

## Stress, social support, control and coping: a social epidemiological view<sup>a</sup>

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The term stress has been used in both lay and scientific literature to describe phenomena ranging from societal conditions to individual disposition. Much has been written on the subject, and much research on stress has been attempted, with varying degrees of success, to test the hypothesis that stress negatively affects health and wellbeing. Nevertheless, the research on stress and health has been neither conceptually clear nor methodologically rigorous. This chapter does not attempt to review or to resolve all of the difficult theoretical and methodological issues. Instead, it briefly assesses what is known about stress as a risk factor in morbidity and mortality, and selectively highlights important issues and problems that, if resolved, will help to advance this area.

Numerous definitions of stress have been proposed. A central notion in many of these definitions is that stress refers to demands that can challenge or tax the adaptive resources of the individual (1). Nevertheless, given that research on stress is pursued in diverse disciplines, and that some of the work is not even specifically

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labelled as research on stress, it is virtually impossible to find a definition that satisfies everyone. Elliot & Eisdorfer (2) suggest a broad approach that appears to include most major definitions. This conceptual framework divides stress into its component parts based on the response to stress. The four component parts are potential stressors, reactions, consequences and mediators.

Events and conditions that may produce physical and psychosocial reactions are potential stressors. Reactions are individual responses (biological or psychosocial) to the stressor. Many reactions are short-lived and have no long-term effects while others, such as changes in health, are sufficiently intense or numerous that they result in physical or psychosocial effects. The long-term effects of reactions are called consequences. Mediators are the filters and modifiers (genetic, psychological, social and physical) that can affect individual and group variations in stressors, reactions and consequences.

This chapter examines the effect of stressors on health, and the role of social support, control and coping as mediators or modifiers of the relationship between stress and illness. Social epidemiology studies patterns of morbidity and mortality according to social status and the social and cultural factors that cause disease. Accordingly, the social context and social structure are crucial in determining the distribution and effect of stress, social support and coping. Stress does not occur in a vacuum, and paying greater attention to the environments in which stressors occur can increase understanding of the processes that link stressors to health.

## **Stress and Disease**

Research over several decades increasingly indicates that there is a relationship between various indicators of stress and the prevalence or incidence of various diseases. Most research has focused on the impact on health of major life changes or events (such as marriage and divorce, job entry and loss, and births and deaths), but researchers have also increasingly studied more chronic role-related stresses (such as stress within marriage, on the job or in financial matters) or daily hassles and irritations (3, 4). In fact, this distinction may be more apparent than real, as most life events, such as widowhood or job loss, cause periods of chronic stress, and the relationship between life events and chronic strains or hassles needs to be studied.

## **Acute stress or life events**

There are two types of studies of life events. Researchers study the relationship between health status and such individual life events as bereavement (5, 6), retirement (7, 8) or unemployment (9, 10). More frequently, however, studies use an inventory of life events. The social readjustment rating scale (11) is the most widely used indicator of this type. The key determinant of stress is purported to be the readjustment required by the individual experiencing the event. Accordingly, any event presumed to require readjustment is included, whether it is considered to be positive (marriage or a job promotion) or negative (job loss, divorce or death of a loved one). In addition, this approach weights each event by objectively rating the stress it produces.

Selye (12) argued that stress plays a role in the development of all diseases; the voluminous research on life events seems to support this. Stressful life events predict an increased risk of such chronic illnesses as cardiovascular disease (13, 14) and cancer (15, 16). Moreover, life events have equally consistently been risk factors for mental disorders. Numerous studies confirm the role of life events in precipitating affective disorders, including clinical depression (17-19), acute schizophrenia (20, 21) and neurotic disorders (22, 23). The consequences of stress are relatively nonspecific for diverse diseases, and some researchers contend that physical and psychiatric illness are alternative responses to the same underlying stress (24).

