Major Life Events: Their Personal Meaning, Resolution, and Mental Health Significance*

JOHN R. REYNOLDS
R. JAY TURNER
Florida State University

Journal of Health and Social Behavior 2008, Vol 49 (June): 223–237

Researchers have employed varying strategies in an effort to better understand variation in responses to stress. This article argues that crisis theory makes a useful contribution to these efforts, particularly when studying variable response to major life events that are of high threat potential. Regression analyses of depressive symptomatology, mastery, and self-esteem in a community sample of adults (n = 1,542) provide preliminary support for the central tenets of crisis theory that specify the conditions under which experienced events are minimally and maximally hazardous. The results also offer mixed support for the proposition that successfully resolved crises can even yield emotional and coping benefits. Longitudinal models and further development of survey-based measures for distinguishing the occurrence of a crisis and assessing the adequacy of its resolution are needed to more thoroughly test crisis theory.

Despite notable improvements in the comprehensiveness with which variations in stress exposure can be estimated and the availability of procedures for taking inter- and intra-event variability into consideration, it is clear that resulting estimates remain far from adequate. This circumstance is evident in the fact that a given level of social stress, however adequately estimated, varies widely in apparent consequence. Typically, only a minority of the individuals exposed are emotionally or physically affected, even in the context of apparently very high levels of social stress. While efforts to explain variable stress response has attended to inner dispositions such as emotional vulnerability, considerable work has also sought better measures of the objective content of life stress (e.g., Brown, Bifulco, and Harris 1987; Dohrenwend 1993). Another significant response, and the focus of this article, is the introduction of "meaning" into the stress process model (e.g., Lazarus 1981; Lazarus and Folkman 1984; Simon 1997; Thoits 1991, 1992, 1995; Wheaton 1990). This perspective argues that some of the variation in the consequences of life stressors can be attributed to the particular meanings events have for the identities and assumptive worlds of those experiencing them.

In this article we examine the utility of crisis theory for understanding how subjectivity and personal meaning shape the mental health significance of social stressors. We do so focusing on one major source of social stress: the lifetime experience of major and potentially traumatic events. Specifically, we evaluate the central propositions of "crisis theory" in assessing the relationship between negative major life events and depressive symptoms. Briefly, the theory proposes: (1) that a crisis is experienced when an event challenges the individual's fundamental assumptions about the self or the world; (2) that events that do not constitute crises are of little emotional significance; and (3) that crises represent opportuni-

* Authors are listed alphabetically. This research was supported by grants RO1 DA13292 and RO1 DA016429 from the National Institute of Drug Abuse to R. Jay Turner (jturner@fsu.edu). Address correspondence to John Reynolds, Department of Sociology, Florida State University, Tallahassee, FL 32306-2270 (e-mail: john.reynolds@fsu.edu).

ties as well as emotional hazards, and the crucial contingency in this regard is whether or not the event is successfully resolved.

While the present article builds directly on Turner and Avison's (1992) earlier application of crisis theory to the study of depressive symptomatology and personal mastery, it incorporates two important advances. First, Turner and Avison examined how event resolution conditions the mental health impact of events experienced within the preceding year. Typical of most checklists, their measure of recent life events largely involved moderately severe experiences. Although such potentially traumatic occurrences as the death of a child or a partner were also included, the one-year time frame considered clearly limited the frequency with which such events were represented in their data. Consequently, "crisis" experiences are likely to have been underrepresented. Here we examine the utility of crisis theory for predicting variable responses to the worst events individuals ever experienced, thus capturing a wider range of experiences of crisis evoking potential and longer-term dynamics. Second, this earlier work did not evaluate whether participants perceived reported events as crises, thus missing a crucial component necessary to fully test crisis theory. Event resolution should matter most when the event was experienced as challenging the individual's view of self and/or the world.

BACKGROUND

More than three decades of mental health research attests to the significance of social stress for understanding the occurrence of psychological distress and disorder in the general population. It is now clear that stress exposure varies considerably across social statuses, is reliably associated with mental health, and contributes significantly toward explaining the observed social distribution of mental health problems. However, even where multidimensional assessments of stress exposure have been considered, little more than 25 percent of observed variation in psychological distress has been accounted for by exposure differences (Turner, Wheaton, and Lloyd 1995; Turner and Avison 2003). This fact, along with the unrealistic assumption that there are no differences in impact potential across events or, within events, across individuals, has led to several innovations, including strategies for refining estimates of stress exposure. Among these are efforts to differentially weight reported events based on conclusions regarding likely severity and utilization of greater detail about the nature of the event (Dohrenwend 1993; Shrout et al. 1989; Sweeney and Horwitz 2001), and/or the situational context in which it occurs (Brown 1981, 1989; Wheaton 1990).

With respect to the first of these categories of innovation, Turner and Wheaton (1995) have noted that, "Despite repeated and widespread attempts to prove otherwise, the best conclusion from the existing research concerning the effectiveness of differential weighting . . . is that weighted indices do not generally increase the correlation with outcomes, whether using objective or subjective weights" (p. 43) (cf. Monroe 1982; Sandler and Guenther 1985; Zimmerman 1983; Ross and Mirowsky 1979). Regarding the latter categories of innovation, it is clear that Brown and colleagues have reported substantial success in predicting the occurrence of depressive *disorder* (Brown and Harris 1978, 1989; Brown, Bifulco, and Harris 1987), but neither Brown's method nor that developed by Dohrenwend (1993) and colleagues has yet been evaluated in terms of achieved improvement in capacity to predict depressive *symptomatology.*

While it cannot be doubted that there is a significant and etiologically meaningful link between level of exposure to social stress and psychological distress and disorder, it is equally clear that, even if variations in exposure were to be measured perfectly, only a minority of those exposed will exhibit significant emotional distress. Observations that the responsiveness of individuals to apparently identical events varies substantially (e.g., Reissman 1990; Umberson, Wortman, and Kessler 1992; Wortman and Silver 1987) have, as Thoits (1999) has noted, led to the view "that the psychological impacts of stressors must depend on their meanings to the individual" (p. 351) (see also Brown and Harris 1978, 1989). As Lazarus long ago argued, psychological distress is a product of cognition: "a mind perceives and evaluates these events with respect to their personal meanings and significance" (Lazarus 1998:191).

This insight is wholly consistent with a central axiom of social psychology that events and circumstances in the real world affect the individual only to the extent and in the form in which they are perceived (Thomas and Thomas 1928). As Ausubel (1958:277) has pointed out,

"this does not imply that the perceived world is the real world but that perceptual reality is psychological reality and the actual (mediating) variable that influences behavior and development." Thus, another innovation in assessments of social stress has been to account for the experienced meaning of various life events. Efforts to incorporate meaning have ranged widely, including assessments of their threat to valued roles and identities (Thoits 1991), the degree to which recent eventful stressors are effectively resolved (Turner and Avison 1992), cognitive appraisals of events and their tractability (Lazarus and Folkman 1984), and the relation of major events to personal values (Simon and Marcussen 1999). Identity theory and crisis theory serve as useful examples of complementary approaches that attempt to explain variable responses to different types of social stress.

