Socioeconomic Status Differences in Vulnerability to Undesirable Life Events*

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Previous research has documented consistently that persons holding low-socioeconomic status (SES) positions are more strongly affected emotionally by undesirable life events than are their higher-status counterparts. Two types of resources have been implicated in this differential vulnerability: financial resources and a broader class of coping resources, including social support and resilient personality characteristics. We present an analysis that disaggregates measure of life events and of SES to identify which events and which components of SES are most important for understanding differential vulnerability. We document that the lower-SES vulnerability persists across all types of personal events. In addition, we find that differential vulnerability is not confined to income but extends to education and occupational status as well. On the basis of these patterns, we conclude that differential vulnerability reflects more than a simple economic reality. Previous research offers speculative evidence that status differences in past and current social environments may explain differential vulnerability, especially through their effects on the socialization of resilient personality characteristics. We propose future research that could help to evaluate the validity of these speculations.

One of the most consistently documented associations in psychiatric epidemiology is the association between socioeconomic status (SES) and psychological distress. Occupants of lower-status positions report more subjectively experienced distress than do their higher-status counterparts. Early research in this area focused on the hypothesis that greater exposure to stressful life experiences accounts for the high rates of distress among low-status groups (Dohrenwend 1970, 1973; Langner and Michael 1963; Myers, Lindenthal, Pepper, and Ostrander 1974). Empirical evidence failed to support this hypothesis, however. The predicted SES difference in exposure to stressful life events was documented, but this difference did not explain the SES difference in distress (Dohrenwend 1973; Langner and Michael 1963).

Research interest turned subsequently to

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the study of differential vulnerability: members of lower-status groups are disadvantaged not only in their likelihood of experiencing events, but also in the resources they have available to cope with those events. Although empirical evidence clearly supports this hypothesis (Brown and Harris 1978; Dohrenwend 1973; Kessler 1979), little is known about the specific nature of the vulnerability. In particular, it remains unclear whether the vulnerability extends to all types of life events or is confined to a few, and what types of socioeconomic resources are most important in creating it. The goal of the present analysis is to take a first step in that specification by disaggregating the vulnerability by type of life event and by component of SES (income, education, occupation).

Previous analyses of the lower-SES vulnerability to events employed aggregated measures of life events—measures that combine information about many different stressful events into a single index. The interpretations advanced in those analyses assumed implicitly that the vulnerability observed with the aggregated measure would extend to all of the constituent events. That assumption remains untested. Furthermore, those analyses often used single indicators of SES, leaving open the question of which socioeconomic resources are most important in predicting adjustment to events. The explanations appropriate for understanding the lower-status vulnerability to events would be very different, depending on which component of SES and which events were implicated.

COMPETING EXPLANATIONS

Two main types of resources have been proposed as responsible for the observed differential vulnerability: financial resources and nonfinancial coping resources, such as social support and resilient personality characteristics. Each resource implies a different explanation for the origin of the vulnerability. The "financial resources" explanation proposes that socioeconomic status differences in distress result from the financial vulnerability of individuals at the lowest status levels (Liem and Liem 1978). According to this explanation, lower-status persons are disad-

vantaged both because they experience a greater number of undesirable financial events (e.g., job losses, mortgage foreclosures) and because they do not have sufficient financial resources to cope with those events. This explanation posits a direct role for socioeconomic status: being poor causes increased vulnerability.

In contrast, the "coping resources" explanation argues that socioeconomic status influences vulnerability indirectly through its relationship to a broader class of coping resources, such as social support and resilient personality characteristics. The specific nature of the proposed relationship varies from study to study. Myers and his colleagues (1975) argued that members of lower-status groups are integrated poorly into society and that poor integration accentuates the effects of life events on psychological distress. Pearlin and Schooler (1978) documented pervasive educational differences in the types of coping strategies brought to bear on life events. In particular, they found that persons with low levels of education were more likely to use ineffective strategies than were their more educated counterparts. Finally, a recent theoretical treatment of status-distress relationships noted the potential importance of feelings of powerlessness (the opposite of mastery) in understanding those relationships (Mirowsky and Ross 1986).

A careful consideration of the empirical implications of these two traditions reveals that an analysis which disaggregates both life events and socioeconomic status in predicting distress can inform our understanding of their relative predictive powers. If the financial resources explanation were true, we would expect to find that the lower-status vulnerability to life events is confined to income-related events, and that income is related more strongly to vulnerability than is either education or occupation. To the extent that other components of SES and other events are implicated in the differential vulnerability, the financial resources explanation loses credibility, implying that nonfinancially dictated processes are active. Our disaggregated analysis not only tests the viability of the financial resources explanation, but also yields descriptive evidence that can be used to focus future research on relevant coping resources and vulnerabilities.

