Chapter 1.
Some Conceptual Perspectives On the Origins and Prevention of Social Stress

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Over a period of several decades, many researchers have been tantalized by the intellectual yield promised by the notion of stress. The attraction of stress research lies partly in its multidisciplinary character; indeed, there is probably no other area of inquiry that has so successfully captured the interests of researchers from such a broad spectrum of disciplines. At one end of the spectrum are researchers oriented to the organization of large-scale social and cultural systems and their effects; at the other end are neuroscientists and immunological researchers concerned with the microcosmic functioning of the organism. The sheer volume and diversity of converging attention has stimulated the hope that cross-fertilization of ideas will eventually lead to a more integrated understanding of stress and its consequences. Scientists who study the interconnectedness of an individual's environment and his or her inner life find stress a very fetching construct.

The work in which my colleagues and I have been engaged in large part has been driven by this vision. We have attempted to join our empirical research to the development of a conceptual framework that would encompass the intricate chain of relationships linking social life and personal life. The development of this conceptual framework, which is referred to as the stress process, is a task that will never be completed; it is an on-going and self-fueling challenge to extend and elaborate ideas, to abandon passionately held notions that refuse to be upheld by research findings, and to incorporate new ideas that hint at payoff. Thus, the stress process framework essentially supports a dialectic: It helps to guide the research and to organize what information the research yields; in turn, the research findings help us modify the framework.

Some assumptions underlying the stress process have been seen in the literature for several years (Pearlin, Lieberman, Menaghan, & Mullan), 1981) and, consequently, this paper will have a familiar ring to those studying social stress. One particular theme of earlier writing (Pearlin, 1989) deserves to be revisited briefly: the distinctive character of social stress. Stress and its attendant processes can be described as social when their variations follow lines of status demarcation, such a those dividing economic and occupational classes, gender, or age echelons. These kinds of variations, which have been recognized for several decades (e.g., Langer & Michael, 1963; Srole, Langer, Michael, Opler, & Rennie, 1961;), point to the inseparability of the larger social structures in which people are located and their well being. Social structures--especially those in which power, prestige and economic resources are unequally distributed-- can affect virtually all aspects of the stress process, including the kinds and intensities of stressors to which people are exposed, the ways they are able to respond to and deal with these stressors, and the nature of the effects exerted by the stressors.

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Of course, not all stress arises out of social circumstances. For example, one can experience traumatic events as a result of natural disasters or of diseases whose epidemiology appears to be socially and economically blind, such as Alzheimer's. It can be observed, however, that in instances where exposure to stressors is not influenced by social factors, the processes that are set in motion by the nonsocial stressors may have social underpinnings. Natural disaster, for example, might not recognize the social and economic characteristics of the people in its path, but such characteristics are likely to govern the recovery of individuals from its destructive effects. The connections between elements of the stress process and social forces make stress an area of vital interest to social and behavioral scientists. Without such connections, stress research could be left entirely to biologists and clinicians. Similarly, if exposure to stressors were solely a result of randomly occurring circumstances, it would be difficult to think of systematic preventive measures. Their very randomness would indicate that their appearance cannot be predicted and, therefore, cannot be prevented.

Although a number of the themes and perspectives of the stress process are familiar to researchers into social stress, I shall attempt to highlight some of the recent refinements of recent years that take us beyond earlier formulations. These developments are largely the accumulated products of investigations into various aspects of stress. Our own contributions to the elaborations of the stress process framework stem from several sources, including a long-term study of people providing care to relatives with Alzheimer's Disease, that allowed us to track a situation of enduring hardship over a span of five years (Aneshensel, Pearlin, Mullan, Zarit, & Whitlatch, 1995). Another study, also strategically appropriate to the observation of chronic stress, involved a large sample of informal caregivers for people with AIDS (Pearlin, Mullan, Aneshensel, Wardlaw & Harrington, 1994) In addition, my colleagues and I have conducted and analyzed a number of qualitative interviews that were intended, in part, to chart the changing landscape of stressors to which people are exposed as they traverse the life course. These studies, as well as those of other investigators, have provided the opportunity to rethink and elaborate our conceptualization of the stress process and its implications for intervention.

The Conceptual Components of the Stress Process

In our initial effort to specify the stress process (Pearlin et al, 1981), we identified three core components: stressors, moderators, and outcomes. The same distinctions remain useful cornerstones for constructing a view of stress as a dynamic and evolving process. Stressors, of course, refer to the problems, hardships or threats that challenge the adaptive capacities of people; moderators are the social and personal resources that people can mobilize to contain, regulate, or otherwise ameliorate the effects of the stressors; and outcomes refer to the effects of the stressors that are observed after the moderating resources are taken into account. In the background of the three components, and potentially influencing the nature of each of them, are the person's various social and economic characteristics. As noted above, characteristics indicating an individual's placement in systems of inequality are particularly important.