Insights from identity theory suggest that a better understanding of the psychological significance of potentially stressful events might result from assessing how they relate to the structure of individuals' role identities. According to Thoits (1991), "events or strains which disrupt or threaten to disrupt an individual's most salient role-identities (identity-threatening stressors) should be more psychologically damaging than stressors which disrupt or threaten less valued role involvements (i.e., those which are identity-irrelevant)" (p. 106). Armed with the knowledge of individuals' identity-structures, researchers should be able to understand why stressful events like divorce or job loss have more serious emotional consequences for some people than others.

Although identity theory offers a highly plausible explanation for why individuals respond so differently to recent transitions in conventional role domains, such as divorce or job loss, empirical tests have been inconclusive (Thoits 1992, 1995). The applicability of this perspective to other sources of stress such as lifetime exposure to major and potentially traumatic events seems less intuitively appealing. Major events like the death of a parent, suffering a major physical injury, or being assaulted or raped, can have complex and long-term sequelae that often go beyond their significance to conventional roles. In such circumstances the relative salience of one's identities and/or values may be less relevant. In addition, there are grounds for questioning the ability of respondents to accurately report such salience. Theories relating to the phenomenon of posttraumatic growth have long argued that we are seldom aware of our fundamental assumptions about ourselves and the world (Tennen and Affleck 1998). These assumptions are seen rather as conservative cognitive schemas that resist change and disconfirmation, and that are revealed and questioned only when a major adversity challenges their validity (McCann and Pearlman 1990; Pearlman and Saakvitne 1995). This suggests that the key to gauging the significance of major and potentially traumatic life events lies in the capacity of the event to "shake the foundations" of the individual's assumptive world—for example, beliefs about the benevolence of others or the randomness of major events (Janoff-Bulman 1992).

This latter notion mirrors a central proposition of crisis theory proffered more than four decades ago in an effort to understand the responses of individuals to natural disasters and other severe events. "Crisis" refers literally to a breaking or turning point. Within crisis theory, a crisis is characterized by instability and ambiguity with respect to one's perceived capacity to deal with the event. Thus, crisis theory may provide an approach that is especially well-suited to explaining the variable mental health impact of major life events (Baker and Chapman 1962; Klein and Lindeman 1961; Turner 1966; Turner and Avison 1992; Wilson 1962). According to this perspective, a crisis is defined as any event, whether developmental or traumatic, that challenges the individual's assumptive state and forces a change in self-concept or view of reality (Turner 1966:286). This view foreshadowed the suggestion of Brown and Harris (1978) that "a crisis or change is probably only ever significant if it leads to a change in thought about the world" (p. 85).

According to crisis theory, a crucial contingency is the extent to which the crisis is resolved emotionally and practically. A decade and a half ago, Turner and Avison (1992) presented evidence consistent with this hypothesis. Using two waves of data spaced four years apart, they found changes in depression to be independent of intervening life events that were reported as resolved, while unresolved events were significant predictors of such change. Crisis theory does not assume that even very profound events are always, and in all aspects, negative in their consequences. Thus, Caplan (1961) long ago argued that

crises, when successfully resolved, may promote personal growth or effectiveness, and Wilson (1962), summarizing a substantial body of research, concluded that it has been "demonstrated repeatedly that disaster is not necessarily and in all ways damaging to either individual health or social organizations and . . . may indeed have curiously beneficial implications" (p. 131). These ideas are also consistent with the fundamental premises of resilience theory, which for decades has sought to uncover the protective psychosocial resources and processes that explain why many children exposed to significant adversity experience positive growth nonetheless (Luthan, Cicchetti, and Becker 2000; Masten and Coatsworth 1998; Rutter 1987).

More recent studies have reported that more than 50 percent of people who experience life crises report some benefit from them (Schaefer and Moos 1992), and, among those who experience multiple negative life events, there is a sizable proportion who demonstrate improvements over the following year in psychological resources such as self-confidence and easy-goingness (Holahan and Moos 1990:914). Crisis theory thus predicts three patterns of symptom progression following the occurrence of events with high threat potential: no impact in the wake of events that pose little challenge to one's assumptive states, and, among those who are "shaken" by an event, either an initial elevation in distress that drops subsequent to resolution or a long-lasting increase in symptomatology for those experiencing a crisis that remains unresolved.

This article tests crisis theory through an examination of the independent and joint significance of whether or not an event challenged the individual's view of self and/or the world, and whether the event was resolved. Three hypotheses follow from this perspective. The first is that events represent hazards, as well as opportunities, only when they involve the experience of crisis. Thus, events that do not constitute a crisis should have little or no impact on risk for depression. Second, events that have significant personal meanings (i.e., are experienced as a crisis) will be associated with increased risk for depression if not successfully resolved, and will be either unassociated with depression or predict lower depression when successfully resolved. We also consider the question of whether crisis experiences and crisis resolutions are socially patterned by examining age, disability status, gender, ethnicity, and educational variations in reports of such experiences and outcomes. Finally, we test the hypothesis that successfully resolved crises may actually lead to positive emotional growth, as predicted by crisis theory. Although available data do not allow a rigorous causal test, we consider this possibility by examining whether individuals who successfully resolve crises subsequently have higher levels of mastery and/or self-esteem. Even though depression, mastery, and self-esteem are strongly correlated, the latter two provide additional leverage for tapping emotional growth since they both vary a great deal among those who report little to no symptoms of depression.

DATA AND METHODS

Sample

The data used to test crisis theory are from the first wave of a two-wave panel study of Miami-Dade county residents that included consideration of the presence and severity of physical disability. Ten thousand randomly selected households were screened with respect to age, sex, ethnicity, disability status, and language preference. The derived sampling frame was then stratified such that there were even numbers of women and men, even numbers of people screened as having a physical disability and those not, and even numbers of four major ethnic groups in Miami-Dade County (Cubans, other Hispanics, African Americans, and non-Hispanic whites). All interviews were computer assisted and completed in English or Spanish, as preferred by the respondent. A total of 1,986 first wave interviews were completed in 2000–2001 (success rate = 82 percent), including 1,086 adults who screened as having no activity limitations and 900 individuals who screened as having a disability. The oversampling of individuals with physical disabilities resulted in a greater proportion of older individuals than in the general population. Ages in the sample ranged from 18 to 93, with a median of 59, compared to 35.6 years for the county population as a whole. Of the 900 who, within the screening process, were reported by a family member as having activity limitations, only 559 confirmed this status within the actual interview. The results presented below are based on the 1,542 respondents who experienced at least one major and potentially traumatic life event in their lifetime and who had valid data on questions related to the occur-

rence of a crisis experience and the degree of resolution associated with the worst events they experienced. Given the objective of understanding differential response to significant stressful events, respondents who reported no lifetime exposure to any major event are not included in the analyses (n = 372).