Despite the fact that life events are consistently linked to adverse changes in health, the association between life events and disease is clearly not as strong as might be expected. The correlations are modest, usually 0.30 or less, explaining 9% or less of the variance in health outcome (25). The failure to find a stronger relationship may be caused by manifold methodological problems. There are numerous excellent reviews of these problems and some proposed solutions (26-29).

Several of the basic assumptions of the approach using the life events inventory have been seriously questioned. First, in contrast to expectation, weighting schemes do not increase the predictive power of life events. Second, this approach assumes that life events are inherently stressful (30), and desirable and undesirable events are thus viewed as equally stressful. Subsequent research suggests that

only negative life events are linked to adverse changes in health (31). Further, threat or loss and not life events may be critical in precipitating illness (17). Loss is interpreted broadly here to include loss of a person, a role or an idea. The key issue is that the severity of stress depends on its meaning for the individual and not on life events in general. Cross-cultural research supports the notion that the experience of loss is central in pathogenic stress (32). Other features of life events that appear to be critical in determining their degree of stress include desirability, magnitude, unpredictability, time clustering and uncontrollability (33).

Another major problem is that scales of life events do not discriminate between objective and subjective events. Items such as trouble with in-laws or sexual difficulties are largely subjective, and subjective events pose a serious dilemma. On the one hand, since a person's appraisal of a potential stressor is probably important in determining the stressfulness of an event (34), focusing only on objective events can ignore important information. On the other hand, perceptions are not always congruent with reality and may actually be affected by pre-existing health conditions. Hudgens (35) noted that more than half of the stressors commonly used on scales of life events can be confounded with symptoms. Confounding has also been hotly debated in the more recent literature on daily hassles (36, 37).

Several solutions to this problem have been proposed. Mechanic (38) suggested that researchers attempt to work at both levels, keeping the measurement of objective events distinct from the assessment of individual perceptions. Brown & Birley (20) developed a creative solution in their study of stress and schizophrenia, classifying events according to the probability of their independence from a person's actions. Separate analyses were then performed for potentially dependent and independent events. An association was then demonstrated between independent events and the onset of schizophrenia. Dohrenwend et al. (39) used and recommended a similar approach. Brown & Harris (17) followed another strategy. They developed objective judgements of the severity of a stressor based on careful evaluation of the detailed contextual information solicited from a person. Theorell (14), House (28) and others advocated abandoning scales of life events in favour of studying the separate and combined effects of major negative life events (such as widowhood, divorce, job loss and bereavement).

## **Chronic stress**

Studies of chronic stress can also be methodologically criticized. Most studies are cross-sectional, and often measure both chronic stress and dependent health variables by self-report. Thus, although positive associations between marital, occupational, financial, parental or other sources of stress and health are invariably found, the magnitude and causal direction of the relationships is open to question (40). Nevertheless, prospective research provides sufficient evidence of relationships (4, 41) and gives enough plausibility to the posited causal interpretation of even cross-sectional relationships to suggest the usefulness of further research on chronic stress, especially in conjunction with research on major life events.

Most reviews of the methodological problems in the literature on stress agree that there is a pressing need for prospective studies, especially on chronic stress. Although such studies are more costly than the retrospective and cross-sectional studies that are almost universally used, they could enhance detection of the direction of causation and proper estimation of the nature and strength of the association. Kasl (29), for example, cited numerous examples of how supposedly well established findings from cross-sectional and retrospective studies were not substantiated in prospective investigations. The need for prospective studies is more urgent now than ever.

Prospective studies should also measure stress at more than one point in time. Stress can be fairly transient or short-lived, and stability should not be ascribed to a respondent's report of a high level of stress at one point in time. A recent study of the relationship between occupational stress and mortality demonstrated the potential usefulness of this approach. Occupational stress was measured twice, and men who had moderate to high levels of stress both times had a mortality rate three times greater than those who reported a low level of stress at one time, regardless of their stress level at the other time (41).

