended question requesting that they do so. However, parents without attributional concerns at 3 weeks postloss were no more likely to generate a theory for the death than parents who were concerned with attributions of responsibility. Thus, already having an explanation for the death does not account for why some parents were unconcerned with attributional issues shortly after their loss.

Because SIDS has no known cause, it is also possible that parents may have been less concerned with issues of responsibility than with the broader issue of finding meaning in the event or with answering the questions "Why me?" or "Why my baby?" However, this was not the case. At the 3-week interview, 41% of parents reported that they never or rarely found themselves
It was a moderate relation at Wave 1 between parents' level of concern with attributing responsibility and their concern with searching for meaning in the death or answering the question "Why me?" or "Why my baby?". Of course, it is also possible that parents who were unconcerned with finding meaning in the death or answering the question "Why me?" at 3 weeks postloss had previously been concerned with these issues but had already found answers to their questions. Yet, our findings do not support this hypothesis either. Approximately 75% of parents who were unconcerned with the broader issue of meaning at the first interview reported that they had not found any meaning in the death, nor had they been able to answer the questions "Why me?" or "Why my baby?"

There was a moderate relation at Wave 1 between parents' level of concern with attributing responsibility and their concern with searching for meaning, \( r(117) = .37, p < .001 \), and with the questions "Why me?" or "Why my baby?"; \( r(118) = .44, p < .001 \). As with concern with attributing responsibility, concern with finding meaning, \( F(2, 238) = 44.29, p < .001 \), and with answering "Why me?"; \( F(2, 240) = 49.46, p < .001 \), declined significantly over time.

The Wave 1 distribution of importance of attributing responsibility was bimodal: Most parents were either very concerned or not at all concerned with the issue. To reflect this bimodality, the remaining analyses are based on a dichotomized measure of importance of attributing responsibility at Wave 1. This dichotomy distinguishes parents who considered attributions to be not at all important or who considered them just a little important from parents who considered the issue to be at least somewhat important.

Parents' Distress and Attributions for SIDS

Table 2 presents the means for the attributions that parents made for their child's death. At each wave, attributions of responsibility to God were most prevalent, whereas attributions of responsibility to others occurred least frequently. Parents' attributions to themselves and to God declined significantly over time, whereas attributions to others and to chance remained relatively stable. Parents' levels of distress also declined significantly over time.

Table 3 reports the intercorrelations among measures of attributions at 3 weeks postloss. A similar pattern emerged at the 3-month and 18-month interviews. As can be seen in the table, the three measures of self-attributions were significantly intercorrelated. A correlation of .74 obtained at the first interview between attributing responsibility to oneself and thinking that the death was due to one's actions suggests that these parents were not distinguishing between attributions of causal actions and attributions of responsibility (cf. Shaver & Drown, 1986). Moreover, a Wave 1 relation of .51 between attributing the death to one's actions and to oneself as a person suggests that parents were not clearly distinguishing between characterological and behavioral self-blame (Janoff-Bulman, 1979). The three self-attribution measures also relate significantly and positively with attributions to someone else and negatively with attributions to chance. Attributions to God are unrelated with other attributional measures. Because the three self-attribution items are so highly correlated and because they relate similarly with distress, in the analyses that follow we used a composite formed by averaging the three items. The reliability of the composite was .81, .78, and .78 at Waves 1, 2, and 3, respectively.

Are Attributional Concerns and Particular Attributions Adaptive?

Table 3 also presents the correlations among importance of attributing responsibility, particular attributions, and adjustment at each wave. At each wave, parents who considered attributing responsibility to be important were more distressed than those who did not. Parents who attributed cause or responsibility for the death to themselves or to someone else were also more distressed than other parents. Attributions of responsibility to God or to chance were not significantly associated with distress.

Table 3 also shows that parents who considered attributing responsibility to be important were more likely to attribute responsibility to themselves and to other people. They were not significantly more likely than other parents to attribute responsibility to God or to chance.