Measurement

Lifetime exposure to major and potentially traumatic life events. Consistent with prior research that has attempted to take personal meanings into account, we focus here on reports of eventful stressors. Although this study also included assessment of recent life events, only reports of lifetime exposure to major and potentially traumatic events were evaluated in terms of crisis experience and resolution, and, therefore, only these eventful stressors are considered here. Participants were asked about the lifetime occurrence of 36 major life events developed and refined over a series of three major studies of mental health (see survey items N1 to N36 of the survey instrument, accessible at http://www.sociology.fsu.edu/disability/w1.pdf). Additional items were added to the checklist on the basis of pre-testing and focus groups in Miami, including several items that mostly apply to immigrant groups. The first 10 questions address "major events from early life" and involve social adversities that are not typically violent in nature, such as parental divorce and failing a grade in school. "Traumatic events" imply force or coercion. The 18 questions under this heading include events such as rape, physical and emotional abuse, and being injured with a weapon. A third category involves events of "witnessed violence." It includes eight items such as seeing someone killed and witnessing serious physical or emotional abuse. Study participants were also given the opportunity to describe any other traumatic events they experienced.

The one to two events identified by the respondent as being the worst were the focus of subsequent questions on the occurrence of crisis and the resolution of the event or events involved. However, we include the total count of events in the multivariate analysis to address the possibility that variance attributed to differences in the interpretation of, and response to, worst event or events arises from differences in overall lifetime exposure to major events.

The multivariate analyses also control for number of family members (mother, father, stepmother, stepfather, brother, sister, spouse, boyfriend, girlfriend, child, grandparent, or other loved one) and "very close" friends who have died, since preliminary analyses indicated that the effects of crisis and resolution were slightly suppressed when deaths were not accounted for, due to a negative association between deaths and symptoms of depression. Respondents reported 2.4 such deaths on average.

Worst life events: crisis and resolution. Immediately after running through the list of major and potentially traumatic life events, including death events and any additional events reported, interviewers asked study subjects to identify the worst event and the second worst event. For each of the events, we tried to determine whether the event constituted a "crisis" by focusing on the degree to which it challenged the participant's view of self or made him or her question his or her ability to handle the event. Two items were employed: "It caused you to wonder whether you were really the person you thought you were" and "It caused you to be uncertain whether you were capable of responding effectively to the situation." Responses included "very true" (coded 3), "mostly true" (2), "somewhat true" (1), and "not at all true" (0) (Cronbach's $\alpha = .68$). The extent to which the event was *experienced as a crisis* is estimated by the average score on both questions. Where a second "worst event" was identified by the respondent, scores are averaged across the two events.

Events that respondents categorized as crises were more likely to involve experiences of emotional or physical violence than events categorized as noncrises. Of those in the sample, 122 subjects had experienced only one major or potentially traumatic event at the time of data collection, and their scores are therefore based on the responses for that single event. To ensure that the absence of crisis was not due to few events being experienced, the analyses control on the total number of major life events endorsed or reported. As noted above, 372 respondents who experienced no events were excluded from the analyses.

Two additional items, developed and tested by Turner and Avison (1992), measure whether the specified worst events were subsequently resolved, regardless of whether the events constituted a crisis. Participants were asked if the

event made them realize, "you can handle things that you never thought you could handle" or "if it were to happen again you could handle it with less difficulty." The response options were "very true" (coded 3), "mostly true" (2), "somewhat true" (1), and "not at all true" (0). *Extent of event resolution* equals the average score on both items for the one or two worst events identified by the respondent (Cronbach's $\alpha = .76$).

The items measuring crisis and resolution are good discriminators of individuals' experiences of major life events. A majority of respondents (70 to 75 percent) answered "very true" or "not at all true" to each item. Of the two questions assessing the personal challenge of the event, participants were more likely to agree that the event made them question their ability to respond effectively than agree that the event made them question who they were. In terms of the two questions assessing resolution, they were more likely to say it made them realize they can handle things, and fewer said they were better prepared if the same event were to happen again.

Variability in time since the occurrence of one's worst event is cause for concern over the ability of some participants to accurately recall how much that event challenged their sense of self or was subsequently resolved. Unfortunately, the data do not allow us to measure the time that has passed since the worst event. Instead, we use the best proxy measure available, which is equal to the number of years since the most recent (but not necessarily the worst) major event. For half of the respondents, the most recent major life event occurred within the past five years, but for others, a much greater length of time had passed: Five percent of the study had not experienced a major or potentially traumatic event in more than 30 years. To address this source of measurement error, the regression models include a control for the number of years since last major life event. Further, preliminary analyses found that the amount of time passed since last event conditions the effect of crisis; more recent crises have larger net influences on depression and self-esteem, as one might expect. An interaction term between the crisis measure and years since last major event captures this conditional association.

A final concern with the measures of crisis and resolution is that some or all of their associations with mental health may be spurious due to an underlying predisposition or vulnerability to mental health problems. Individuals with a history of major depression may perceive major life events more negatively and may be less likely to resolve them or agree that they benefited in some way through event resolution. To reduce this possibility, the regression models also add a control for whether the respondent ever experienced major depression up to one year before the interview (n = 106 of 1,542). Note that such a control almost certainly makes the estimates for crisis and resolution more conservative, since for some respondents the onset of major depression will take place after their most traumatic event and easily may be a consequence of an unresolved crisis.

Depressive symptomatology. The 20-item version of the CES-D (Radloff 1977) was administered to assess recent symptoms of depression. Study subjects were asked how often in the past month they experienced feelings such as loneliness, sadness, and hopelessness, with response categories including "not at all," "occasionally," "frequently," or "almost all the time" (coded 0 through 3, respectively). Our measure of depression is equal to the sum of scores across the 20 items (Cronbach's $\alpha = .89$).

Personal mastery. One possible benefit of successfully resolving crises is an increased sense of control over one's life. Perceptions of control and mastery were assessed with Pearlin's scale of personal mastery (Pearlin and Schooler 1978). The scale is made up of seven questions asking the degree to which subjects agreed with statements such as, "You have little control over the things that happen to you" and "You often feel helpless in dealing with problems of life." Responses range from "strongly agree" (coded 1) to "strongly disagree" (5), such that higher scores indicate more control. Personal mastery is the respondent's average value across the seven items (Cronbach's $\alpha = .77$).