DATA AND METHODS

Data

We present analyses based on five epidemiologic surveys of the general population. Table 1 describes the sample sizes, sampling frames, years of administration, and measures of psychological distress included in each of the surveys. The smallest and oldest of the five surveys is a panel survey conducted in New Haven, Connecticut by Jerome Myers and his associates (NH). We pooled the two waves of the panel into a synthetic cross-section in the analysis. (See Kessler and Greenberg 1981, pp. 157–62 for a description of this technique.) The largest and most recent survey is the Survey of Modern Living (SML), administered by Joseph Veroff and associates. The other three surveys are part of the Community Mental Health Assessment (CMHA) program administered through the Center for Epidemiologic Studies at the National Institute of Mental Health.[1] Two of the five surveys were conducted in urban areas (NH and CMHA-II), two were conducted in rural areas (CMHA-I and CMHA-III), and one was a national study (SML).

Our decision to use a number of surveys in the analysis was based on the fact that the rate of occurrence of specific life events is very low in community surveys. Analyses of the effects of specific life events using these data therefore have low power. Combining the results from many surveys helps to resolve this problem by providing built-in replications, or tests, of the significance of life event effects. Statistical methods for pooling tests of significance to arrive at an overall significance level are available. Furthermore, life event effects for specific events are typically very small; pooled significance tests offer a tremendous advantage in detecting small but consistent effects. We discuss below in greater detail how to calculate pooled significance levels.

Our analysis employs three central variables: socioeconomic status, psychological distress, and undesirable life events. Socioeconomic status is measured with three indicators: annual family income in thousands of dollars; years of education; and occupational status, measured with a Hollingshead-type seven-category code of occupations. The highest category of the occupational status index represents professional and technical workers; the lowest category represents unskilled laborers. All income measures are coded at the midpoints of intervals. The SES distribution is comparable across the five surveys.

Ideally we would use pre-event values of income and occupational status to estimate their modifying effects on the life event-distress relationship. Using current values leaves open the possibility that any modifying effects we observe are due to changes in SES resulting from events. We could not address this possibility in most of the data sets, but we

TABLE 1. Data Sets and Screening Scales Included in the Analysis

| Survey Symbol | Year | Population | Sample Size | Screening Scales | | Source |
				Depression	Psycho-physiological	
NH	1967, 1969	New Haven, CT, age 21 or older	720[a]	SS	GURIN	Myers et al. (1974)
CMHA I	1971–73	Washington County, MD, age 18 or older	1673	CESD, PSYCL	PHYSL	Comstock and Helsing (1976)
CMHA II	1971–73	Kansas City, MO, age 18 or older	1173	CESD, PSYCL	PHYSL	Comstock and Helsing (1976)
CMHA III	1971–73	Washington County, MD, age 18 or older	1089	CESD	–	Comstock and Helsing (1976)
SML	1976	United States, age 21 or older	2264	ZUNG	GURIN	Veroff et al. (1981)

[a] This is the sample size per wave; the total sample size in the pooled data set is 1440.
CESD: Center for Epidemiologic Studies Depression Scale (Radloff 1977).
GURIN: Gurin Scale (Myers et al. 1974).
PHYSL: Psychophysiological/physical subscales of the Langner Scale (Dohrenwend and Crandell 1970; Langner 1962).
PSYCL: Psychological subscale of the Langner Scale (Dohrenwend and Crandell 1970; Langner 1962).
SS: Study-Specific Scale (Weissman and Myers 1978).
ZUNG: Modified Zung Scale (Veroff et al. 1981; Zung 1965).

could do so in the New Haven data because they were collected at two points in time. Our analyses demonstrated that the results we observe in that data set do not change when we use pre-event, rather than current, SES values (results available from the authors).

The measures of psychological distress vary slightly from study to study, as described in Table 1. Each index represents feelings of subjectively experienced psychological distress. The indexes can be divided collectively into two groups: depression and psychophysiological distress. Although there is a significant relationship between scores on the two types of indexes, they reflect two different types of distress: one rooted in dysphoric mood and other depressive symptoms, the other in physical problems that are presumed to reflect underlying anxiety.[2] Psychological distress is measured seven times with a depression index and four times with an index of psychophysiological symptoms across the five surveys. (Some surveys include more than one index.) These 11 replications form the basis of the analysis. All index scores were standardized.

Life events were assessed with a life event inventory in four of the five surveys (the exception was SML). The inventories differ in length, in the precision with which they differentiate events (for example, asking about minor illnesses, serious illnesses, and serious injuries separately versus combining them into one illness/injury category), and in the inclusion of some less serious events (for example, death of a pet). All of the inventories include the events presumed to be most serious and most undesirable, such as death of a loved one and divorce. We focus on these serious, undesirable life events in the analysis; for these events, the inventories are nearly identical.