Each component of the stress process stands in close relationship with the others. After I outline our current thinking about components, I shall describe the interrelationships among the components and how they come together in a process that unfolds over time.

Stressors

In recent years there has been an attempt to expand the sampling of what Wheaton (1994) refers to as the "universe of stressors". This is an important effort because as we refine our recognition of different types of stressors, we are able to trace more clearly the relationships between exposure to stressors and health, thus permitting us to target intervention programs more directly. A discussion of the array of stressors to which people are exposed can reasonably begin with life events, the type of stressor that has so dominated the attention of investigators that it is occasionally used as a metaphor for all stressors, including those that are not eventful.

Eventful Stressors

Contrary to what might appear to be the case, it is not always a simple matter to identify an event. Seemingly discrete experiences may in fact be benchmarks in the progression of an ongoing set of circumstances. For example, foreclosure of one's home, an item included in the Social Readjustment Rating Scale (Holmes & Rahe, 1967), is less an event than it is an indicator of extreme and enduring economic hardship. Discrete events, of course, may surface as by-products of ongoing circumstances. To illustrate, although divorce is an event that probably follows a conflict-full marriage of some duration, it may nevertheless exert health effects independent of those produced by the conflict leading to the divorce. The point to be underscored is that events need to be unambiguously distinguished from other types of stressors, both conceptually and empirically. Otherwise, our understanding of the psychosocial causes of distress and ill health will be muddied, which will, in turn, compromise the effectiveness of any attempt at preventive intervention.

Early research into life events was based on the assumption that all eventful experiences are potentially stressful, with the degree of stressfulness varying with the magnitude of readjustment required by the specific event (Holmes & Rahe, 1967). Since then, research has revealed that the change and readjustment resulting from an event cannot alone explain its stressful effects; there are classes of events that may require considerable readjustment but that do not appear to result in stress (e.g., ; Rabkin & Streuning, 1976; Vinokur & Seltzer, 1975). This is apparently the case with what we have labeled as scheduled events, as distinguished from those that are unscheduled (Pearlin & Radabaugh, 1985). Scheduled events, which overlap with those that would be considered desirable, are built into the life cycle. They include such transitional events as marriage and the birth of children, or entry into the labor force and retirement. A salient feature of such events is that they can be anticipated and prepared for in advance of their occurrence. With the exception of the loss of an aged loved one, scheduled events produce either no negative consequences or only transient ones.

By contrast, unscheduled events may be highly disruptive, exerting deleterious health effects. Separation and divorce, the premature or untimely death of a loved one, involuntary job loss, and injury or the onset of illness are among those events that constitute serious stressors. However, it not always possible to determine a priori whether an unscheduled and disruptive event will be experienced as a stressor by all people. One reason for this uncertainty lies in what Dohrenwend and his colleagues refer to as intra-event variability (Dohrenwend, Link, Kern, Shrout, & Markowitz, 1990). The same event may be embedded in different situational contexts, meaning that different people will attribute very different meanings to the same event; thus, an event may be stressful for some, but not for others. To illustrate, one person may experience divorce as liberation from a relationship that had a stultifying history, but another may see it as a forced and unwanted parting from the person to whom he or she still feels emotionally drawn (Wheaton, 1990).

Whatever the conceptual and methodological ambiguities related to recognizing events and measuring their effects-- and there are many whose discussion is beyond the scope of this chapter--stressors certainly can affect one’s wellbeing. However, events are not the only stressors to which people are exposed. Of equal, if not greater, seriousness are stressors that tend to persist because they are built into the organization of people's daily existence. We refer to these collectively as chronic stressors.

Chronic Stressors

In contrast to eventful stressors that surface at discrete points in time, chronic stressors tend to arise insidiously and may either surface repeatedly or maintain a presence over a considerable period of time. These stressors are tenacious because the multiple social domains in which they are rooted are themselves enduring. Thus, chronic stressors may arise out of the relatively stable circumstances of systems of inequality, such as class, out of institutionalized social roles and the activities and encounters within them, out of extended social networks; out of neighborhoods and communities; and out of the household. Because the chronic stressors that reach into people's lives may originate in many domains of social and economic organization, the study of these stressors must take into account the interlocking layers of social organization. That is, identifying chronic stressors depends on identifying how the organization of an individual's life is integrated with the surrounding social organization. To the extent that it is difficult to discern this organization, it is also difficult to observe how chronic stressors are intertwined with it.