Self-esteem. Another potential benefit of successfully resolved crises is a heightened sense of self as a capable and estimable person, a sentiment measured by Rosenberg's scale of self-esteem (Rosenberg 1965). Six questions comprise the scale, assessing agreement with statements like, "You are able to do things as well as most other people" and "You take a positive attitude toward yourself." Responses range from "strongly agree" (coded 5) to

"strongly disagree" (1); our measure of self-esteem equals the respondent's average value across the six items (Cronbach's $\alpha = .80$).

Social status characteristics. We also account for variations in exposure to life events and in depression across age, gender, ethnicity, disability status and education. Five ethnic groups are contrasted: Cubans, other Hispanics, African-Americans, non-Hispanic whites, and "others." When making contrasts by disability status, we distinguish between the nondisabled and those who screened and confirmed having a disabling condition when later interviewed. Preliminary analyses indicated that those who contradicted the screening information in denying having a disability were not substantially different from those who screened as nondisabled, in terms of depression, crisis, resolution, and stress exposure. Thus, nondisabled respondents as identified in the tables of results include both those screened as such and those who initially screened as disabled but who later denied having an activity limitation when asked.

RESULTS

First we present the social distribution of crisis and resolution, comparing mean levels of each across groups defined by age, gender, ethnicity, education, and disability status (Table 1). Mean levels of exposure to major life events are also presented to assess the correspondence between event exposure and experiences of crisis. The degree to which worst events constitute crises is clearly socially patterned. The mean levels of crisis reported in Table 1 show that experiences of crisis vary significantly by age, gender, ethnicity, education, and disability status. In general, the level of crisis is higher among statuses that denote some form of social disadvantage. Women experience crises more often than men, ethnic minorities more often than whites, the poorly educated more often than those with credentials, and the disabled

TABLE 1. Mean Levels of Crisis, Resolution, and Lifetime Exposure to Major Events across Sociodemographic Characteristics, Miami Disability Study, 2000 (N = 1,542)

	Experience of Crisis	Resolution of Events	Lifetime Major Events	n
Overall sample	1.26	1.78	3.69	1,542
Age				
18–30	1.08	1.53	3.74	117
31–40	1.39	1.82	4.48	160
41–50	1.33	1.93	4.54	234
51–60	1.15	1.89	4.22	300
61–70	1.25	1.74	3.46	320
71–80	1.31	1.70	2.82	298
81–100	1.31	1.75	2.32	113
F-test	$p = .030$	$p = .004$	$p < .001$	
Gender				
Male	1.19	1.77	3.93	732
Female	1.33	1.79	3.48	810
F-test	$p = .003$	$p = .568$	$p = .006$	
Ethnicity				
White	1.07	1.67	3.32	354
African American	1.30	1.85	3.84	494
Cuban	1.33	1.81	3.65	346
Other Hispanic	1.40	1.78	3.96	262
Other	1.12	1.74	3.67	86
F-test	$p < .001$	$p = .093$	$p = .116$	
Education				
Less than high school	1.45	1.83	3.79	526
High school or GED	1.19	1.75	3.40	354
Some post-secondary education	1.14	1.78	3.72	316
Bachelor's degree	1.16	1.81	3.78	148
Graduate/proffesional school	1.13	1.69	3.84	198
F-test	$p < .001$	$p = .463$	$p = .413$	
Disability status				
Not disabled	1.20	1.78	3.25	1,086
Physically disabled	1.41	1.79	4.49	456
F-test	$p < .001$	$p = .787$	$p < .001$	

more than those without physical limitations. Further, crisis is not a simple function of how many lifetime major events one experiences. For example, men reported higher levels of exposure to major life events but a lesser degree of crisis from the worst events. Old age is associated with some of the lowest levels of exposure to major life events, but relatively high degrees of crisis from worst events.

While the experience of crisis is socially patterned and associated with social disadvantage, resolution of major life events is clearly not. Table 1 shows that mean levels of resolution are evenly distributed across most status groups. Event resolution is more common in the middle age groups and less common among young adults and the aged. Differences in resolution by ethnicity are marginally significant ($p = .09$) and show an intriguing black-white pattern. Compared to white respondents, African Americans report greater exposure to lifetime major events and are more challenged by the worst events they experience. However, African American respondents also report a greater degree of resolution of their worst events compared to whites. The greater propensity of African Americans to resolve major life events may partly explain why others have found lower levels of depression among African American adults than expected given their elevated exposure to stress. Another contrast lies in the mean levels of crisis and resolution. On average, respondents were more likely to report that they resolved and learned from an event than to report that their sense of self was challenged.

That crises and resolution are relatively independent of one another, and of the level of exposure to lifetime major events, is confirmed in Table 2. The bivariate correlations among these measures are generally weak. For example, just 2 percent of the variation in experiences of crisis can be explained by event exposure ($.147^2 = .020$). Both exposure and crisis are positively associated with depression and negatively associated with mastery, but weakly associated with self-esteem. In contrast, resolution is positively correlated with esteem and only weakly associated with depression and mastery, either because resolution is not very consequential for these aspects of mental health or, as crisis theory predicts, because the benefits of event resolution are only fully experienced when events constitute a crisis. It is surprising to find no association between resolution and mastery, suggesting that the outcome of the worst event experienced in terms of resolution is not very representative of one's history of effective and ineffective responses to life problems.

The central claims of crisis theory are tested in Table 3. Model 1 presents estimates of the influences of crisis and resolution on symptoms of depression, controlling for age, gender, ethnicity, education, and disability. Model 2 adds a product term for resolution and crisis, to test the prediction that event resolution is most consequential with respect to an event that represents a crisis. Model 3 adds measures of lifetime exposure to major life events, partly to control for the possibility that crisis is mostly a consequence of high exposure to major events, but also to evaluate the importance of subjective meanings beyond a simple count of events. Model 4 adds controls for time since last major event, an interaction between time passed and experience of crisis, and any experience of major depression up to one year preceding the interview. Note that interpretations of the interactions typically use the minimum and/or maximum values of crisis and resolution—that is, values of 0 and/or 3 that correspond to respondents who said "not at all true" or "very true" to the respective items. All models report

TABLE 2. Bivariate Correlations among Lifetime Major Events, Crisis, Resolution, CES-D, Mastery, and Self-Esteem, Miami Disability Study, 2000 (N = 1,542)

	Lifetime Major Events	Experience of Crisis	Resolution of Event	CES-D	Personal Mastery	Self-Esteem
Experience of crisis	.147**					
Resolution of event	.134**	.290**				
CES-D	.303**	.219**	–.024			
Personal mastery	–.151**	–.219**	–.036	–.520**		
Self-esteem	–.107**	–.047†	.187**	–.550**	.397**	—
Mean	3.69	1.26	1.78	16.82	3.46	4.64
Standard deviation	3.26	.95	.97	10.02	1.12	.56

† $p < .10$; * $p < .05$; ** $p < .01$

Note: CES-D = Center for Epidemiologic Studies Depression Scale.