## **Some Neglected Issues**

### **Positive effects**

Most studies have concentrated on how stress adversely affects health, but Selye (12) emphasized that stress can both damage and cure. Researchers are increasingly calling for the systematic study of both the pathogenic and the health-enhancing effects of stress (42). Stress can have several positive effects. First, life events that are

normative over the life course may enhance individual growth and have no particular adverse effects. Second, exposure to a given stressful experience can increase self-esteem and develop skills that better equip people to deal with similar situations and to capitalize on other challenging experiences. Third, some people pursue stressful experience as a means of personal stimulation and challenge. Recent evidence indicates that physiological responses to positive and negative life events differ (43), suggesting the importance of more systematic attention to these issues. At the same time, researchers must be aware of the complexity of the stress process, and design research studies that allow assessment of the effects of stress at several levels. For example, although some individuals seek out stress and find it psychologically satisfying, such stress may nevertheless adversely affect their health (38).

### **Biological mechanisms**

The study of intervening biological mechanisms is another neglected area (2). Immunologists, endocrinologists and physiologists have studied the relationship between stress and biological and physiological reactions; social and behavioural scientists have studied the association between stress and changes in health. Many researchers simply assume that the physiological reactions to acute stress and to chronic stress are the same. Further, the link between physiological reactions to stress and changes in health has seldom been tested, and thus it is not known which patterns of reactions to stress lead to specific disease outcomes.

One difficulty is that many of the indicators of physiological function studied (for example, indicators of both immunological and endocrine function) do not readily predict the risk of disease. Kasl (40) indicated that there are even problems with the few studies that have used established risk factors such as blood pressure and serum cholesterol. While changes in these risk factors have been linked to acute stress, there are few data linking repeated exposure to stress and long-term changes in these risk factors.

Studies of the relationship between stress and disease must measure biological mechanisms and traditional risk factors, and should seek to assess the extent to which stress is independent of these factors or interacts with them. In prospective studies, for example, risk factors, indicators of physiological function and base-line morbidity must be measured. Without adequate assessment of

biological risks, it is extremely difficult to evaluate the causal relationships between stress and health. Few researchers have the necessary expertise to study the complex processes linking exposure to stress and a specific disease. Multidisciplinary research is thus clearly needed to advance our understanding of stress.

### **The social context**

Most studies of stress treat stress as an individual variable, neglecting the broader social, political and economic context in which stress is embedded. Evidence is growing that social status and roles are important determinants of the differential distribution of stress and the impact of stress on health.

Dohrenwend & Dohrenwend (44) found that rates of unemployment, marital difficulties, divorce, and adult and infant morbidity and mortality are all inversely associated with socioeconomic status. Achievement-oriented life events such as job promotions, community leadership responsibilities and nonroutine vacations are rare to nonexistent for people of lower socioeconomic status. Moreover, blacks of lower socioeconomic status in the United States experience higher rates of some stressors (such as health problems and unemployment) than whites of lower socioeconomic status (44), indicating that exposure to both poverty and discrimination may be especially effective in producing stress (45). These findings suggest that the structural arrangements in society can create life experiences that vary in terms of both type and quantity of stressors.

Nevertheless, few studies of stress have systematically examined socioeconomic and sociocultural variation in the distribution of stress. One notable exception was a longitudinal study of 2,300 residents of Chicago (46): stress was clearly linked to socioeconomic status, sex and age. Unemployment and divorce rates were inversely associated with socioeconomic status, but job promotion and persistent problems with parents were positively associated with socioeconomic status. More women than men reported unemployment and chronic stress within marriage, while men were more often exposed to such forms of occupational stress as work overload and depersonalization. Thoits (47) recently examined how life events varied according to roles (sex and marital status) using the Pearlin & Lieberman (46) data, and found that general life events were inconsistently related to sex and marital status. The quantity and type of life events depended on the particular roles people held. For example,

network events (negative life events experienced by people important to the respondent) are more frequent among married people than among unmarried people because of the marital tie and the parental role.