As in the case of eventful stressors, the study of chronic stressors is laced with conceptual and methodological problems; but like life events, difficulties in appraising chronic stressors should not discourage researchers from giving them the attention they deserve. Constructing a comprehensive picture of stressors and their impact on health demands consideration of the enduring hardships people face, hardships that are rooted in the organization of their lives. As a step in this direction, it is useful to delineate several types of chronic stressors, each related to a social domain. Specifically, I distinguish four types of chronic stressors: status strains, role strains, ambient contextual strains, and quotidian logistical strains.

Status strains are problems and hardships arising directly from people's placement in stratified social structures. Status placement influences the stress process indirectly, through its influence on exposure to stressors and on access to moderating resources, as well as through nd its channeling of the manifestation of outcomes. However, these kinds of influences may not fully capture the effects of status placement on stress. Specifically, I propose that placement, in and by itself, may also act as a stressor directly leading to stress outcomes.

Extreme economic deprivation - poverty - can be taken as an illustration of this. It is reasonable to assume that poverty increases exposure to stressors, limits personal and social resources for dealing with the stressors, and channels the expression of stress outcomes toward specific states or behaviors, such as alcohol abuse. In these ways, economic status indirectly contributes to the stress process. In addition, the economic status can have consequences for health and well being that are independent of its indirect effects. Such consequences may stem from recognizing that the dreams and hopes for advancement will probably remain unfulfilled, as well as from injurious life styles, dysfunctional cognitive styles, and illness behaviors associated with low economic status. Moreover, the sheer possession of a status that is demeaned or devalued by the larger society may impose strains on a person's identity and life (Rosenberg & Pearlin, 1978). This observation applies not only to economic status but also to gender, age, race, and ethnicity. Because status strains are rooted in systems stretching across the entire society, they are likely to have an ubiquitous presence for those who experience them. And because achieved statuses are not easily changed-- and ascribed statuses cannot change at all-- once status strains do arise, their presence is likely to persist.

Whereas status strains refer to problems resulting from location in hierarchically organized social systems, *role strains* refer to enduring stressors that arise in the course of incumbency in major institutional roles, family and occupational roles in particular (Pearlin, 1983). Status placement and role enactment may be closely related; that is, actions, relationships, and experiences within role sets often vary with the social statuses of their incumbents. The behavior of children that a middle-class father finds problematic, for example, may be different from behavior that is unacceptable to a working class father (Pearlin & Kohn, 1966; Kohn, 1977). Of course, regardless of status, the stressors that an individual encounters in a given family role tend to be persistent because the roles and their surrounding conditions are usually persistent. Moreover, when things go wrong within institutional roles, such as family, the consequences are usually powerful because the roles are so important to the individual and to society.

The varieties of role strain are quite numerous. They include, for example, demands that exceed the physical capacity or stamina of their incumbents, or the discrepancies between the level of skill and effort that might be required in relation to the perceived rewards of the role. Still other role strains are linked to interpersonal conflict. By definition, a role does not exist by itself but always in relation to other roles making up a role set (Merton, 1968). One is not a wife without a husband, a mother without children, or a worker without a supervisor, subordinate, or client. The potential failure to satisfy the intricate reciprocities and expectations that develop in role sets can be the basis of stressful interpersonal conflicts. Stressors of these types impinge not only on the individual, but also on the relationship out of which the conflict has grown. Role strains, then, rarely affect a single individual without eventually affecting other actors in the role set.

There are interesting developmental aspects of the surfacing of role strains. The actions and expectations guiding relationships within a role set normally undergo constant realignment and restructuring. This is particularly clear in family relationships, where the restructuring is driven by development and aging. For example, adolescents may clash with their parents, whom they perceive as still treating them "like babies"; at the other end of the life course, aged parents might clash with their children, whom they perceive as treating them like infants. The structure of interpersonal relationships within role sets, therefore, may be in a constant state of restructuring, and conflict may grow out of situations where the expectations and adjustments to change are not mutual.

In addition to conflict between members of the same role set, role strains may result from intra-personal conflicts between the incompatible demands of different roles. We observe this, for example, among employed caregivers who must satisfy both the requirements of their jobs and those involved in providing assistance to impaired relatives (Pearlin, Mullan, Semple & Skaff, 1990). People in this situation frequently find that success in one role comes at the expense of performance in the other. Similarly, working mothers of dependent children are susceptible to pressures stemming from incompatible responsibilities in competing maternal and occupational roles (Piotrkowski, Rapoport & Rapoport, 1987). There is some evidence that having multiple roles has positive consequences for people's health and well-being (Thoits, 1986); where the demands and expectations of multiple roles are not easily reconciled, however, the consequences are likely to be deleterious.