Linking Importance of Attributional Concern, Attributions, and Adjustment

Earlier we outlined two possible mechanisms linking the importance of attributional issues, particular attributions, and ad-

<table>
<thead>
<tr>
<th>Time</th>
<th>Not at all</th>
<th>Just a little</th>
<th>Somewhat</th>
<th>Quite a bit</th>
<th>A great deal</th>
</tr>
</thead>
<tbody>
<tr>
<td>3 weeks</td>
<td>38</td>
<td>16</td>
<td>18</td>
<td>16</td>
<td>33</td>
</tr>
<tr>
<td></td>
<td>31.4</td>
<td>13.2</td>
<td>14.9</td>
<td>13.2</td>
<td>27.3</td>
</tr>
<tr>
<td>3 months</td>
<td>65</td>
<td>16</td>
<td>12</td>
<td>10</td>
<td>17</td>
</tr>
<tr>
<td></td>
<td>54.2</td>
<td>13.3</td>
<td>10.0</td>
<td>8.3</td>
<td>14.2</td>
</tr>
<tr>
<td>18 months</td>
<td>86</td>
<td>19</td>
<td>7</td>
<td>4</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td>69.4</td>
<td>15.3</td>
<td>5.6</td>
<td>3.2</td>
<td>6.5</td>
</tr>
<tr>
<td>M*</td>
<td>32.7</td>
<td>13.8</td>
<td>12.8</td>
<td>9.1</td>
<td>19.3</td>
</tr>
<tr>
<td>SD</td>
<td>1.62</td>
<td>1.15</td>
<td>1.25</td>
<td>1.45</td>
<td>1.62</td>
</tr>
</tbody>
</table>

Note. There were no significant differences on this measure between respondents who completed all three waves of data collection and those who completed Wave 1 or Waves 1 and 2 only. See the Appendix for a description of measures.

* Multivariate time effect, \( F(2, 232) = 36.77, p < .0001 \), using the 117 parents for whom complete 3-wave data on this measure were available.
Table 2

Means for Attribution Measures and Distress at Each Interview

<table>
<thead>
<tr>
<th>Measure</th>
<th>3 weeks</th>
<th></th>
<th></th>
<th>3 months</th>
<th></th>
<th></th>
<th>18 months</th>
<th></th>
<th></th>
<th></th>
<th>F ratio for time effect</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
<td>% never</td>
<td>M</td>
<td>SD</td>
<td>% never</td>
<td>M</td>
<td>SD</td>
<td>% never</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Something self did</td>
<td>2.24</td>
<td>1.39</td>
<td>49</td>
<td>1.73</td>
<td>1.10</td>
<td>63</td>
<td>1.52</td>
<td>1.01</td>
<td>74</td>
<td></td>
<td>20.27*</td>
</tr>
<tr>
<td>Something about self as a person</td>
<td>2.01</td>
<td>1.30</td>
<td>55</td>
<td>1.62</td>
<td>1.05</td>
<td>69</td>
<td>1.35</td>
<td>0.79</td>
<td>80</td>
<td></td>
<td>19.33*</td>
</tr>
<tr>
<td>Self responsible</td>
<td>1.92</td>
<td>1.28</td>
<td>57</td>
<td>1.59</td>
<td>1.00</td>
<td>67</td>
<td>1.33</td>
<td>0.79</td>
<td>81</td>
<td></td>
<td>16.04*</td>
</tr>
<tr>
<td>Someone else responsible</td>
<td>1.28</td>
<td>0.77</td>
<td>85</td>
<td>1.35</td>
<td>0.85</td>
<td>81</td>
<td>1.40</td>
<td>0.86</td>
<td>80</td>
<td></td>
<td>0.93</td>
</tr>
<tr>
<td>God responsible</td>
<td>3.08</td>
<td>1.64</td>
<td>27</td>
<td>2.84</td>
<td>1.58</td>
<td>32</td>
<td>2.35</td>
<td>1.60</td>
<td>50</td>
<td></td>
<td>10.02*</td>
</tr>
<tr>
<td>Chance responsible</td>
<td>2.36</td>
<td>1.42</td>
<td>42</td>
<td>2.12</td>
<td>1.37</td>
<td>50</td>
<td>2.07</td>
<td>1.35</td>
<td>53</td>
<td></td>
<td>2.12</td>
</tr>
<tr>
<td>Distress</td>
<td>1.18</td>
<td>0.72</td>
<td>0.89</td>
<td>0.89</td>
<td>0.64</td>
<td>0.67</td>
<td>0.67</td>
<td>0.58</td>
<td>60.00*</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note. Distress and attribution means and percentage of respondents who never considered a particular attribution did not differ between those who completed all three waves and those who completed Wave 1 or Waves 1 and 2 only. See the Appendix for a description of measures. Minimum n at each wave = 123. Multivariate time effect for attributions: F(2, 222) = 29.39, p < .001. Multivariate attribution measure effect: F(5, 555) = 38.09, p < .001. Multivariate Time × Attribution Measure effect: F(10, 1110) = 4.66, p < .0001.