House & Robbins (48) reviewed the evidence that suggests that age can also determine the levels and types of stress experienced by the individual. This age pattern in the distribution of stress is clearly illustrated by Pearlín & Lieberman (46). While marriage and divorce were inversely associated with age, other events such as illness and the death of a spouse were positively related to age. Similarly, although younger workers faced more unemployment and changing jobs, older workers experienced retirement more frequently. These results clearly illustrate that stage in life is important in determining particular life events and that the timing of a life event can determine its impact.

Non-normative and unscheduled life events are more likely to have adverse effects on health than normative ones (4). Folkman et al. (49) found that both life events and daily hassles vary by age. Older people had fewer overall life events but had more loss events than younger people. The distribution of hassles further illustrates how age variation in role-related demands affects the distribution of stress. Younger respondents reported relatively more hassles than older respondents in the areas of household, finances and work. In contrast, older respondents experienced relatively more hassles related to health, environment, social conditions and home maintenance than younger respondents.

The effects of stress may also differ between social groups. In a community study of 350 randomly selected older adults, Krause (50) found that stress had more adverse effects on mental health among women than among men. Similarly, Kessler (51) reported that comparable stressful events have stronger negative effects on people of lower socioeconomic status than on people of higher status. Nevertheless, most studies have not systematically assessed how the consequences of stress vary between different sociodemographic groups.

### **Psychosocial Modifiers**

The literature on stress clearly indicates that illness is not an inevitable consequence of exposure to stress. In fact, the available evidence suggests that, for most people, experiencing stress does not

lead to adverse changes in health. Accordingly, research on stress has tried to identify factors that may compensate for or moderate the impact of stress on health. Three variables appear especially promising: social relationships and support, coping and sense of personal control. These variables can affect health by themselves, thus compensating for or counteracting the impact of stress, and they can also moderate the relationship between stress and health.

#### **Social support**

The literature on stress has catalysed intense examination of the way social relationships improve health. Whether measured as the existence or quantity of relationships (social integration), their structural properties (social networks) or the supportive content (social support), social relationships consistently display strong positive associations with physical and mental health (52). In fact, social ties are associated with such a wide range of health outcomes that they presumably operate through multiple biological pathways and have a general effect of decreasing vulnerability to disease (53,54).

Social relationships can improve health and reduce stress in at least three ways (55). First, social ties can directly improve health by meeting basic human needs for affection, social contact, and security. Second, supportive social relationships can reduce interpersonal conflict and tensions, thereby reducing stress. Increases in social ties lead to improvements in health independent of the level of stress by these two mechanisms. The third mechanism is a buffer or interactive one. The buffering hypothesis holds that mobilizing social ties in the presence of stress protects the individual from the pathogenic consequences of stress. Social relationships thus modify the relationship between stress and health such that risks to health decline as levels of support increase.

#### **Social support and health**

Large-scale prospective studies in diverse communities have provided the most compelling evidence that social ties are linked to health (56–61). These studies reported that various indicators of social relationships predicted mortality risk. In the Tecumseh Community Health Study (58), for example, indices of social relationships were inversely related to mortality risk even after controlling for baseline health status, morbidity, health practices and sociodemographic variables. These findings complement earlier research on the effects of marriage on health. Marital status is a key

component of most indices that seek to measure social support and has been the most studied aspect of social relationships. Married people consistently have lower death rates than unmarried people (62, 63). Although prospective mortality studies provide impressive evidence of a positive relationship between social ties and health, they lack the data necessary to test the buffering hypothesis.

The issue of buffering has attracted considerable interest and debate in research on stress. Some have concluded that there is insufficient evidence to support the existence of buffering effects (64, 65), while most studies find either main or buffering effects (55, 66-69). We concluded a few years ago that the issue is not whether or not social support has main or buffering effects, but rather under what conditions we tend to observe main effects versus buffering effects versus combinations of main and buffering effects (69).