Contextual strains are those that emanate from the interactions of individuals with their proximal environments, such as those of community and neighborhood. In exploratory qualitative interviews conducted with a number of people of advanced age, it was clear that threats to safety and security are especially salient contextual strains. Moreover, a number of additional stressors tend to cluster around these kinds of threats. For example, many of our subjects expressed the sense that they were trapped within a declining environment, in terms of both civility and aesthetics. These feelings may be exacerbated by demographic changes involving the large-scale turnover of neighbors, leaving the long-time residents feeling like they are living among strangers. Additionally, the physical mobility of older people may be somewhat restricted, and when they reside in neighborhoods where needed services and amenities (such as medical care, shopping, and entertainment) are limited, they are likely to find themselves at serious disadvantage.

Much of the daily life of children is folded into the community, just as are the lives of the old. Although I cannot draw on our own research in this regard, the neighborhood may be a more frequent source of stressors for youth than for those of advanced age. There are two reasons for this conjecture. First, the networks of young people are more likely to be coextensive with neighborhood boundaries, so that most or all of their social life takes place within this context. Second, and related, the young-- perhaps adolescents in particular-- are likely to become engaged in peer groups and other infrastructures that impose a special set of stressful demands and expectations.

Because there has been relatively little stress research done on the circumstances of people's proximal contexts, we can only speculate about the stressors that might stem from them. However, it is apparent that any effort to specify the types and range of stressors experienced by people, whatever their ages, needs to give some consideration to neighborhoods and the networks they contain.

Quotidian strains are those encountered in the course of satisfying the ordinary logistical requirements of daily life. Again, my awareness of this type of stressor comes largely through research involving older people (See Skaff chapter, this volume). Among many people in the upper age ranks, activities to which one would normally give no thought can become formidable problems: bending over to remove an item from the refrigerator, carrying groceries up a flight of stairs, keeping a house clean, and so on. The recurrent strains associated with daily logistical activities are probably most commonly found in the household; however, some are located within community and neighborhood contexts as well. Having to contend on a daily basis with undependable public transportation, with standing in slow-moving service lines or with print that is too fine to read easily are a few examples of these stressors.

Although quotidian strains are perhaps concentrated and most easily observed in populations whose physical capabilities are limited, they occur among others as well. Commuting daily through heavy traffic, being enveloped in polluted air, or needing services whose availability or quality is unreliable are among the problematic features of modern life that have been referred to as "daily hassles" (Kanner, Coyne, Schaefer,& Lazarus, 1981). Perhaps it is not the hassles alone that are stressful, but that they are encountered daily.

These descriptions of status, role, contextual, and quotidian strains are not offered as a fixed and final taxonomy. They do underscore, however, that life events alone cannot capture the breadth and variety of stressors to which people may be exposed. Of course, the distinction is intended to reflect the multiple levels at which people's lives are organized and how there are built-in conditions at each level that act as potential chronic stressors. Finally, the distinctions should alert us to the complexities of identifying chronic strains and their variations among special population groups.

Moderating Resources

The preceding description of stressors has perhaps created the impression that people stand as passive targets of the arrows of outrageous fortune. Too often, fortunes are outrageous, but people are rarely passive targets. It is more accurate to describe them as active in their own behalf, trying to avoid difficult conditions, trying to minimize the harmful impact of such conditions and trying to ameliorate any pain caused by the conditions. In the conceptual language we employ, people can be described as seeking to modify the conditions that give rise to or intensify stressors or seeking to minimize the negative outcomes of stressors. The resources they bring into play in attempting to achieve these ends are collectively referred to as moderating resources.

These resources are an essential component of any model of the stress process, because the stressors alone usually do not explain their outcomes; that is, people exposed to the same stressor may be affected by it in quite different ways. For example, involuntary job loss may leave some bereft and relieved. Traditionally, it has been assumed that such outcome variability results from the availability and use of moderating resources. The following discussion identifies three key resources: coping repertoires, social support, and mastery (one's sense of control over one's life). Given the complexity of each of these subjects, this discussion is brief and highly selective, largely emphasizing their social contexts. A later discussion will examine how their moderating effects might be exercised.

Coping Repertoires

Coping refers to the things people do in response to situations that put their adaptive capacities to test (Lazarus & Folkman, 1984). It may be thought of as the actions and dispositions of people that help to direct or redirect the stress process. We continue to find it useful to think of coping responses as having several functions. Thus, they may function to alter or manage the situation that is responsible for the stressors; to manage the meaning of the stressors in ways that reduces their threat; or to manage the outcomes of the stressors, such as anxiety or other states of distress (Pearlin & Schooler, 1978; Pearlin & Aneshensel, 1986). There is a fourth function, that of acting to preclude or forestall the surfacing of stressors. With some exceptions (Menaghan, 1983), this preventive function is largely overlooked because our research is usually designed to observe coping only after problems have appeared, not before their appearance.