TABLE 3. Regression of CES-D on Stressful Events, Experiences of Crisis, and Event Resolution, Miami Disability Study, 2000 (N = 1,542)

	[1]	[2]	[3]	[4]
Experience of crisis	2.106**	3.407**	2.803**	3.363**
	(.284)	(.608)	(.586)	(.616)
Degree of resolution	–.899**	–.178	–.490	–.413
	(.247)	(.325)	(.313)	(.312)
Crisis × resolution		–.686*	–.516*	–.550*
		(.269)	(.257)	(.255)
Age	–.059**	–.059**	.003	.013
	(.015)	(.015)	(.017)	(.018)
Female	1.599**	1.532**	2.119**	1.978**
	(.480)	(.479)	(.462)	(.466)
African American	–1.375*	–1.418*	–1.493**	–1.420*
	(.571)	(.572)	(.551)	(.552)
Cuban	3.983**	3.990**	3.955**	4.018**
	(.712)	(.711)	(.687)	(.685)
Other Hispanic	3.037**	3.087**	2.941**	2.932**
	(.792)	(.789)	(.760)	(.760)
Other ethnicity	2.590	2.406	2.431	2.463
	(2.475)	(2.473)	(2.229)	(2.241)
High school	–.968	–.984	–.738	–.780
	(.677)	(.674)	(.642)	(.640)
Some college	–2.370**	–2.374**	–2.250**	–2.341**
	(.685)	(.688)	(.664)	(.661)
College graduate	–2.175*	–2.179*	–2.274*	–2.257*
	(.901)	(.898)	(.901)	(.903)
Graduate/professional school	–2.372**	–2.370**	–2.390**	–2.466**
	(.770)	(.771)	(.734)	(.738)
Physically disabled	3.603**	3.533**	2.570**	2.573**
	(.562)	(.559)	(.536)	(.534)
Lifetime major events			.890**	.833**
			(.088)	(.090)
Count of deaths of family and friends			–.718**	–.831**
			(.187)	(.203)
Number of years since last major event				.037
				(.028)
Crisis × years since last event				–.056**
				(.017)
Ever experienced major depression				1.735†
				(1.052)
Intercept	17.406	16.260	11.918	11.341
R^2	.151	.156	.229	.236

† $p < .10$; * $p < .05$; ** $p < .01$

Note: Table presents unstandardized regression coefficients, with Huber-White standard errors in parentheses.

robust standard errors that are based on the Huber-White sandwich estimator to adjust for the nonconstant error variance commonly found with skewed dependent variables like the CES-D (StataCorp 2005).

The regression analyses provide support for crisis theory. The experience of crisis and the resolution of worst events are positively and negatively associated with depression, as predicted, and in model 2, the interaction term between crisis and resolution is significant and in the expected direction. The contingent association remains significant after controlling for exposure to stressful events in model 3, as well as time since last major event, and history of major depression in model 4. In each instance, experiences of crisis are associated with increased depression, but the impact is lessened by successful resolution of the event. The results also indicate that event resolution has no effect on symptoms of depression when the event does not represent a crisis (e.g., model 4: $b_{resolution} + 0 \times b_{crisis \times resolution} = -.413$, $p > .10$). In contrast, resolution is associated with a large decrease in depression when it entails learning from events that were so challenging that individuals questioned their identity and ability to respond, when the scale for crisis is at its maximum value of 3 (model 4: $b_{resolution} + 3 \times b_{crisis \times resolution} = -.413 + [3 \times (-.550)] = -2.063$, $p < .001$).

The relationship between crisis and depression is contingent both on event resolution and the time since last major event. Experiencing a personal crisis is associated with increased depression, but the expected rise in depression is countered by both resolution and the length of time that has passed since it occurred—imperfectly measured in the analyses as the time since last major event. Thus, evaluated at the mean value of years since last major event (8.8 years), the predicted effect of crisis declines by more than half when comparing those who did not versus those who did resolve the crisis, from 2.87 when resolution equals 0 (model 4: $b_{crisis} + 0 \times b_{crisis \times resolution} + 8.8 \times b_{crisis \times years\_since} = 3.363 + 0 + [8.8 \times (-.056)] = 2.87$, $p < .01$) to 1.22 when resolution equals 3 (model 4: $b_{crisis} + 3 \times b_{crisis \times resolution} + 8.8 \times b_{crisis \times years\_since} = 3.363 + [3 \times (-.550)] + [8.8 \times (-.056)] = 1.22$, $p < .01$). Similarly, among those who have not experienced a major event in many decades, the experience of crisis has a marginal effect on depression. In fact, even if there is no resolution of the event, the slope for crisis becomes 0 at a value of 60 years since last major event (model 4: $b_{crisis} + 0 \times b_{crisis \times resolution} + 60 \times b_{crisis \times years\_since} = 3.363 + 0 + [60 \times (-.056)] = .003$, $p = .99$).

It appears that both experiences of crisis and their outcomes in terms of resolution importantly condition future risk for depressive symptoms, but do successful resolutions also yield measurable positive benefits? We present two tests of the hypothesis that successful resolutions of crises are associated with personal benefit. These benefits are roughly estimated in terms of the individual's later level of mastery and self-esteem. According to crisis theory, the successful resolution of crisis events can yield adaptive benefits, such as increased capability to deal with future challenges. Such a benefit would presumably be reflected in a greater sense of personal mastery and/or a positive sense of self as a capable person. We examine this idea next, although we are unable to confidently establish causal order in these analyses.

Table 4 reports estimates of the effects of crisis and resolution on personal mastery and self-esteem, adjusting for the influences of exposure to major events, time since last event, history of major depression, and other social and demographic controls. In terms of perceptions of mastery, crisis theory receives limited support. Experiences of crisis and exposure to major and traumatic events are associated with a decline in mastery. However, standardized regression coefficients (not shown) indicate that crisis and major/traumatic events have equally strong net associations with mastery (betas ≈ .14), and event resolution is surprisingly unassociated with greater mastery. We do not observe the pattern predicted by crisis theory, that mastery would benefit more from successful resolution of events that constituted a crisis than from resolution of events that did not.