Buffering effects have clear patterns (70, 71). It appears that they are likely in situations of great stress in which social support is measured in terms of the perceived willingness of others to be helpful.

### **The dimensions of social relationships**

Another prerequisite for advancing the knowledge of the association between social relationships and health is greater clarity in the conceptualization and measurement of social relationships. The term social support has been widely used to refer to any and all aspects of social relationships. Social networks and social integration are also frequently used with an equal lack of specificity. These terms, however, refer to distinct aspects of social relationships. Social ties can be described theoretically and empirically in terms of their existence, structure and functional content (68). Social integration refers to the existence, number and frequency of relationships. Social networks refers to the structural properties of a set of relationships. These characteristics include density, reciprocity and sex composition. Despite the popularity of the term network characteristics, few studies measure them.

Finally, social ties can be described in terms of their content, with social support being one aspect of the functional content of relationships. Social support involves exchanges of emotional concern, information and instrumental assistance, and is probably the central health-enhancing aspect of relationships (55). Investigators are also paying increasing attention to social conflict and social control, two other components of relationships. First, social relationships are

often unpleasant or conflictive, and modest evidence indicates that these negative aspects of relationships are more strongly linked to psychiatric morbidity than is social support (72, 73). Second, social ties also control people socially (74). This regulatory function of relationships can either improve or worsen health depending on the particular behaviour that is facilitated or restrained.

To assess social relationships comprehensively, a given study must include measures of social integration, social networks and social support, as well as indicators of social conflict and social control. Further, studies of this kind must assess both the relationships between these different aspects of social ties and how they change health, singly and in combination.

### **Structural determinants**

There has been little systematic investigation of how the distribution of health-enhancing social resources is shaped by broader processes and structures. Nevertheless, the evidence available in the United States strongly suggests that the quantity and quality of social ties are linked to sex, socioeconomic status and race. Women appear to provide better social support than men (75) and seem to incur higher psychological costs for doing so (76). Further, evidence is growing that this sex difference in supportiveness is caused less by innate personal disposition and more by differential exposure to certain microstructural experiences, such as being the primary provider of child care (77).

Levels of informal contact with friends and relatives, and organizational membership and participation, increase with increasing socioeconomic status (44, 78, 79). Spouses of lower socioeconomic status appear to support each other less than do spouses of higher socioeconomic status, and being married is positively associated with socioeconomic status (44, 80). Similarly, a recent study found that blacks were more likely than whites to be unmarried and to have low levels of both emotional and instrumental support (81). Kasl (82) has also noted that, although marriage provides more protection for blacks than for whites, the other indicators of social integration have weaker effects for blacks than for whites.

The prospective mortality studies discussed earlier illustrate well how the levels and effectiveness of social relationships are linked to macrosocial structures. Measures of social integration are more strongly linked to mortality in the urban environments of Gothenburg, Sweden and Alameda County, California than in the rural



environments of Tecumseh, Michigan and Evans County, Georgia (68). At the same time, the level of social integration (as measured by marital status) is higher in Tecumseh than in Alameda County, which may be linked to Tecumseh's high mean socioeconomic status. Tecumseh has a low rate of unemployment and very high median levels of education and income (83).

It is clearly necessary to understand the association between social relationships and the socioeconomic and sociocultural environments in which they occur and to design studies that can measure these variations. Some groups (women, poor people and minorities) are in double jeopardy, as they experience more stress and also have fewer social resources to cope with it.