In the four surveys using life event inventories, respondents were asked to report which, if any, of the events on the list had happened to them in the past 12 months. This time frame is consistent with evidence from retrospective case-control studies that events have a significant impact on acute onset of clinical disorders for no more than 12 months (Brown and Harris 1978; Paykel 1978; Surtees and Ingham 1980). The list then was repeated, and respondents were asked whether any of the events had happened to someone important to them.

The SML survey did not include a life event inventory. Instead respondents were asked a single, open-ended question: "Now think about the last time something really bad happened to you. What was it about?" Each respondent reported one event and the date of its occurrence. To approximate the one-year life event measures available in the other surveys, we included only events experienced in the past 12 months in the analysis for SML respondents.

Instead of using a single unweighted sum of the total number of life events as our measure of exposure to stress, we disaggregated the total into six conceptually meaningful categories and used unweighted sums of the life events within each category.[3] The six categories of events are income loss, ill health, marital separation and divorce, other love loss, death of a loved one, and network events. Most of the categories are diverse. Income loss, for example, includes such things as being fired, business failure, and foreclosure of a mortgage. Other love loss includes broken engagements, breaks with a steady girlfriend or boyfriend, and the termination of other important relationships. Network events are events that happened to members of the respondent's social network, such as death of friend's spouse, a child's divorce, and spouse's job loss. The other three event categories are self-descriptive. Events were grouped together on the basis of intuitive similarities in the types of adjustment tasks they present.

We recognize that combining diverse events into substantive groups masks important variability among crises, both in their meanings and in their emotional effects. The partial disaggregation we offer, however, is far more true to reality than the conventional approach of combining all undesirable events into one summary measure. Furthermore, the six event categories are sufficiently detailed to begin shedding light on the process that determine SES differences in vulnerability to life events.

Methods of Analysis

The basic model we estimated was of the form

$$D = b_0 + b_1 SES + b_{2i}LE_i$$
$$+ b_{3i}SESxLE_i$$
$$+ b_4C \quad i = 1, 2, \ldots, 6,$$

where D is a measure of distress, SES is a measure of socioeconomic status, LE_i represents the six life event categories, $SESxLE_i$ is the multiplicative interaction of SES and LE_i, and C is a series of control variables.

The terms of primary interest in the equation are the interaction terms. A negative interaction between SES and life events shows that lower-status persons are more vulnerable to life events than upper-status persons. A positive interaction shows just the opposite. We estimated this equation separately for each of the these SES indicators instead of combining the three in one equation because of multicollinearity among the interaction terms.

The control variables we included are marital status (dummy variables for previously married and never married) and age. Each of these control variables may be related both to the likelihood of experiencing a life event (as age is related to the presence of health problems) and to the level of psychological distress (older persons report more distress; Veroff, Douvan, and Kulka 1981). In order to ensure the appropriate controls for event likelihood, we coded marital status at its pre-event value. That is, if a respondent became separated or divorced within the past year, he or she was coded "married" in the analysis.

We estimated equations separately among men in the labor force (MLF), women in the labor force (WLF), and homemakers (HM). Previous analyses suggest that the relationship between SES and psychological distress is very different among those three groups (Kessler 1982). Thus one logically might expect corresponding differences in patterns of vulnerability. Respondents who reported job loss as one of their events were classified as being in the labor force, their pre-event status. The analysis was limited further to whites aged 65 or younger, and excluded students, the retired, and the disabled.

We estimated the basic models for each of the outcome variables in the five surveys. This procedure yielded a total of 11 replications of each model. We summarized the results of these replicated analyses by calculating pooled significance levels. Several methods are available for doing so (Rosenthal 1978, 1984). Because the results were similar across methods, we present only the results from the method of "adding Zs." In this method the Z-values for a parameter, in this

case a regression coefficient, are summed across replications and are divided by the square root of the sum of the number of replications (N) plus a modification term, c: $Z/(N+c)^{1/2}$. The modification term consists in the sum of the correlations among multiple dependent variables used in the same study. The addition of the modification term takes into account the nonindependence of these multiple tests (Strube 1985). When there is only one test per study, the modification term can be omitted from the calculation. The sum of the Zs is a standard normal deviate that can be used to evaluate the overall significance of the parameter across replications.

RESULTS

SES Differences in Exposure to Life Events

We began by examining the relationship between SES and exposure to undesirable life events. Although this examination is not central to the goals of the larger analysis, it provides background information for the subsequent analysis of vulnerability. We report these results in Table 2. The reported coefficients are average correlations between SES and life events across the five surveys.[4] Pooled significance tests also are reported, in the form of Z-statistics. We calculated the average correlations separately for each indicator of SES and each life event category among men in the labor force, women in the labor force, and homemakers.[5]

Twenty of the 48 correlation coefficients in Table 2 are statistically significant at the .05 level (two-tailed test); 14 of the 20 are negative. Thus the predominant pattern in the data is one of greater exposure to events among lower-status persons. The pattern replicates among all three groups, with few exceptions. Despite this basic consistency, none of the average coefficients is large (most are smaller than .10); this finding suggests that for practical purposes, exposure to most stressful events is linked only loosely to socioeconomic status.