As is true with all conceptual elements entering the stress process, research into coping has its share of problems (Pearlin, 1991). Although historically it has commanded considerable attention among stress researchers, we have a long way to go in identifying and measuring coping responses, especially in matching specific patterns of coping with specific kinds of situations of stress. For example, it cannot be assumed that the way one copes with the demands of long-term care giving to a demented relative would inform us as to how the individual would deal with a life-threatening cancer.

There is one shortcoming of virtually all coping studies: they place coping within a social and interactive vacuum. This is particularly apparent in the case of coping with stressors involving role-set relationships. In such instances, one's responses to the stressors might be guided by their anticipated acceptance by others with whom one is in interaction. For example, one parent might be inclined to cope with the transgressions of a child by severely disciplining him but refrain from this response in anticipation that the other parent will object to it. Even if the parent followed his or her dispositions under these conditions, the very efficacy of the coping response could be undermined by the lack of support by the other parent.

Despite these and other pitfalls lying in the path of coping research, there is every reason to assume that the actions that people undertake in protecting and enhancing their well being should make a positive difference. It may be that there are limits to the differences that it can make; for example, individual coping seems to be more effective in dealing with interpersonal problems arising in one's informal networks than with problems growing out of formally organized contexts, such as the work place (Pearlin & Schooler, 1978). Its effectiveness is perforce also limited when directed to problems whose course is intractable, as in dealing with a progressive disease. However, recognition of the conditions under which efficacy varies is a research goal involving all moderating resources, including social support.

Social Support

It would be difficult to exaggerate the importance of social support as a resource; it has been consistently shown to be capable of easing what would otherwise be the burdens of stressors and their impact on health and well being (House, Landis, & Umberson, 1988). Yet, although its efficacy in difficult life circumstances has been established, much remains to be learned about social support. Like other constructs we consider as elements in the stress process, research into social support leaves a number of incompletely addressed issues. As in the case of coping, my discussion of these is limited to issues having broader social implications.

Although in name and substance social support is a social phenomenon, it is typically studied a-socially (Pearlin, 1985; Sarason, Pierce, & Sarason, 1990). That is, social support is usually observed from the perspective of the recipient alone and implicitly treated as an asset whose possession has little or nothing to do with the donors of support or their relationships with the recipient. However, for every recipient there must at least be one donor and they are usually involved in an on-going relationship of which support is a built in and taken-for-granted feature. Despite the fact that by its very nature social support rests on social interaction, it is usually approached only in terms of its perceived availability. As a consequence, we are largely in the dark about what actually transpires between people in the course of providing or exchanging support, leaving us unsure of what kinds of interactions lead to failed support or of those that enhance efficacy. The absence of closer knowledge of relationships in which support is provided also make it difficult to understand what has been observed among caregivers to relatives who suffer the severe cognitive deficits of Alzheimer's Disease; namely, the conditions that permit the unilateral provision of support over a long period of time in the apparent absence of reciprocities (George, 1986; Pearlin, Aneshensel, Mullan & Whitlatch, 1995).

Historically the study of social support has been separated from the study of social networks (Wellman & Wortley, 1990). This is unfortunate, I believe, because it obscures the larger structures from which different forms of support may be drawn (Wellman, 1992). We may ask, for example, whether social support is drawn from strong or weak network ties, from those that are structurally homologous (i.e., composed of people with similar statuses), experientially homologous (i.e., composed of people exposed to similar stressors), or both. Or we may distinguish sources that are formal, contractual, intermittent and specialized from those that are informal, continuous, and spontaneously encompassing. The structural sources of support are often related to the forms of support; that is, strong ties involving frequent interaction may be particularly suited to emotional and affectively uplifting support and those that are weak and intermittent may be more appropriate for specialized instrumental support. When we describe later the points at which social support can enter into the stress process, it will be seen that these kinds of conceptual distinctions are helpful in revealing empirical distinctions.

It can be noted, finally, that social support may not only help to regulate the effects of stressors but may itself be affected by the stressors (Pearlin & McCall, 1990). For example, stressors that do not yield to the support can "burn out" the provider of support, leading to a withdrawal of the support by its donor. As the stressors continue, moreover, there may be a switching of support systems, as in turning to a formal source of support in place of one that was informal. There are many scenarios that could be constructed to illustrate that the functioning of support systems can be treated as an outcome of stressors as well as a resource that stands between stressors and other outcomes. Indeed the same is true of other resources, including that which we consider next-- mastery.