## **Control**

Along with social relationships and support, the sense of control people have in stressful situations or more generally in their lives is a second major variable, or set of variables, that may counteract or modify the deleterious impact of stress on health. As with social relationships and support, the evidence that control can enhance health comes not only from cross-sectional and retrospective studies, but also from experimental and quasi-experimental studies of animals and humans, and from a small but growing body of prospective data (84–86). Again, this research is characterized by: varying definitions and uses of the concept of control, lack of specification of when and why control has buffering or main effects, uncertainty about the biopsychosocial mechanisms through which control affects stress and health, and a lack of attention to the social context that facilitates or inhibits the development of a sense of control (87).

The literature on control has been reviewed recently by House & Cottingham (84), Rodin (85), Rowe & Kahn (86), and others. Several major lines of work can be identified. Karasek et al. (88) have conducted a long-term programme of research on the effects of the demands of a job (a form of stress) and decision latitude on the job (or what others might term control) on cardiovascular morbidity and mortality. Job demands were positively associated with and decision latitude negatively associated with cardiovascular disease and death in retrospective, cross-sectional, and longitudinal studies. Karasek et al. hypothesize, and sometimes find, that decision latitude can moderate or buffer the impact of job demands on health.

Langer & Rodin (89) and Schultz (90) have conducted programmes designed to increase the degree of control and predictability elderly people have in their lives, especially in nursing homes. A variety of manipulations increased people's control over and/or the predictability of: moves into nursing homes, decisions about their lives and the nursing home environment, and patterns of visits, resulting in improved physical and psychological functioning. Termination of one of the programmes resulted in increased mortality (91).

Cross-sectional and longitudinal research on broader communities suggests that control is positively associated with social status (92). Syme (87) suggests that control may be significant in explaining the greater morbidity and mortality rates of people of lower socioeconomic status (83). Longitudinal research by Pearlin et al. (4) showed that the sense of self-esteem and mastery predicts better mental health and buffers the impact of life events on mental health.

The effects of control on stress and health, and the unresolved issues for future research in this area, are strikingly parallel to those for social relationships and support. Further, increased attention should be given to the relationship between control and social relationships and support. House & Cottingham (84) and Rowe & Kahn (86), for example, hypothesize that some of the beneficial effects of social relationships and support are realized by affecting people's sense of control over their lives and work, and Pearlin et al. (4) provide data that are consistent with this idea. Finally, both control and social relationships and support are presumed to affect stress and health, at least in part, by facilitating more adaptive strategies of responding to potential stressors: a process termed coping, which is the third class of potential modifiers of the relationship between stress and health.

## **Coping**

Coping describes the strategies used in responding to a potential stressor. These strategies can be cognitive and/or behavioural responses that attempt to manage or control the psychological and physiological arousal caused by the stressor. This is accomplished by modifying the situation, modifying the meaning of the stressor, or managing the emotional response to the situation (93). There is no consensus on how best to conceptualize and measure coping, and

definitions of coping often depend on how stress is conceptualized. Accordingly, coping is often used in a very broad and nonspecific fashion to describe any goal-directed behaviour (94).

Some observers have noted that the literature on coping has shifted away from psychodynamically oriented psychology, in which coping was viewed as an unconscious defence process, to a greater current emphasis on cognitive and behavioural approaches (94,95). Nevertheless, there is still considerable debate on whether coping strategies are best viewed as relatively stable personality traits or as specific responses determined by the situation (96). This fundamental divergence is associated with concurrent divergences in methods of assessing coping strategies and in designs for research on the effects of coping strategies.

### Measurement of coping

Studies of coping have two general approaches to measurement. The first type, originating from a concept of coping strategies as stable dispositions, asks people how they typically cope or respond in stressful situations. A theoretically generated item pool is refined through factor analysis to produce measures of a variety of coping dispositions. The Ways of Coping Checklist (97) is one widely used instrument that consists of several subscales, such as positive reappraisal, escape-avoidance, self-control and confrontive coping, but its major distinction is between problem-focused and emotion-focused strategies. In contrast, the concept of coping as situationally specific response strategies leads researchers to focus on a particular life event or source of stress. The cognitive and behavioural patterns of individuals who adjust well are compared with the reactions of those who are not as successful. (Singer (96) and Taylor (98) discuss the strengths and weaknesses of both approaches.)