Low income is associated more consistently with exposure to events (eight of the 14 significant negative coefficients) than is either poor education (four significant negative coefficients) or low occupational status (two significant coefficients). Having low income places the individual at significantly higher

TABLE 2. Average Correlations of Life Events with Income (Inc), Education (Ed), and Occupation (Occ) for Men in the Labor Force, Women in the Labor Force, and Homemakers[a]

Type of Event	Men in the Labor Force			Women in the Labor Force			Homemakers	
	Inc	Ed	Occ	Inc	Ed	Occ	Inc	Ed
Income	−.132*	−.073*	−.109*	−.061*	−.032	−.044+	−.065*	.026
	(−5.864)	(−3.254)	(−4.675)	(−2.550)	(−1.072)	(−1.669)	(−2.387)	(1.045)
Ill health	−.074*	−.054*	−.087*	−.003	−.025	−.012	−.057*	−.059*
	(−3.258)	(−2.514)	(−3.901)	(−.026)	(−1.075)	(−.453)	(−2.073)	(−2.296)
Separation/	−.074*	.014	.007	−.098*	−.015	−.024	−.029	.031
divorce	(−2.762)	(.550)	(.219)	(−3.731)	(−.632)	(−.875)	(−.970)	(.988)
Other love	−.042	.083*	−.042	−.063*	.085*	.017	−.009	.067+
loss	(−1.566)	(3.015)	(−1.494)	(−2.126)	(2.765)	(.493)	(−.110)	(1.879)
Death of a	.028	.018	.030	.011	−.023	−.011	−.051+	−.070*
loved one	(1.143)	(.726)	(1.219)	(.347)	(−.747)	(−.266)	(−1.792)	(−2.592)
Network	.057*	.068*	.008	.030	.062*	.024	.028	.076*
	(2.657)	(3.119)	(.983)	(1.056)	(2.276)	(1.262)	(.654)	(2.302)
(N)[b]	(2219)			(1611)			(1466)	

[a] The numbers in parentheses are pooled Z-statistics for the significance of the correlations.
[b] Sample sizes vary slightly depending on the event type and the indicator of SES. See Footnote 4 for a complete discussion.
+ $p < .10$.
* $p < .05$.

risk for most kinds of stressful events, whereas the patterns with respect to the other two components of SES are weaker. The events associated more strongly with lower socioeconomic position are income losses (five significant coefficients) and ill health (five significant coefficients), in keeping with previous research (Dutton 1986; Liem and Liem 1978). Network events are the only events considered here that are associated positively with SES in a consistent fashion (four significant coefficients). We know of no other research that estimated this association, but it is consistent with previous findings that members of higher-status groups have more social contacts than members of lower-status groups (Berkman and Syme 1979).

A comparison of results across the three labor force-gender groups reveals two exceptions to these basic patterns. First, socioeconomic status is not related to the prevalence of ill-health events among women in the labor force. An examination of these correlations across the five studies shows that the small average correlation reflects a consistent lack of relationship rather than idiosyncratic results in any one study. The second exception is for death of a loved one among homemakers. The consistent negative correlations in that group contrast with the weak correlations among men and women in the labor force. These exceptions support our earlier claim that socioeconomic status is related differen-

tially to life experiences among the three groups.

SES Differences in Vulnerability to Life Events

Next we examined the relationship between SES and vulnerability to life events, using the same strategy of averaging coefficients over multiple estimates and evaluating the significance of those averages. After discussing results across the 11 replications, we describe the results separately for depression and for psychophysiological symptomatology. Analyzing each type of outcome separately allows us to understand the types of distress implicated in lower-status vulnerability more comprehensively than would be possible otherwise.

Table 3 lists the average coefficients from the regression equations that included the interactions of SES with life events. We report the gross effects of each life event on psychological distress ("Average Effect") and the interactions with each SES indicator, along with pooled Z-statistics.