Mastery

There is considerable evidence that one's self-concepts can serve as a barrier to the deleterious effects of stressors. Pivotal among these personal resources is the sense people harbor concerning their control over their lives (Rodin, 1986; Skaff, Pearlin, & Mullan, in press). Self-efficacy, locus of control, and mastery are concepts that interface around the notion of control, although each is somewhat different from the others. Thus, self efficacy focuses on the control one exercises over the performance of specific tasks, locus of control emphasizes the source of the forces affecting one's life, and mastery-- the concept employed in our work-- concerns control over such forces regardless of their source.

It is inviting to speculate why mastery functions as the powerful moderator it appears to be. One plausible explanation, certainly, is that possession of a sense of control by itself would tend to reduce feelings of vulnerability to otherwise threatening conditions and, in so doing, would also reduce the ominousness of such conditions. A second explanation is that mastery acts as a self-fulfilling prophecy: when we feel that we possess control over the important forces of our lives, we act accordingly. To some extent, I suggest, mastery is a liberating disposition, freeing people to be more experimental and more forceful in facing up to life exigencies.

The resources outlined above - coping, social support, and mastery - are quite different from one another. Yet, it should be underscored that the possession of each varies with individuals' social and economic characteristics. It is also known that each is related to the others in a mutually re-enforcing manner. For example, people cope by seeking, evoking, and using social support in selectively appropriate ways. Correspondingly, the support people receive from others may include guidance in the choice of coping responses to particular stressors. As suggested above, mastery may enhance the scope and vigor of coping and social support is known to sustain mastery. These kinds of re-enforcing interconnections among the moderating resources indicate that if people are armed with one or another resource, they are likely to possess the others as well; but if they are limited in one, there is a good chance that their access to the others will also be limited.

Outcomes

The final major component of the stress process is the outcome. Stress research usually is designed to consider only one outcome, such as depression. This practice is perhaps reinforced, at least in psychiatric epidemiology, by concern with establishing the causes of specific diagnosable disorders (Mirowsky & Ross, 1990), As has been noted (Aneshensel, Rutter & Lachenbruch, 1991), this practice limits the opportunity to observe the multiple outcomes that may stem from the same set of stressors. In limiting this opportunity, we run the risk of underestimating the power of the stressors.

Evidence for the multiplicity of outcomes can be detected both in individuals and across groups. An individual exposed to a hardship may manifest the stresses created by the situation in different ways. Given the many interrelated levels of psychological and physiological functioning, there is no reason to suppose that stress will be expressed in only one way or at only one of these levels. Thus, for example, stress can be observed among caregivers to loved ones not only in their depression, but also in their suppressed immune systems and other indicators of ill health (Kiecolt-Glaser, Dura, Speicher, Trask, & Glaser, 1991).

The second type of evidence indicating the multiplicity of outcomes is illustrated by instances in which the same stressor tends to produce different outcomes in different social groups. There is some reason to believe that the ways in which outcomes are manifested are channeled by the social characteristics of people. At the present stage of our knowledge about this matter, the social channeling of stress outcomes is particularly clear in the case of gender differences. For example, women are more likely than men to express exposure to stressors in the form of depression. This might prompt the conclusion that women are more vulnerable than men to the impact of the stressors (Kessler & McLeod, 1984), perhaps because they do not possess the same moderating resources. However, it is premature to draw such a conclusion without first determining whether men are affected in different ways by stressors rather than that they are less affected (Aneshensel, Rutter, & Lachenbruch, 1991). To determine whether the same stressors might produce different outcomes among distinct socio-economic groups, it is, of course, necessary to include a reasonable variety of outcome measures, of both mental and physical health; it is also necessary to pay attention to the social and economic backgrounds of the people we study.

The surfacing of multiple outcomes, whether observed within individuals or across groups, has important implications for the impact of difficult life conditions on well being. The multiplicity of outcomes indicates that the effects of stressors are general, not specific. That is, it does not appear that a given type of stressor produces a given type of outcome. Instead, the same stressor can generate an array of outcomes, and different stressors are capable of resulting in the same outcome. When the generality of its effects is taken into consideration, it may very well be that the significance of stressor conditions to mental and physical health is recognized as being even more profound and far reaching than we ordinarily assume.