* p < .001.

justment. The first possibility was that attributions matter for adjustment only among parents who believe that attributing responsibility is important. The second possibility was that importance of attributing responsibility influences the type of attributions made, which in turn predict adjustment. We now examine support for these mechanisms using the cross-sectional data at each wave. Gender of parent was included as a covariate in these analyses because at Wave 1, mothers showed higher levels of distress and self-attributions than fathers.

We tested the first mechanism as follows: For each attribution, we regressed adjustment on that attribution, importance of attributing responsibility, and a term indexing the interaction between the attribution and the importance of attributing responsibility. A necessary first step in documenting support for this interactional mechanism requires showing that the interaction term is significant. This was not the case in any of the analyses we carried out. Thus, relations between particular attributions and adjustment do not depend on whether or not parents are concerned with attributing responsibility.

Support for the second mechanism requires showing that (a) the importance of attributional concern is related to particular attributions, (b) the importance of attributional concern and particular attributions are related to distress, and (c) the relation between importance of attributional concern and distress is substantially reduced when a particular attribution is statistically controlled and the particular attribution continues to show a significant relation with distress. The first two requirements have already been demonstrated. Specifically, importance of attributional concern is associated with attributions to the self and to others, and all three of these measures relate positively with distress.

Do attributions to self and others mediate or explain the impact of attributional concern on distress? Table 4 presents the results of regression analyses that address this question. For each Wave, β1, row 1 presents the unstandardized beta coefficient for the association between importance of attributing responsibility and distress. For each Wave, β2, row 1 shows the effect of controlling for attributions to self and others on this beta coefficient. For each Wave, β2, rows 2 and 3 give the beta coefficients for these attributions. As can be seen by examining row 1, Wave 1, the beta coefficient for importance of attributing responsibility fell from .32 to .14 when attributions to self and others were statistically controlled. The indirect effect of importance of attributing responsibility on distress operating

Table 3

Interrelationships Among Attribution and Distress Measures at Wave 1

<table>
<thead>
<tr>
<th>Attribution measure</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Something self did</td>
<td>-.51***</td>
<td>.74***</td>
<td>.23*</td>
<td>.09</td>
<td>-.23*</td>
<td>.26**</td>
<td>.47***</td>
<td></td>
</tr>
<tr>
<td>2. Something about self as a person</td>
<td>-.53***</td>
<td>.20*</td>
<td>.003</td>
<td>-.20*</td>
<td>.14</td>
<td>.33***</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Self responsible</td>
<td>-.25**</td>
<td>-.13</td>
<td>-.23*</td>
<td>.26*</td>
<td>.47***</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Other responsible</td>
<td>-.08</td>
<td>-.0004</td>
<td>.19*</td>
<td>.20*</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. God responsible</td>
<td>-.15</td>
<td>.15</td>
<td>.06</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Chance responsible</td>
<td>-.05</td>
<td>-.08</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Importance of attributing responsibility</td>
<td>-.27**</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. Distress</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note. There were no significant differences between respondents who completed all three waves of data collection and those who completed Wave 1 or Waves 1 and 2 only. See the Appendix for a description of measures. Minimum n = 123.