A crucial question is whether coping strategies are conscious and can therefore be accurately reported by respondents. Frese (99) argues persuasively that, in coping with stress, people unconsciously use "automatic, overlearned strategies". People only consciously think about their coping efforts when these normal strategies fail. Accordingly, self-report measures of coping, while valid, capture only a small portion of coping: problematic coping (100).

### Coping and health

The central focus here is the relationship between coping and adaptive outcomes. Lazarus (101) reviewed the evidence linking coping to morbidity and mortality. Several small studies of special populations

indicate that coping processes are important in determining changes in health status, but the evidence is not overwhelming. A similar assessment of the relationship between coping strategies and psychological disorder concluded that there is surprisingly little sound, empirical research that supports the assumption that the choice of coping strategies can moderate the effects of stress (95).

Moreover, several studies using the Ways of Coping Checklist or adaptations thereof have found that, regardless of the strategy used, more coping is associated with psychological distress (102). It has long been recognized that coping can sometimes have adverse health outcomes. Nevertheless, this possibility has generally been limited to inappropriate coping behaviour such as palliative strategies (for example, denial) in the face of life-threatening situations, and coping strategies associated with acknowledged pathogenic behaviour, such as type A behaviour and smoking cigarettes (101). Theorists of coping have thus been surprised that many strategies focusing on problems and emotions are positively related to morbidity (99). At the same time, a comprehensive review of intervention studies on patients coping with elective surgery came to different conclusions. This report was based only on the studies in which an experimental or quasi-experimental design was used; almost without exception, coping intervention was positively associated with emotional well-being and surgical recovery (103).

These differing results may not be as incongruous as they first appear. In nonexperimental studies, almost all types of coping probably increase with increases in the amount of stress experienced or the degree to which it is unresolved. Thus, degree of coping may be confounded with amount of stress, producing an apparent, but possibly spurious, positive association between coping and distress or ill health. In intervention studies, the type and amount of stress are generally held constant, and hence more coping reduces adverse physical or mental health outcomes. This interpretation suggests that the situationally specific approach that measures coping and its effects may ultimately prove more fruitful, and this conclusion is also consistent with the results of broader epidemiological research. In assessing the impact of coping on health, nonexperimental studies must control for the amount of stress experienced.

### Specificity of coping effects

In a classic study of coping, Pearlín & Schooler (93) found that both the coping strategies employed and the relative efficacy of coping



varied by type of stress. In this study, stress was measured in the areas of marriage, parenting, household finances and occupation, and the specific strategies used in each domain were assessed. Coping strategies were found to be most important in dealing with stress within marriage. For example, the negative effect of stress within marriage was halved by the specific coping strategies used. Coping had similar but more modest effects in parenting and household finances, but it had little effect in the occupational area.

Kessler et al. (100) further illustrated the specificity of coping effects. First, this study of a general population sample of 1500 married people found that, although coping with chronic stress was not related to anxiety and depression, coping with recent life events did have consequences for mental health. Kessler et al. suggest that describing a chronic difficulty as a most stressful experience is an admission that previous coping attempts were maladaptive, or ineffective. Second, although such coping strategies as "avoidance, active cognitive and reappraisal" were positively associated with psychological distress, others such as "religious, active behaviour and versatile", were inversely related, while "social support and passive" were unrelated. Third, coping efficacy varied according to the type of stress. For example, although religious coping reduced psychological distress, disaggregated analyses revealed that this effect was limited to people coping with the death of a loved one.