Interrelationships Among the Components of the Stress Process

I turn now from the conceptual and methodological issues surrounding stressors, moderators, and outcomes to a closer examination of their dynamic interrelationships. These interrelationships, as schematically diagrammed in Figure 1 below, form the stress process. Two preliminary observations are warranted. Note first the portrayed relationships of people's social and economic characteristics to their exposure to stressors, the resources to which they have access, and the outcomes they experience. It is the existence of such relationships that distinguishes social stress from that which is more happenstance or the sole result of individual attributes. Second, the diagram should be recognized as a simplified representation of the process, ignoring some of its complexities. For example, the actual process is undoubtedly less linear, involving more reciprocal and looping-back relationships. Nonetheless, the paradigm provides a perspective for considering stress as a process that unfolds over time.

Stress Proliferation

A key feature of the stress process is what we call stress proliferation. People are rarely exposed to only one severe stressor; more often, people become enveloped in constellations of multiple stressors. These constellations of stressors may form because the conditions that underlie exposure to one set of stressors may also underlie exposure to others. Being an unskilled worker, for example, might increase the chances of exposure to a variety of stressors, such as involuntary job loss and living in a neighborhood that imposes ambient hardships. If limited power, privilege, or prestige result in exposure to one set of stressors, they are likely to result in exposure to other sets as well.

Another reason that people exposed to one stressor are eventually exposed to additional stressors. It is because stressors tend to beget stressors that one stressor may lead to others. To reflect this part of the stress process, Figure 1 distinguishes between primary and secondary stressors. The very presence of primary stressors may become a condition for generating secondary stressors. The primary stressor may be an event that produces secondary chronic strains, a chronic strain that creates other such strains, or virtually any other combination of stressors. We know from our long-term study of Alzheimer's caregivers, for example, that the sense of overload increases with the scope of the impaired relative's dependencies, and that family conflict, in turn, increases with the level of overload (Aneshensel, Pearlin, Mullar, Zarit, & Whitlatch, 1995). Similarly, divorce may lead to economic hardship (Pearlin & Johnson, 1977), the loss of a spouse to social isolation (Pearlin & Lieberman, 1979), or the loss of a job to marital conflict (Pearlin, Lieberman, Menaghan, & Mullan, 1981).

It is important to recognize that we do not use primary and secondary designations of stressors to reflect their relative power to produce deleterious outcomes; instead, these labels denote the chronological order in which they are observed to surface in people's experience. Indeed, once in place, secondary stressors may have a more potent effect on well being than those that are primary stressors. However, more crucial than the comparative power of primary and secondary stressors is their tendency to occur in constellations. To comprehend the connections between stress and well being, therefore, it is necessary to cast a wide net, one that captures the array of significant stressors that might be experienced.

If our attentions are confined to but one or a limited set of stressors, we may fail to appreciate fully the changing demands on people's adaptive capacities. This failure, in turn, can easily result in misinterpretation of the variability in outcomes. For example, two persons may be exposed to similar primary stressors but to different secondary stressors. If one person is more distressed than the other, the difference might erroneously be attributed to a variance in the effectiveness of their moderating resources, without considering that the configurations of secondary stressors could more accurately account for the differences in their levels of distress. To explain outcome variability accurately, we must assess both primary and secondary stressors.

There may be several mechanisms through which one set of stressors leads to others. However, whatever drives stress proliferation, people's multiple roles constitute its structural foundations. Typically, we are many things: job holders, parents, spouses, relatives of various kin, members of voluntary associations, participants in a network of friends, and so on. Although these roles and the activities and relationships they entail are often segregated from one another in time and space, they all share a common actor around whom the diverse roles become integrated. This means that stressful experiences in one of these roles can affect the activities and relationships in the others, having direct consequences for stress proliferation. For example, problems on the job are easily brought into the home; marital conflict is reflected in parent-child relations; and economic strains affect the quality and scope of network participation (Parcel & Menaghan, 1994). The necessary interconnections among an individual's multiple roles, therefore, serve as the channels through which proliferation can occur.

Resources and Naturalistic Interventions

This discussion of stressors and their varieties and the description of stress proliferation may create the impression that people lead their lives under a dark cloud of problems and hardships. Fortunately, the picture is usually not this stark, although it is difficult to imagine how one could be an active participant in modern society and still manage to escape at least occasional stressors. Having and using moderating resources-- coping repertoires, social support, and mastery-- can help to shield individuals from the damaging effects of stressors.

In a real sense, these resources can be thought of as the interventions that people engage in spontaneously and naturalistically on their own behalf. Without these interventions, people would merely be the rather helpless objects of whatever exigency happened to arise. Resources can regulate the stress process in multiple ways, best described by tracing out some of the lines of influence shown in Figure1.above.