The results for self-esteem are mostly in support of crisis theory. The negative impact of experiencing a crisis is diminished in proportion to the degree to which the crisis event was resolved. The negative slope becomes small and marginally significant ($p = .06$) when resolution equals 2 and effectively 0 and not significant ($p = .96$) when the measure of resolution equals 3. These are not infrequently occurring degrees of event resolution, as 22 percent of the sample reported "very true" to all resolution items and another 27 percent scored between 2 and 3 on the index of resolution. Similarly, resolving a major event is associated with a small increase in self-esteem, a boost to self-esteem that increases with the degree that the event was perceived as a crisis. These results are what crisis theory would predict.

DISCUSSION

The central aim of this article was to draw upon insights from crisis theory to bring greater power to analyses of the mental health consequences of major life events. Culled from years of research on the experiences of victims of natural disasters and other traumas, crisis theory posits that variations in response to events that would likely challenge people are, to a substantial degree, conditioned by the absence or presence of a crisis experience and whether the crisis is successfully resolved. Most people experience a major and potentially traumatic event at some point in their lifetimes (only 372 of 1,986, or 19 percent of the study sample reported no lifetime exposure), but a minority show long-term negative emotional effects of these experiences. The results presented here support the basic tenets of crisis theory and suggest its scientific utility for understanding differential response to major life events.

The extent of any likely advance, of course, depends on the magnitude of the contribution made by accounting for the contingencies of

TABLE 4. Regression of Mastery and Self-Esteem on Stressful Events, Experiences of Crisis, and Event Resolution, Miami Disability Study, 2000 (N = 1,542)

	Mastery	Self-Esteem
Experience of crisis	–.216**	–.101**
	(.068)	(.038)
Degree of resolution	.035	.077**
	(.041)	(.021)
Crisis × resolution	–.008	.033*
	(.029)	(.015)
Age	–.008**	–.000
	(.002)	(.001)
Female	–.148**	–.077**
	(.053)	(.027)
African American	–.121†	.156**
	(.072)	(.031)
Cuban	–.536**	–.121**
	(.079)	(.042)
Other Hispanic	–.486**	–.135**
	(.081)	(.045)
Other ethnicity	–.095	.078
	(.212)	(.098)
High School	.239**	.070†
	(.075)	(.036)
Some college	.436**	.090*
	(.077)	(.041)
College graduate	.464**	.225**
	(.102)	(.047)
Graduate/professional school	.661**	.211**
	(.086)	(.043)
Physically disabled	–.295**	–.108**
	(.062)	(.029)
Lifetime major events	–.046**	–.024**
	(.009)	(.005)
Count of deaths of family and friends	.062**	.065**
	(.021)	(.012)
Number of years since last major event	–.008*	–.003
	(.003)	(.002)
Crisis × years since last event	.006**	.001
	(.002)	(.001)
Ever experienced major depression	–.131	–.098†
	(.106)	(.057)
Intercept	4.318	4.531
R^2	.195	.170

† $p < .10$; * $p < .05$; ** $p < .01$

Note: Table presents unstandardized regression coefficients, with Huber-White standard errors in parentheses.

crisis experience and resolution. One approach for such evaluation is in terms of the amount of variation explained by the measures of crisis experience, crisis resolution, and their interaction. Removing these measures from model 3 in Table 3 reduced the model R^2 from .23 to .20 (results not shown). Though this is a modest change in absolute terms, the relative increase to R^2 is nontrivial. In other words, crisis and resolution improve explanatory capability by 15 percent when added to a model that already accounts for the influences of lifetime exposure to major events, age, gender, ethnicity, education, and disability status ([.23 – .20] / .20 = .15). Further analyses (not shown) also confirm that we have improved upon past efforts to account for variations in depressive symptomatology with measures of stress exposure. Once recent, chronic, and discrimination stress were added to model 4 in Table 3, the R^2 was .33, an increase of around one-third compared to past studies that used similar measures (Turner, Wheaton, and Lloyd 1995; Turner and Avison 2003).

Another contribution is the specification of the emotional response to crises as contingent upon resolution. For example, if the interaction term between crisis and resolution were excluded from models 2, 3, and 4 in Table 3, the predicted increase in depression due to experi-

encing a crisis would be an overestimate for those who reported successful event resolution and an underestimate for those who did not. Crisis theory thus appears to extend the explanatory power of models of social stress and depression by better predicting when the emotional consequences of crisis events are greatest.

What of the possibility that individuals who prevail in the face of severe emotional strains report their lives have improved as a result of the experience? For example, when asked in the late 1980s to reflect back on their experiences, 7 out of 10 Vietnam veterans reported military service benefited them or had mostly positive effects on their lives (Dohrenwend et al. 2004). Research on psychological resilience among children also provides numerous examples of adolescents who thrive despite exposure to significant adversity at home or in the community (e.g., Masten and Coatsworth 1998). Our analyses were only modestly successful in supporting the contention that crises can have "curiously beneficial implications," providing mixed evidence that successfully resolved crises lead to personal growth. Though unable to test rigorously for such long-term benefits in the current data set, we do find earlier experiences of crisis and resolution to be associated with current perceptions of mastery and self-esteem. Experiences of crisis were associated with lower mastery and self-esteem while event resolution predicted higher self-esteem, by modest amounts. However, the results were mixed in regard to the hypothesis that the impact of a crisis is dependent upon its degree of resolution, receiving support in the case of self-esteem but not mastery.

Returning to the findings for depression, where experiences of crisis and event resolution make a clear contribution to understanding variable stress response, several questions arise including, most importantly, those relating to origins of variability in experiences of crisis and resolution. Viewed from the perspective of crisis theory, major life events presumably trigger crises in some individuals but not others because of variations in their assumptions about self and the world. These assumptions, to a substantial degree, must grow out of differences in personal and social experience. Consistent with this proposition, findings reported in Table 1 indicate that experiences of crisis are more common among socially disadvantaged groups: women, ethnic minorities, those who lack educational credentials, and the physically disabled. However, whether assumptive variations, across or within social status categories, can ever be effectively measured is uncertain given the argument that ". . . we are rarely aware of the fundamental elements of our assumptive world" (Tennen and Affleck 1998:81; see also Janoff-Bulman and Schwartzberg 1991).

The primary reasons for observed variations in the resolution of major events must include differences in coping skills and the availability of coping resources. There is, of course, substantial evidence suggesting that coping skills and resources are substantially conditioned by one's history of success and failure in dealing with prior stressors. Our above discussion of the grounds for hypothesizing that crises, when successfully resolved, can have positive consequences suggests possible mechanisms by which the familiar "success begets success" principle is made manifest. We noted that personal enhancement and growth may occur because successful resolutions often involve a new behavioral or cognitive response that is added to the individual's armamentarium of coping skills, and because the experience contributes to one's perception of self as the kind of person who can effectively deal with such difficulties—a perception that will tend to motivate rather than undermine future coping efforts. It must be noted that this perspective logically implies that crisis resolution will vary meaningfully across social statuses. However, our analyses revealed little in the way of systematic differences in resolution by social status. Degree of resolution did not vary significantly by gender, education, or disability status. The exception was age, with the possible addition of race/ethnicity. Degree of event resolution increases in early- to mid-adulthood, then decreases in older ages, and African Americans report greater success at event resolution than other racial/ethnic groups, especially whites (Table 1).