* p < .05. ** p < .01. *** p < .001.
through these particular attributions is $0.32 - 0.14 = 0.18$, showing that these attributions mediated or explained over 50% of the relation between the importance of attributing responsibility and distress. At Wave 2, these attributions also mediated half of this relation, and at Wave 3 they mediated 80% of the relation. Only attributions to the self were consistently significant across the three waves. Thus, this type of attribution plays the major mediational role. The magnitude of the association between this composite and distress did not change significantly across time.

In sum, these results show that parents who were concerned with attributing responsibility tended to believe that they or someone else played a role in the death. Parents who made attributions to these causes were more distressed than other parents. With cross-sectional data, we cannot, of course, draw any firm conclusions about the causal nature of this pattern of associations. We now examine the causal connection between these attributions and distress.

**Do Particular Attributions Play a Causal Role in Changes in Adjustment?**

We used structural equation modeling with longitudinal data to investigate whether attributions at one point in time could account for subsequent changes in distress, as the coping/recovery model would suggest. Our analyses provided no evidence to support this hypothesis (as above, the analyses controlled for gender of parent). We used the LISREL VI procedure (Jöreskog & Sörbom, 1984) to assess whether attributions and distress at Wave 1 predicted subsequent attributions and distress. This procedure allowed us to correct for differential reliabilities between the attribution and distress measures. Such differences in reliabilities between measures pose particular problems in longitudinal data analyses. Figure 1 illustrates the structure of the model estimated for self-attributions, where the three measures of attributions to personal factors were specified as indicators of a latent self-attribution construct. When the model in Figure 1 was estimated with two correlated errors (between distress at Time 1 and Time 2 and between behavioral and characterological self-attributions at Time 1), it provided a good fit to the data for the Wave 1–2 period. Although the fit for the Wave 2–3 period was somewhat poorer, the parameter estimates were very similar.

The other attributions (to someone else, to God, and to chance) were indexed by single items. When estimating the model in Figure 1 for each of these attributions, we adjusted for differences between the reliability of these items and the reliability of the distress measure. Table 5 presents the chi-square
values for these models. Table 5 also shows the standardized beta coefficients for the stability and cross-lag paths.

For each of the four types of attributions, we examined whether a full model that included paths linking initial attributions with subsequent distress and initial distress with subsequent attributions was a significantly better fit to the data than a reduced model that excluded these paths. As Table 5 shows, the difference in chi-square values between the full and reduced models was significant in only one case. Distress at 3 weeks postloss predicted a subsequent increase in attributions of responsibility to someone else at 3 months postloss. These results suggest that, on the whole, attributions do not have a causal impact on changes in distress for the time frame we examined. The significant contemporaneous relations, shown in Figure 1, between self-attributions and the primarily noncognitive symptoms of distress measured by the SCL-90-R suggest that self-attributions and the SCL-90-R symptoms may reflect different aspects of psychological distress following the loss of an infant to SIDS.3

Discussion

We have examined several questions about the role of attributions in adjustment to an unexpected traumatic event, losing an infant to SIDS. The advantage of studying this event lies in its ability to generate attributions that are "purer" reflections of subjective cognitive processes than events researched previously. Our longitudinal design also permitted a stronger test of the causal nature of the attribution-adjustment relation than the cross-sectional designs used in most prior studies. In addition, it provided an opportunity to investigate temporal changes in the attribution process. Finally, the relatively large, economically and racially diverse sample allowed an examination of the effects of prior life experience on the attribution process.