Thirty-five of the 48 interaction terms in this table are negative; eight are significant at the .05 level (two-tailed test). There is only one positive, significant interaction. The presence of one such coefficient among 48 is certainly within the realm of chance. In contrast, the eight significant negative coeffi-

TABLE 3. Average Slopes of Distress on Life Events and the Interactions of Life Events with Income (Inc), Education (Ed), and Occupation (Occ) for Men in the Labor Force, Women in the Labor Force, and Homemakers[a]

| | Men in the Labor Force | | | | Women in the Labor Force | | | | Homemakers | | |
| | Average Effect | Interaction with | | | Average Effect | Interaction with | | | Average Effect | Interaction with | |
Type of Events		Inc	Ed	Occ		Inc	Ed	Occ		Inc	Ed
Income loss	.339	−.006	−.050*	−.038	.334	−.036*	−.077	−.026	.019	−.034	−.184
	(8.158)	(−.080)	(−2.434)	(−.839)	(4.134)	(−2.340)	(−1.619)	(−.836)	(.281)	(−.784)	(−.578)
Ill health	.176	−.011	.007	−.003	.337	−.000	−.012	−.065*	.533	−.036*	−.039+
	(4.434)	(−1.594)	(.275)	(−.290)	(4.746)	(−.422)	(−.198)	(−2.268)	(7.067)	(−2.382)	(−1.753)
Separation/ divorce	.258	.009	−.106*	−.144*	.420	−.034	−.047	.036	.456	−.023	−.081
	(3.300)	(.770)	(−3.079)	(−2.482)	(4.823)	(−.703)	(−1.489)	(.497)	(2.583)	(−.728)	(−.161)
Other love loss	.431	.036*	−.039	−.067	.430	.032+	−.102*	.028	.306	.018	−.260
	(4.873)	(2.218)	(−.984)	(−1.168)	(4.761)	(1.875)	(−2.080)	(.667)	(1.832)	(.712)	(−.996)
Death of a loved one	−.014	−.012	−.012	−.030	.211	−.002	.069	.164+	.272	−.012	−.096*
	(.020)	(−.238)	(.494)	(−.656)	(2.343)	(−.255)	(.937)	(1.717)	(4.219)	(−1.227)	(−3.846)
Network	−.043	.003	−.002	.001	.131	.008	−.027	−.001	.067	−.000	−.031
	(−.284)	(.205)	(−.675)	(−.161)	(4.335)	(.532)	(−1.248)	(−.746)	(2.328)	(−.466)	(−1.164)

[a] The numbers in parentheses are pooled Z-statistics for the significance of the slopes.
+ $p < .10$.
* $p < .05$.

cients, representing 17 percent of all estimated coefficients, exceed the number we would expect on the basis of chance alone. We conclude that SES is associated negatively and significantly with vulnerability to life events. Lower-status persons develop more symptoms of psychological distress than do upper-status persons after a serious, undesirable life event.

The three indicators of SES are implicated equally in vulnerability to life events for each of the three groups. At least one significant, negative interaction is present in each column of the table, with the exception of income among men in the labor force. Furthermore, the number of negative interactions is nearly equal for income, education, and occupation. No single component of SES predominates in determining lower-status vulnerability.

The results in Table 3 document that the kinds of life events buffered by high SES are also diverse. At least one significant negative interaction exists for each type of event, with the exception of network events; no particular event is associated with many more significant interactions than are the other events. Thus the vulnerability associated with lower socioeconomic position cuts across a wide range of personal life crises rather than being confined to events in which financial issues dominate. Interestingly, the types of events buffered by high SES do not follow traditional sex-stereotyped patterns. Income events do not predominate in importance among men, nor do interpersonal events predominate

among women, even though the main effects demonstrate that specificity. High SES does not always alleviate the most distressing situations; such situations may vary according to other status characteristics.

The interaction patterns documented in Table 3 are relatively weak in that no indicator of SES or event type dominates them. One possible explanation for the weak patterns is that they differ depending on the type of outcome that is considered. Depression and psychophysiological symptoms may be influenced differentially by socioeconomic status in the face of life events. If this is the case, combining those outcomes in the analysis might mask important relationships. In order to examine this possibility, we recalculated the summary statistics separately for analyses of depression and of psychophysiological symptoms. We do not report those results here because they essentially duplicate the patterns reported in Table 3. Although the sizes of the average coefficients show minor differences depending on outcome, the overwhelming majority of the coefficients remain very close to the values reported in Table 3. We also examined the coefficients from the original regression equations to check for evidence that a few equations gave idiosyncratic results which affected the summary calculations strongly; we found none. Socioeconomic status differences in vulnerability to life events extend to both types of outcomes.

DISCUSSION

These analyses confirm the importance of undesirable life events in understanding socioeconomic status differences in psychological distress. For almost all types of events, persons of low SES are more likely to experience the event than their more socially advantaged counterparts. Income is the component of SES that is associated most consistently with exposure to events. In addition, lower-status persons are more strongly affected emotionally by most kinds of personal events. Our analyses go beyond previous work in demonstrating the pervasive associations of SES with life event exposure and vulnerability. Furthermore, they document that SES differences in the effects of life events on distress are equally strong for depression and for psychophysiological symptoms—two different manifestations of emotional distress.