It is unclear why the experience of resolution appears to be randomly distributed with respect to gender, education, and disability. It may be that our index of resolution, assessed for just one or two events over the entire life course, is too limited to reveal status differences that may be manifest across a broader range of events or a longer period of time. Also, event resolution may appear randomly distributed due to different underlying types of

appraisals. Dohrenwend and colleagues (2004) distinguished among positive affirmation, positive reformulation, and defensive denial as alternative cognitive processes that generate expressions of resolution or growth. Thus, some individuals may report they can now handle major life events better than before because a crisis revealed a heretofore unknown inner capacity or strength, while others report successful resolution as a defensive rationalization that does not reflect genuine discovery or adaptation. Unfortunately, available data do not allow adjudication among such possibilities.

Other data limitations suggest that the conclusions over the utility of crisis theory should be viewed as preliminary. Additional work is needed to confirm or improve the adequacy with which our measures distinguish experiences of crisis, on the one hand, and indicate success or nonsuccess in their resolution, on the other. Both dimensions were measured with just two items each, which, despite adequate evidence of reliability, may miss aspects of challenge to self and resolution that are of significance. It should also be noted that a possibly distinct dimension of crisis—a challenge to one's view of the world—was not assessed. Given such measurement limitations, the utility of distinguishing crisis experiences from other events and assessing resolution may be underestimated in these results. It is worth noting in this connection that ancillary analyses (not shown) demonstrated that the results based on these measures were highly robust, remaining apparent in the context of controls for variations in exposure to recent events and chronic strains, and in the availability of social support.

Additional grounds for interpretive caution include the fact that there is no way to evaluate the accuracy of reports of either crisis experiences or resolutions, which are based on recall over highly variable, and often lengthy, time periods. An associated problem is that memories of crisis experiences and judgments regarding resolution may be influenced by one's level of depressive symptomatology at the time of interview. As in the case of the vast majority of prior studies of the stress–depression linkage, to the extent that state-dependence contributed to our results, they could represent overestimates of the utility of the constructs assessed.

The obvious fact of widely varying responses to the same event has generated considerable agreement that at least part of the explanation for such variability lies in the differing meanings of the event across those exposed. It is suggested that the results presented above justify the inclusion of crisis theory among useful models for attempting to take the differential meaning of events into account. A particularly novel aspect of this approach is the suggestion that, at least in some instances, meaning may be better revealed within the experience of the event itself, rather than surmised based on estimates of identity salience or a rank ordering of values. This is a suggestion that appears to deserve future research attention.

REFERENCES

Ausubel, David P. 1958. *Theory and Problems of Child Development.* New York: Grune and Stratton.

Baker, George W. and Dwight W. Chapman, eds. 1962. *Man and Society in Disaster.* New York: Basic Books.

Brown, George W. 1981. "Contextual Measures of Life Events." Pp. 187–201 in *Stressful Life Events and Their Contexts,* edited by B. S. Dohrenwend and B. P. Dohrenwend. New York: Prodist.

———. 1989. "Life Events and Measurement." Pp. 3–45 in *Life Events and Illness,* edited by G. W. Brown and T. O. Harris. New York: Guilford Press.

Brown, George W., A. Bifulco, and Tirril O. Harris. 1987. "Life Events, Vulnerability, and Onset of Depression: Some Refinements." *British Journal of Psychiatry* 150:30–42.

Brown, George W. and Tirril O. Harris. 1978. *Social Origins of Depression.* New York: Free Press.

———. 1989. "Depression." Pp. 49–93 in *Life Events and Illness,* edited by G.W. Brown and T.O. Harris. New York: Guilford Press.

Caplan, Gerald, ed. 1961. *Prevention of Mental Disorders in Children: Initial Explorations.* New York: Basic Books.

Dohrenwend, Bruce P. 1993. "The Structured Event Probe and Narrative Rating Method (SEPRATE) for Measuring Stressful Life Events." Pp. 174–99 in *Handbook of Stress: Theoretical and Clinical Aspects,* 2nd ed., edited by L. Goldberger and S. Bresnitz. New York: Free Press.

Dohrenwend, Bruce P., Yuval Neria, J. Blake Turner, Nicholas Turse, Randall Marshall, Roberto Lewis-Fernandez, and Karestan C. Koenen. 2004. "Positive Tertiary Appraisals and Posttraumatic Stress Disorder in U.S. Male Veterans of the War in Vietnam: The Roles of Positive Affirmation, Positive Reformulation, and Defensive

Denial." *Journal of Community and Clinical Psychology* 72:417–33.

Holahan, Charles J. and Rudolf H. Moos. 1990. "Life Stressors, Resistance Factors, and Improved Psychological Functioning: An Extension of the Stress Resistance Paradigm." *Journal of Personality and Social Psychology* 58: 909–17.

Janoff-Bulman, Ronnie 1992. *Shattered Assumptions: Toward a New Psychology of Trauma.* New York: Free Press.

Janoff-Bulman, Ronnie and Steven Schwartzberg. 1991. "Toward a General Model of Personal Change." Pp. 488–508 in *Handbook of Social and Clinical Psychology: The Health Perspective,* edited by C. R. Snyder and D. R. Forsyth. New York: Pergamon Press.

Klein, Donald C. and Erich Lindeman. 1961. "Preventive Intervention in Individual and Family Crisis Situations." Pp. 265–83 in *Prevention of Mental Disorders in Children,* edited by G. Caplan. New York: Basic Books.

Lazarus, Richard S. 1981. "The Stress and Coping Paradigm." Pp. 177–214 in *Models for Clinical Psychopathology,* edited by C. Eisdorfer, D. Cohen, A. Kleinman, P. Maxim. New York: Spectrum.

———. 1998. *Fifty Years of the Research and Theory of R. S. Lazarus: An Analysis of Historical and Perennial Issues,* edited by Richard S. Lazarus. Mahwah, NJ: Lawrence Erlbaum.

Lazarus, Richard S. and Susan Folkman. 1984. *Stress, Appraisal, and Coping.* New York: Springer.

Masten, Ann and J. Douglas Coatsworth. 1998. "The Development of Competence in Favorable and Unfavorable Environments: Lessons from Research on Successful Children." *American Psychologist* 53:205–20.

McCann, I. Lisa and Laurie A. Pearlman. 1990. *Psychological Trauma and the Adult Survivor: Theory, Therapy, and Transformation.* New York: Bruner/Mazel.