Our results cast doubt on the validity of several inferences from attribution theory about the role of attributions in adjustment to traumatic events. First, the results challenge the assumption that when a negative event occurs, it is important to understand why it has happened—particularly when the event is unexpected and serious (Kelley, 1971). Contrary to this expectation, a large minority of SIDS parents (45%) were unconcerned with assigning responsibility for their infant's death by the third week postloss.

It is possible that the unexpectedly high level of lack of concern with attributional issues reflects the fact that SIDS has no known cause. However, this factor should not affect parents' concern with the broader question of making sense of the death. In fact, several investigators have noted that a particularly devastating aspect of losing a loved one is that it robs life of meaning (e.g., Craig, 1977; Marris, 1958). Moreover, the need for meaning is thought to be a powerful human motivation (Frankl, 1963). Thus, a major loss should motivate people to seek meaning in the event so as to restore a sense of order in their lives (Heider, 1958). Our data do not support this claim. At the 3-week interview, approximately one third of parents were unconcerned with finding meaning in their infants' deaths or with answering the question "Why me?" There was also a significant overlap between these parents and parents who were unconcerned with attributing responsibility for the death.

Thus, a substantial minority of parents do not appear to be concerned with either attributional issues or broader questions of meaning following the unexpected loss of their baby. A plausible alternative explanation is that these parents had been concerned with such issues prior to the initial interview but had given up these concerns upon finding an explanation for the death or meaning in the event. However, as we noted earlier, this does not appear to be the case. The majority of parents who were unconcerned with issues of meaning at 3 weeks postloss had not already found meaning in the death. Moreover, although most parents who were unconcerned with attributional issues at the initial interview were able to generate some theory for their infant's death when asked to share one, they were no more likely to do so than those parents who remained concerned with attributional issues. Thus, differences in attributional concern 3 weeks after the death of one's child do not appear to be simply the result of some parents having already found an explanation for the loss.

A second assumption suggested by attribution theory is that concern with attributional issues is potentially adaptive (Kelley, 1971). To the contrary, our study found that parents who were concerned with attributional issues were more distressed. Such concern also had implications for the attributions the parents made. Parents with attributional concerns tended to blame themselves or someone else for their infant's death. We found no evidence that the effect of attributions on adjustment was modified by the importance of attributional concern, as had previously been suggested (Silver et al., 1982; Witenberg et al., 1983).

How do we interpret the relatively low distress of parents who were unconcerned with attributional issues? It has been proposed that following uncontrollable events such as SIDS, lack of attributional concern may be adaptive because it protects people from arriving at the distressing conclusion that nothing or nobody was to blame (Witenberg et al., 1983). This interpretation implies that the crucial issue for becoming distressed is concluding that nothing or nobody caused the event. Thus, attributing the event to controllable factors (e.g., oneself or someone else) should be associated with lower distress, whereas attributions to uncontrollable factors (e.g., chance) should be linked

---

3 We also examined the possibility that these cross-sectional associations might mask a causal process operating within each of the 1-week time periods about which respondents reported distress and attributions. We conducted an analysis using LISREL VI to estimate the reciprocal influences at Wave 2 of distress on self-attributions and of self-attributions on distress. We used Wave 1 measures of self-attributions and distress as instrumental variables. When the cross-sectional Wave 1 relation between distress and self-attributions was controlled, neither of the reciprocal pathways was significant. Similar results emerged at Wave 3. Thus, it appears that, at least beyond the first interview, the cross-sectional relation between distress and self-attributions does not mask a causal process.
to high distress. To the contrary, we found that, regardless of level of attributional concern, respondents who blamed themselves or someone else for their infants' deaths were more distressed, whereas attributions to chance were unrelated to distress. Thus, our results are more consistent with the view that concern with attributional issues and self- and other-blame may be a reflection of greater distress (Silver, 1982).