The main substantive conclusion supported by this analysis is that socioeconomic status differences in vulnerability to life events are not solely the result of constrained finances, but reflect more pervasive disadvantages inherent in the lives of persons who occupy lower-status positions. Although income determines most strongly how many and what types of events individuals experience, their reactions are governed by education and occupational status as well. The pattern of results we observed is consistent with the existence of a broader set of coping resources, influenced by more than merely financial circumstances, which contribute to differential vulnerability. This pervasive lower-status disadvantage has not been documented before, although it has often been assumed.

The nature and the origin of this disadvantage remain unclear. Any viable explanation must address the extension of vulnerability beyond the financial realm in order to account adequately for our findings. Two types of nonfinancial resources have been proposed as potentially important: social support and resilient personality characteristics. We cannot choose between these on the basis of this analysis. Either or both could be responsible for the patterns we observed. Nevertheless, we can use the results of previous research to evaluate their relative plausibility. Each type of resource has been examined in at least one preliminary analysis of differential vulnerability.

The role of social support in explaining lower-status vulnerability has been subjected to three direct tests, one of which confirmed its importance (Turner and Noh 1983) and two of which did not (Thoits 1982, 1984). The former, positive findings were documented in a sample of postpartum women, and only among those who reported feelings of high personal control; thus their generalizability is unclear. Furthermore, that sample revealed no significant differences in levels of emotional support depending on occupational status; this finding calls into question the assumption on which the social support explanation is based. Ethnographic research casts additional doubt on this assumption by documenting that members of lower-status groups actually may have *more* access to supportive relationships than do members of higher-status groups, at least among blacks (Stack 1974). Thus although members of higher-status groups may enjoy more of some types of support, there is no compelling empirical evidence for a pervasive advantage.

Despite the past failure of social support to emerge as an important determinant of differential vulnerability, more sophisticated descriptions of socioeconomic status differences in the processes of social support may prove enlightening. Such descriptions also would contribute to the new movement in social support research to develop more complex conceptualizations of the processes through which supportive relationships are created and maintained (House, Umberson, and Landis 1988). Given the potential of that research, we cannot eliminate the social support explanation, despite negative findings in the past. Previous research, however, suggests that if social support is implicated in differential vulnerability, the process is anything but straightforward.

Proposed socioeconomic status differences in personality characteristics imply a different type of cause for low-status vulnerability. This explanation argues that members of lower-status groups have personality structures which predispose them to distress in the face of crisis, such as low self-esteem and feelings of powerlessness. Only one study of which we are aware tested this explanation; it yielded positive findings. Turner and Noh (1983) found that the relationship between occupational status and vulnerability to life events disappeared among women with high social support and feelings of high personal

control. As noted above, however, the generalizability of these results remains unclear.

Research on the relationship between socioeconomic status and socialization experiences, both in childhood and in adulthood, may explain how the proposed personality differences might arise. Lower-status origins are thought to be associated with response styles that influence the ability to face stressful situations (Kessler and Cleary 1980). Furthermore, the experiences that accompany higher education and occupational autonomy foster the development of positive self-perceptions and cognitive flexibility (Kohn and Schooler 1983; Menaghan 1983). As part of those experiences, stressful life events themselves may exert a socializing influence through the lessons they teach about the potential for mastery and personal control. According to this line of reasoning, socioeconomic status shapes both the types of events that one experiences and the stable personality resources that one can bring to bear on those events. In light of these issues, it is useful to emphasize that we observed significant interactions not only for income, but also for education and occupational status; these two components of SES have been found to represent conditions that structure values and self-directness more than does income (Kohn and Schooler 1983). We must look beyond the immediate financial environment to consider past and current socializing experiences in determining how reactions to life events vary across socioeconomic status levels.

Ultimately both social support and personality characteristics are thought to be important in understanding differential vulnerability because they influence the range of coping behaviors available to individuals. Pearlin and Schooler (1978) document that those behaviors vary greatly by socioeconomic status; members of lower-status groups use the least effective coping strategies. Although a decade has passed since that work was published, the origin of that variation has received little research attention. Our analysis documents that the variation reflects more than access to financial resources. At this juncture we can only speculate about how past socialization experiences and current structural conditions define responses to stressful situations. We hope that our speculations will stimulate future research which explores these complexities.

Before abandoning the descriptive work we began here, however, we suggest two other disaggregations that could improve attempts to develop these more complex analyses. The first focuses on the outcome variables. We were able to disaggregate the analysis outcomes into broad classes based on the types of distress they represent: depression versus psychophysiological symptoms. Another, equally useful disaggregation would compare depressed mood to more severe depressive symptoms such as suicidal ideation and anhedonia.[6] Such a disaggregation could help resolve the question of whether the SES differences we observed reflect variations in the experience of normal distress or whether, instead, they represent clinically significant phenomena. This approach has been used with great success in analyses of gender differences in distress (Newmann 1986). In the same spirit, improved access to diagnostic assessments among community samples provides the opportunity to eliminate the interpretational ambiguities of symptom scales altogether by shifting the emphasis to measures of more severe outcomes.