Monroe, Scott M. 1982. "Life Events Assessment: Current Practices, Emerging Trends." *Clinical Psychological Review* 2:435–53.

Pearlin, Leonard I. and Carmi Schooler. 1978. "The Structure of Coping." *Journal of Health and Social Behavior* 19:2–21.

Pearlman, Laurie A. and Karen W. Saakvitne. 1995. *Trauma and the Therapist: Countertransference and Vicarious Traumatization in Psychotherapy with Incest Survivors.* New York: Norton.

Radloff, Lenore S. 1977. "The CES-D Scale: A Self-Report Depression Scale for Research in the General Population." *Applied Psychological Measurement* 1:385–401.

Reissman, Catherine K. 1990. *Divorce Talk: Women and Men Make Sense of Personal Relationships.* New Brunswick, NJ: Rutgers University Press.

Rosenberg, Morris. 1965. *Society and Adolescent Self-Image.* Middletown, CT: Wesleyan University Press.

Ross, Catherine E. and John Mirowsky. 1979. "A Comparison of Life-Event-Weighting Schemes: Change, Undesirability, and Effect-Proportional Indices." *Journal of Health and Social Behavior* 20:166–77.

Rutter, Michael. 1987. "Psychosocial Resilience and Protective Mechanisms." *American Journal of Orthopsychiatry* 57:316–31.

Sandler, Irwin N. and Robert T. Guenther. 1985. "Assessment of Life Stress Events." Pp. 555–600 in *Measurement Strategies in Health Psychology,* edited by P. Karoly. New York: Wiley.

Schaefer, Jeanne A. and Rudolf H. Moos. 1992. "Life Crises and Personal Growth." Pp. 149–70 in *Personal Coping, Theory, Research, and Application,* edited by B. N. Carpenter. Westport, CT: Praeger.

Shrout, Patrick E., Bruce G. Link, Bruce P. Dohrenwend, Andrew E. Skodol, Ann Stueve, and Jerrold Mirotznik. 1989. "Characterizing Life Events as Risk Factors for Depression: The Role of Fateful Loss Events." *Journal of Abnormal Psychology* 98:460–67.

Simon, Robin W. 1997. "The Meanings Individuals Attach to Role Identities and Their Implications for Mental Health." *Journal of Health and Social Behavior* 38:256–74.

Simon, Robin W. and Kristen Marcussen. 1999. "Marital Transitions, Marital Beliefs, and Mental Health." *Journal of Health and Social Behavior* 40:111–25.

StataCorp. 2005. *Stata Statistical Software: Release 9.* College Station, TX: Stata Corporation.

Sweeney, Megan M. and Allan V. Horwitz. 2001. "Infidelity, Initiation, and the Emotional Climate of Divorce: Are There Implications for Mental Health?" *Journal of Health and Social Behavior* 42:295–309.

Tennen, Howard and Glenn Affleck. 1998. "Social Comparison as a Coping Process: A Critical Review and Application to Chronic Pain Disorders." Pp. 65–98 in *Post-Traumatic Growth,* edited by Richard G. Tedeschi, Crystal L. Park, and Lawrence G. Calhoun. Madwah, NJ: Lawrence Erlbaum.

Thoits, Peggy A. 1991. "On Merging Identity Theory and Stress Research." *Social Psychology Quarterly* 54:101–12.

———. 1992. "Identity Structures and Psychological Well-Being: Gender and Marital Status Comparisons." *Social Psychology Quarterly* 55:236–56.

———. 1995. "Identity-Relevant Events and Psychological Symptoms: A Cautionary Tale." *Journal of Health and Social Behavior* 36:72–82.

———. 1999. "Self, Identity, Stress, and Mental Health." Pp. 345–68 in *Handbook of the Sociology of Mental Health,* edited by Carol S.

Aneshensel and Jo C. Phelan. New York: Kluwer/Plenum.

Thomas, William I. and Dorothy S. Thomas. 1928. *The Child in America: Behavior Problems and Programs.* New York: Knopf.

Turner, R. Jay. 1966. "Social Structure and Crisis: A Study of Nursing Organization and Patient Adjustment." *Community Mental Health Journal* 2:285–92.

Turner, R. Jay and William R. Avison. 1992. "Innovations in the Measurement of Life Stress: Crisis Theory and the Significance of Event Resolution." *Journal of Health and Social Behavior* 33:36–50.

———. 2003. "Status Variations in Stress Exposure: Implications for the Interpretation of Research on Race, Socioeconomic Status, and Gender." *Journal of Health and Social Behavior* 44:488–505.

Turner, R. Jay and Blair Wheaton. 1995. "Checklist Measures of Stressful Life Events." Pp. 29–58 in *Measuring Stress: A Guide for Health and Social Scientists,* edited by Lynn Gordon, Sheldon Cohen, and Ronald Kessler. New York: Oxford University Press.

Turner, R. Jay, Blair Wheaton, and Donald A. Lloyd. 1995. "The Epidemiology of Social Stress." *American Sociological Review* 60:104–25.

Umberson, Debra, C. B. Wortman, and Ronald C. Kessler. 1992. "Widowhood and Depression: Explaining Long-Term Gender Differences in Vulnerability." *Journal of Health and Social Behavior* 33:10–24.

Wheaton, Blair. 1990. "Life Transitions, Role Histories, and Mental Health." *American Sociological Review* 55:209–23.

Wilson, Robert N. 1962. "Disaster and Mental Health." Pp. 124–50 in *Man and Society in Disaster,* edited by G. W. Baker and D. W. Chapman. New York: Basic Books.

Wortman, Camille B. and Roxane C. Silver. 1987. "Coping with Irrevocable Loss." Pp. 189–235 in *Cataclysms, Crises, and Catastrophes: Psychology in Action.* Washington, DC: American Psychological Association.

Zimmerman, Mark. 1983. "Methodological Issues in the Assessment of Life Events: A Review of Issues and Research." *Clinical Psychology Review* 3:339–70.

John R. Reynolds is associate professor of sociology and an associate of the Claude Pepper Institute on Aging and Public Policy at Florida State University. His current research examines broad shifts in the achievement expectations of youth in the United States, such as the increasingly unrealistic career plans of high school students, and seeks to explicate the long-term consequences of such trends for gender, race, and class inequalities.

R. Jay Turner is Marie E. Cowart Professor of Sociology and Epidemiology in the Department of Sociology and Professor of Psychology at Florida State University, where he is also an associate of the Center for Demography and Population Health. His ongoing research efforts focus on a study of ethnic variations in the determinants of psychiatric and substance use problems among young adults and on a study of ethnic variation in such outcomes and in associated contingencies among persons with and without physical disabilities.