Third, our results call into question the assumption that att-
tributions play a causal role in emotional adjustment to traumatic events. The cross-sectional association between distress and attributions to oneself and others found in many previous studies has often been interpreted as support for this assumption. However, with such data, the causal direction of the association is ambiguous. The longitudinal design of the present study provides a stronger test of the causal relations among these variables. Consistent with previous studies, we found cross-sectional associations between distress and attributions to self or others at three different points in time following the loss. Contrary to the coping/recovery model, none of the specific attributions that we assessed (i.e., to self, to someone else, to God, and to chance) predicted subsequent changes in psychological distress. In this respect, our results are similar to those of two other longitudinal studies of the attribution-adjustment relation following an unanticipated traumatic event (Affleck et al., 1985; Major et al., 1985). Also, the distress symptoms we assessed did not predict changes in attributions, with one exception (Wave 1 distress predicted an increase in attributions to someone else). Thus, the distress-driven model also received little support. Overall, by showing a strong contemporaneous association between distress and attributions to personal factors, our findings are consistent with the symptom model. In this respect, our results are similar to those of two other longitudinal studies of the attribution-adjustment relation following an unanticipated traumatic event (Affleck et al., 1985; Major et al., 1985). Also, the distress symptoms we assessed did not predict changes in attributions, with one exception (Wave 1 distress predicted an increase in attributions to someone else). Thus, the distress-driven model also received little support. Overall, by showing a strong contemporaneous association between distress and attributions to personal factors, our findings are consistent with the symptom model. These findings were replicated for the 3-week to 3-month interval and the 3-month to 18-month interval. Thus, our results join those of Major et al. (1985) and Affleck et al. (1985) in underscoring the need for caution when drawing causal conclusions from cross-sectional attribution-adjustment associations (also see Barnett & Gotlib, 1988, for a similar argument). Furthermore, they add support to critics of models of emotional adjustment that accord attributions a prominent causal role (e.g., Coyne & Gotlib, 1983).

Fourth, we found declines over time in the importance of attributing responsibility for one's child's death, and in attributions made to personal factors and to God. In contrast, attributions to external factors (i.e., chance and someone else) remained relatively stable. Thus, our results confirm the relative shift in emphasis from personal to situational factors suggested by previous investigators (Bulman & Wortman, 1977; Miller & Porter, 1980), but not previously tested longitudinally among individuals coping with a major negative life event. Although the decline in the importance of attributional concern, and in attributions to personal factors and to God, was paralleled by a decline in psychological distress, the relations between distress and these attributions did not change significantly over the 18-month period. These results imply that continued concern about attributional issues is linked with poorer adjustment, consistent with the findings obtained by Silver et al. (1983) among incest survivors 20 years after the abuse had terminated. Overall, our results suggest the need to consider the role of time since the event when examining attributions following negative outcomes.

Fifth, our study found contextual factors and prior life experience to have little influence on the attributional process.
association between low SES and SIDS deaths in large metropolitan areas (Kraus et al., 1987; Naeye et al., 1976) ensured that a disproportionate number of our respondents were poor, young, Black single mothers living in high crime neighborhoods. One might expect that these parents would have more experience with unanticipated negative events than middle to upper SES groups. Such experiences might have convinced these parents that there is little connection between their behaviors and their outcomes, and, therefore, that they have little to gain from attending to attributional concerns. It was therefore important to investigate whether the absence of attributional concern was unique to the poor, Black, single mothers in our sample. However, consistent with other studies that have examined racial and sociocultural differences in attributional processes (e.g., Betancourt & Weiner, 1982; Bond, 1983; Chandler, Shama, & Wolf, 1983; S. Graham, 1984; S. Graham & Long, 1986; Wong, Derlega, & Colson, 1988), we found few differences. Thus, our basic results hold across parents with diverse life experiences.