Furthermore, we recognize that the event disaggregation we chose is only one of many possible disaggregations. In view of the central role posited for sense of control and powerlessness in the vulnerability of lower-status persons, a natural disaggregation would compare the effects of controllable and of uncontrollable events across socioeconomic groups. In addition, as one reviewer suggested, differential vulnerability may be understood most clearly in the context of clusters of events, rather than categories. That is, there may exist crucial combinations of stressful experiences for which members of lower-status groups are at a particular disadvantage. Although we contemplated such analyses, the samples available to us did not provide sufficient power.[7] These additional analyses suggest nuances that would illuminate further how the nature of stressful experiences differs according to social status.

The future research we propose remains primarily descriptive. Despite all of the work that has been done to understand lower-status vulnerability, we still know relatively little about how socioeconomic status structures stressful experiences and their interpretations. This analysis reminds us that the socioeconomic influence is neither simple nor direct. The disaggregations we suggest represent

potentially fruitful steps in revealing its full complexity.

NOTES

1. Although these three surveys were administered by the same organization, they differ sufficiently in their content and in the nature of their samples to justify individual consideration.
2. Some overlap exists between items in specific examples of the two indexes. For example, the Gurin index includes loss of appetite (a depressive symptom); the psychological subscale of the Langner includes nervousness (a symptom of anxiety). Nevertheless, most of the items in each index are appropriate to the broader classification.
3. Previous research has shown that weighting will not normally affect the results of life event analyses because the variance of the item weights is small relative to the between-persons variance in event occurrence (Shrout 1981). This is also true in our analysis, in which events are divided into six categories. We considered using individual events instead of categories, but decided against this option for two reasons. First, even the five surveys considered here provide too few reports of some life events to allow a powerful analysis. Second, an analysis of the many different undesirable life events included in the life event list would prove difficult to interpret and therefore theoretically wasteful.
4. We calculated average correlations by transforming the raw correlation coefficients, r, into Fisher's z_r, $= 1/2 \log_e [\frac{1 + r}{1 - r}]$, averaging those values, and then reversing the transformation. The z_r values are distributed approximately normally (Fisher 1928), whereas the r values are not.
5. Respondents in WCII were not asked about other love loss or network events. Other love loss events also were not included in the NH life event inventory. Therefore the sample sizes for these two types of events are different from those listed in Table 2. The correct sample sizes for the correlations of education with other love loss and with network events, for MLF, WLF, and HM respectively, are 1428, 1209, and 841 and 1861, 1401, and 1196. All sample sizes for the correlations with income and occupational status are slightly smaller because of missing data on those variables.
6. We are grateful to one reviewer who pointed out the potential benefits of this disaggregation.
7. As this reviewer also noted, we could modify our disaggregation in a different way by combining event categories that pose similar objective problems (e.g., income loss and divorce). Yet the coefficient for a combined category would differ substantially from the constituent coefficients only if an interaction existed between the two events in predicting distress. Power calculations confirm that the sample sizes in this analysis are not sufficient to provide adequate power to detect that difference (e.g., maximum power of .32 for the income loss-divorce interaction among WLF).

REFERENCES

Berkman, Lisa and S. Leonard Syme. 1979. "Social Networks, Host Resistance, and Mortality: A Nine-Year Follow-up Study of Alameda County Residents." *American Journal of Epidemiology* 109:186–204.

Brown, George W. and Tirril Harris. 1978. *The Social Origins of Depression: A Study of Psychiatric Disorder in Women*. New York: Free Press.

Comstock, G.W. and K.J. Helsing. 1976. "Symptoms of Depression in Two Communities." *Psychological Medicine* 6:551–63.

Dohrenwend, Barbara S. 1970. "Social Class and Stressful Events." Pp. 313–19 in *Psychiatric Epidemiology*, edited by E.H. Hare and J.K. Wing. London: Oxford University Press.

———. 1973. "Social Status and Stressful Life Events." *Journal of Personality and Social Psychology* 28:225–35.

Dohrenwend, Bruce P. and DeWitt Crandell. 1970. "Psychiatric Symptoms in Community, Clinic and Mental Hospital Groups." *American Journal of Psychiatry* 126:1611–15.

Dutton, Diana B. 1986. "Social Class, Health, and Illness." Pp. 31–62 in *Applications of Social Science to Clinical Medicine and Health Policy*, edited by L. Aiken and D. Mechanic. New Brunswick, NJ: Rutgers University Press.