The findings of Pearlin & Schooler and Kessler et al. are relevant to the debate in the literature on coping about the relative importance of personal and situational determinants of coping behaviour and coping efficacy. Although the results of these studies emphasize the environmental context of coping, it is also important to understand the relationship between a person and a situation. Pearlin & Schooler reported that both psychological resources (self-esteem, mastery and self-denigration) and situation-specific coping responses reduced the impact of stress on health. Nevertheless, the relative importance of personal dispositions and cognitive coping strategies varies for different kinds of stress. Since type A and type B individuals differ in their use of cognitive coping strategies (104), more systematic attention to this issue is clearly warranted, including a broader assessment of coping strategies and individual dispositions.

The studies reviewed here clearly indicate the importance of a theoretically and empirically grounded concept of coping that would make it possible to identify the conditions in which particular coping

strategies are likely to be effective for specific outcomes. At the same time, the study by Kessler et al. also illustrates the limitations of current knowledge and the tentativeness of the findings of any single study. First, several dimensions of coping were measured in their study, but each was assessed with only a single item. Second, and more important, although the study used a large general population sample of a major metropolitan area in the United States, it excluded blacks, single people and elderly people. The resulting respondents had a mean 13.2 years of education and mean family income of US\$ 41 800 per annum in 1984. The sociodemographic profile of this community is critical because the literature on coping implies that processes of coping vary in different social groups.

### **The social environment**

Pearlin & Schooler (93) emphasize the social context of both stress and the modes of dealing with it. People of similar social status display similar modes of coping. Thus, in contrast to the conventional concept of coping as an individualized response, coping is more appropriately viewed as a group response.

In one of the few studies of differences in coping between subgroups, Pearlin & Schooler found an intriguing pattern of differences according to social status. More men than women had the psychological predisposition to use the coping strategies that are effective in dealing with stress. In addition, socioeconomic position appears to lead to differential access to effective coping strategies and resources. There was a strong positive association between socioeconomic status and access to health-enhancing resources and to coping strategies. Pearlin & Schooler found no consistent pattern of age differences, but some recent studies show age differences in the use of coping strategies (49, 105). The issue of group differences in coping clearly deserves more careful attention than it has received.

### **Conclusion**

Like the blind men in the fable, researchers studying stress have been busy measuring a part of the elephant and assuming that this is the entire phenomenon. Stress is clearly multifactorial in its etiology, and attempts to understand and measure it must have a similar degree of breadth and complexity. Major advances in this field can be

expected when interdisciplinary research teams give coordinated attention to the complex unanswered questions in the research on stress.

Considerable progress has been made in understanding the effects on health of both acute and chronic stress, and of several key categories of variables that may counteract or buffer these deleterious effects: social relationships and support, a sense of personal control, and strategies of coping with stress. There are conceptual and measurement problems in each area, and the biopsychosocial mechanisms by which each affects stress and health need to be specified. Increasing effort must be devoted to understanding how social relationships and support, and control and coping, are related to each other and how they combine to affect levels of stress and to change health status.

Neither stress nor the resources to cope with it are randomly distributed in the population. Yet research on stress has been dominated by a clinical perspective that focuses on individual perceptions, susceptibilities and resources. The study of individual characteristics needs to be balanced by more systematic attention to stress as a socially determined phenomenon. Social processes and structures shape the lives of groups occupying different structural positions in society. Accordingly, the distribution of stress and the constraints on and options for confronting it vary according to social status. The approach of social epidemiology is thus indispensable in enhancing knowledge of the social dimensions of the stress process. Researchers should focus at least on age, sex, socioeconomic status, marital status and difference in race and ethnicity. Moreover, researchers should resist the temptation to be satisfied with descriptive epidemiology and should place greater emphasis on explanatory epidemiology. The underlying processes and mechanisms must be clearly identified and described.

One unfortunate result of the fact that research on stress focuses on individual people is that efforts to modify and alleviate stress have concentrated almost exclusively on individual change and adaptation. As larger social processes and institutions create stressful environments and conditions, however, attempts to reduce the adverse consequences of stress must also address the larger social factors that affect the development, maintenance and differential distribution of stress and the resources to cope with it.

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