Limitations

In evaluating the results of the present study, it is important to address the possibility that some features of our research design and procedures may offer alternative explanations for our findings or qualify our conclusions. First, SIDS is defined as having no known cause, and parents in our study were explicitly informed that neither they nor anyone else played a role in bringing about their infants’ deaths. This raises the question of whether SIDS differs from other significant, unanticipated, negative events in ways that have implications for our findings. However, in having no established cause, SIDS resembles other medical conditions such as breast cancer (Taylor et al., 1984) and many types of perinatal complications (Affleck et al., 1985; Tennen et al., 1986). Moreover, in being provided with this information, parents who lose a child to SIDS are not unique. As Tennen et al. (1986) noted, medical professionals typically encourage attributions to chance and discourage self-blame among individuals affected by serious medical conditions of unknown origin. Thus, our results are likely to generalize to events that are serious, unexpected, and irrevocable and that have no known cause. Nonetheless, it will be important for future research to determine whether the attributional process differs when the outcome is uncertain, such as when a person is threatened with job loss; when the event is anticipated, such as the death of a loved one following a terminal illness; or when the respondent’s behavior is a known contributor to the event, such as when one develops lung cancer or emphysema.

Of particular importance in the present study is whether being informed that SIDS has no known cause and being reminded of this during the interview discouraged parents from having attributional concerns (or if they had such concerns, from reporting them). Even if this were the case, this information should not affect a broader interest by parents in seeking meaning in the event. However, it should be noted that a significant proportion of parents in our study were not concerned with finding meaning by the third week postloss, and there was a significant overlap between these parents and those who were not concerned with attributional issues.

We also considered whether the wording of our attribution questions might limit the comparability of our findings with those of other studies. In the present research, we asked parents about the frequency with which they had considered specific causes or had been concerned with attributing responsibility for their infant’s death in the previous week. The inclusion of a specific time frame and the focus on preoccupation with—rather than endorsement of—particular attributions distinguishes our question format from that of much prior research. However, the use of the alternative format in our pilot study yielded results that were very similar to those of the main study. Nonetheless, because of the small size of the pilot sample, we cannot confidently rule out the possibility that our question wording influenced the pattern of results we obtained.

Finally, as is a common concern in longitudinal studies aimed at disentangling causal issues, we acknowledge that the timing of the interviews may not have been optimal for detecting changes in the dependent variables that were caused by the independent variables. For example, we may have missed causal effects of distress on attribution or vice versa that occurred before the first interview.

Issues for Future Research

Despite the aforementioned caveats, our results raise several issues for further research. First, what factors explain why, shortly after the unexplained death of their infants, a sizable minority of parents were unconcerned with attributional issues and never became concerned with them? The relatively low distress among these parents suggests that they may share a personal quality or common protective factor that reduces their risk for severe distress following traumatic events (Wortman & Silver, 1989). For example, several unmeasured characteristics, such as personality dispositions, may have protected these individuals from distress. In fact, explanatory style is the most extensively investigated trait proposed to account for variation in attributional response to negative events (Abramson et al., 1978; Peterson & Seligman, 1984). However, this construct assumes that people are concerned with attributing responsibility, which is something that is untrue of a sizable number of our respondents. More suitable constructs may include individual differences in negative emotionality and introspection labeled negative affectivity (Boiger, 1990; Watson & Clark, 1984), the orientation to ruminate under stress (Nolen-Hoeksema, 1987), or the need for cognition (Cacioppo & Petty, 1982), which refers to a “need to understand and make reasonable the experiential world” (Cohen, Stotland, & Wolfe, 1955, p. 291). It is also possible that those individuals who are unconcerned with attributional issues hold a philosophical orientation, or world view, that enables them to incorporate traumatic events of this sort relatively easily (Wortman & Silver, 1990). For example, the fatalistic belief that bad things can happen at any time may make it easier to accept sudden loss than the belief that hard work and good deeds will protect one from misfortune. Religious beliefs, such as a belief in the reunification with one’s loved ones in the afterlife, may also be protective. Such issues clearly warrant further study.