Fisher, R.A. 1928. *Statistical Methods for Research Workers*. 2nd Ed. London: Oliver and Boyd.

House, James S., Debra Umberson, and Karl R. Landis. 1988. "Structures and Processes of Social Support." *Annual Review of Sociology* 14:293–318.

Kessler, Ronald C. 1979. "Stress, Social Status, and Psychological Distress." *Journal of Health and Social Behavior* 20:259–72.

———. 1982. "A Disaggregation of the Relationship between Socioeconomic Status and Psychological Distress." *American Sociological Review* 47:752–64.

Kessler, Ronald C. and Paul D. Cleary. 1980. "Social Class and Psychological Distress." *American Sociological Review* 45:463–78.

Kessler, Ronald C. and David F. Greenberg. 1981. *Linear Panel Analysis: Quantitative Models of Change*. New York: Academic Press.

Kohn, Melvin L. and Carmi Schooler. 1983. *Work

and *Personality: An Inquiry into the Impact of Social Stratification*. Norwood, NJ: Ablex.

Langner, Thomas S. 1962. "A Twenty-two Item Screening Score of Psychiatric Symptoms Indicating Impairment." *Journal of Health and Human Behavior* 3:269–76.

Langner, Thomas S. and Stanley T. Michael. 1963. *Life Stress and Mental Health*. New York: Free Press.

Liem, Ramsay and Joan Liem. 1978. "Social Class and Mental Illness Reconsidered: The Role of Economic Stress and Social Support." *Journal of Health and Social Behavior* 19: 139–56.

Menaghan, Elizabeth G. 1983. "Individual Coping Efforts: Moderators of the Relationship between Life Stress and Mental Health Outcomes." Pp. 157–91 in *Psychosocial Stress: Trends in Theory and Research*, edited by H.B. Kaplan. Orlando: Academic Press.

Mirowsky, John and Catherine E. Ross. 1986. "Social Patterns of Distress." *Annual Review of Sociology* 12:23–45.

Myers, Jerome K., Jacob J. Lindenthal, and Max P. Pepper. 1975. "Life Events, Social Integration and Psychiatric Symptomatology." *Journal of Health and Social Behavior* 16:421–27.

Myers, Jerome K., Jacob J. Lindenthal, Max P. Pepper, and David R. Ostrander. 1974. "Social Class, Life Events and Psychiatric Symptoms: A Longitudinal Study." Pp. 191–206 in *Stressful Life Events: Their Nature and Effects*, edited by B.S. Dohrenwend and B.P. Dohrenwend. New York: Wiley.

Newmann, Joy P. 1986. "Gender, Life Strains, and Depression." *Journal of Health and Social Behavior* 27:161–78.

Paykel, E.S. 1978. "Contribution of Life Events to Causation of Psychiatric Illness." *Psychological Medicine* 8:245–53.

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

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.

Rosenthal, Robert. 1978. "Combining Results of Independent Studies." *Psychological Bulletin* 85:185–93.

———. 1984. *Meta-Analytic Procedures for Social Research*. Beverly Hills: Sage.

Shrout, Patrick E. 1981. "Scaling of Stressful Life Events." Pp. 29–47 in *Stressful Life Events and Their Contexts,* edited by B.S. Dohrenwend and B.P. Dohrenwend. New York: Prodist.

Stack, Carol B. 1974. *All Our Kin: Strategies for Survival in a Black Community*. New York: Harper & Row.

Strube, Michael J. 1985. "Combining and Comparing Significance Levels from Nonindependent Hypothesis Tests." *Psychological Bulletin* 97:334–41.

Surtees, P.G. and J.G. Ingham. 1980. "Life Stress and Depressive Outcome: Application of a Dissipation Model to Life Events." *Social Psychiatry* 15:21–31.

Thoits, Peggy A. 1982. "Life Stress, Social Support, and Psychological Vulnerability: Epidemiological Considerations." *Journal of Community Psychology* 10:341–62.

———. 1984. "Explaining Distributions of Psychological Vulnerability: Lack of Social Support in the Face of Life Stress." *Social Forces* 63:453–81.

Turner, R. Jay and Samuel Noh. 1983. "Class and Psychological Vulnerability among Women: The Significance of Social Support and Personal Control." *Journal of Health and Social Behavior* 24:2–15.

Veroff, Joseph, Elizabeth Douvan, and Richard Kulka. 1981. *The Inner American: A Self-Portrait from 1957 to 1976*. New York: Basic Books.

Weissman, Myrna M. and Jerome K. Myers. 1978. "Rates and Risks of Depressive Symptoms in a United States Urban Community." *Acta Psychiatrica Scandinavica* 57:219–31.

Zung, W.W.K. 1965. "A Self-rating Depression Scale." *Archives of General Psychiatry* 12: 63–70.

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