In addition to parents who were never concerned with attributional issues, some parents considered them to be important
initially. Over time, most of these parents became less concerned with attributions and less distressed. An important task of future research is to clarify the process through which some individuals can relinquish concern with understanding the past, and instead begin to invest energy in subsequent life tasks (cf. Silver et al., 1983).

Finally, attributions may affect outcomes other than emotional distress, which was the focus of our research. In fact, longitudinal investigations provide some support for this possibility. For example, Affleck et al. (1987) found that heart attack survivors who attributed the initial attack to stress or to something else showed more health problems over the following 8 years than other survivors. Similarly, Affleck et al. (1985) found that behavioral self-blame among mothers of high-risk infants predicted fewer subsequent caretaking problems but was unrelated to subsequent distress. Our findings also do not preclude the possibility that other types of attributions (e.g., attributions about one's emotional reactions to the event), or other cognitive factors, may influence adjustment to a negative event.

Concluding Comments

Our research investigated parents' adaptation to a significant loss that was unexpected and irrevocable. The event studied—loss of an infant to SIDS—was similar in objective cause and severity for all respondents. Among these parents, we have obtained findings that challenge some of the basic assumptions underlying attribution theory as applied to emotional adaptation to a traumatic loss event. Of course, on the basis of a single study we cannot conclude that these assumptions are generally invalid. Rather, we hope our findings can serve as a caution against their implicit acceptance in future research.

References


(Appendix follows on next page)
Appendix

Attribution Items

Cause

Even though medical facts tell us that there is nothing parents could have done to avoid their baby's death, parents sometimes report spending time thinking of ways the death could have been avoided.

1. In the past week, have you ever thought there must have been something you did or did not do to bring about this event? (response categories: 1 = No, never; 2 = Yes, but rarely; 3 = Yes, sometimes; 4 = Yes, frequently; and 5 = Yes, all the time)

2. In the past week, have you ever thought that there must be something about you as a person that brought about this event?

Theory

Even though no one knows why babies die of SIDS, most SIDS parents have some hunch or theory about what caused their baby to die. Would you please share with us any thoughts or theories you have about why your baby may have died?

Responsibility

Even though parents know that no one is really responsible for their baby's death, they sometimes report feeling that they or others may have been responsible anyway.

1. In the past week, did you ever have the feeling that you may have been responsible for your baby's death? (response categories: 1 = No, not at all; 2 = Yes, a little; 3 = Yes, some; 4 = Yes, quite a bit; and 5 = Yes, a great deal)

2. In the past week, did you ever have the feeling that some other person may have been responsible for your baby's death?

3. In the past week, did you ever have the feeling that God may have been responsible for your baby's death?

4. In the past week, did you ever have the feeling that your baby's death just happened by chance?

Importance of Attributing Responsibility

This past week, how important was it for you to figure out who or what was responsible for your baby's death? (response categories: 1 = No, never; 2 = Yes, but rarely; 3 = Yes, sometimes; 4 = Yes, frequently; and 5 = Yes, all the time)

Meaning

1. Some SIDS parents have said that they find themselves searching to make sense or find some meaning in their baby's death. Have you ever done this in the past week? (response categories: 1 = Not at all; 2 = Just a little; 3 = Somewhat; 4 = Quite a bit; and 5 = A great deal)

2. Have you made any sense or found any meaning in your baby's death? (response categories: 1 = No, not at all; 2 = Yes, a little; 3 = Yes, some; 4 = Yes, quite a bit; and 5 = Yes, a great deal)

3. When people find themselves in your situation, they sometimes report asking the questions “Why me?” or “Why my baby?” Have you ever asked yourself the questions “Why me?” or “Why my baby?” this past week? (response categories: 1 = No, never; 2 = Yes, but rarely; 3 = Yes, sometimes; 4 = Yes, frequently; and 5 = Yes, all the time)

4. Have you come up with any answer to the question “Why me?” or “Why my baby?” (response categories: Yes and No)