Interventions can occur at critical junctures: namely, the juncture between primary and secondary stressors and that between the stressors and the outcomes. Resources can moderate these relationships in at least three ways. First, resources may help to restrict the scope or intensity of secondary stressors by containing the scope or minimizing the intensity of primary stressors. For example, an individual's coping strategies might ease the physical demands of care giving; reducing this primary stressor, in turn, may reduce the chances that secondary stressors will surface. Similarly, resources may ease the adverse outcomes that would otherwise appear, by easing the level of the primary and secondary stressors contributing to the outcomes. Thus, caregivers might succeed in shielding themselves from depression by drawing on their social support in ways that abate the stressors surrounding their care-giving activities. In these instances, resources intervene by acting directly on the stressors that people confront. In short, resources may function to ease stressors, to block proliferation, and to reduce the severity of outcomes.

Naturalistic interventions can also occur through the buffering effects of resources, indicated by the lines that intervene between primary and secondary stressors and between secondary stressors and outcomes. Whereas above we hypothesized that the stress process can be attenuated by easing the stressors, we now suggest that moderating resources can interfere with the negative consequences of stressors without actually reducing the stressors. This intervention has been described as the buffering function of resources: They reduce the ability of primary stressors to produce secondary stressors and of secondary stressors to create deleterious outcomes. Resources exercise this function by enabling people to confront the threats and demands of the stressors without being damaged by them. Indeed, people subjected to the most stringent stressors are the major beneficiaries of the buffering effects of resources (La Rocco, House, & French, 1980).

Finally, I wish to point to an intervention that involves primarily the outcomes. This intervention, portrayed in Figure 1 by the line from resources to outcomes, is aimed at alleviating the stress symptoms produced by the antecedent conditions of the stress process. A great deal of coping, sometimes referred to as emotion-focused coping (Folkman & Lazarus, 1980), occurs at this level; the intervention does not reduce the stressors, but, instead, eases the psychological and physical consequences of the stressors. Interventions at this stage of the stress process are ameliorative rather than preventive.

The lines of influence of resources that intersect primary and secondary stressors are reciprocal: Whereas I have been emphasizing the effects of resources on stressors and their outcomes, these components of the stress process may also effect the level and effectiveness of the resources. That is, these resources not only modify the effects of stressors, but also are themselves affected by the stressors. The reciprocal effects are of two kinds. First, sustained exposure to stressors can undermine these resources or lead to changes in their use. For example, mastery can be diminished by chronic stressors (Pearlin et al., 1981), and it is reasonable to suppose that coping repertoires and social support systems are similarly altered in the face of persistent stressors.

A second kind of reciprocal influence might be seen in the activation of resources. That is, the emergence or intensification of stressors may mobilize the use of the resources. Some coping repertoires and forms and sources of social support probably remain in a latent state until they are activated. We can speculate that these kinds of influences are highly specific, with certain kinds of stressors calling forth certain kinds of resources. Some stressors, for example, might direct a person to those in his or her network who can provide instrumental support, while other kinds of stressors may selectively direct the person toward those capable of providing emotional support.

Much remains to be learned about the intricate naturalistic interventions of resources at the various points of the stress process. However, some of our conceptual conjectures have been subject to empirical test with data from our longitudinal study of Alzheimer's caregivers. In an analysis confined to social support, it was possible to observe the buffering functions of this resource at multiple junctures of a stress process driven by care giving (Pearlin et al., 1995). These junctures involve an array of primary and secondary stressors and their impact over time on depressive symptoms. Two lessons emerged from this analysis. First, the buffering effects of social support can, indeed, be observed across the breadth of the process. Thus, social support buffers the effects of the objective demands of the role (e.g., the scope of the impaired relative's dependencies) on more subjective hardships (e.g., overload, role captivity), the effects of these primary stressors on those that are secondary (e.g., conflicts between care giving and job demands), and, finally, the effects of both sets of stressors on depression.

A second lesson is that there is a highly specialized fit between the types of stressors that are involved and the form and source of the support that is effective in buffering a stressor's influence. Thus, formally provided instrumental support is effective where informal instrumental support is not, and vice versa: emotional support is an effective buffer where formal and informal instrumental support are not, and vice versa. As far as these naturalistic interventions are concerned, if the resource is to make a difference, it must be selectively tailored to the particular exigency to which it is targeted.

Outcomes: The Black Box of the Stress Process

Research leaves little doubt that the stress process can be inimical to health and well being and that it can manifest negative effects in multiple ways at multiple levels of organismic functioning (Lester, Nebel, & Baum, 1994). Nevertheless, our understanding of these kinds of outcomes is still fairly limited. In part, these limitations result from the length of time it takes for some outcomes to become discernible, thus requiring studies of longer duration than are usually conducted in stress research. For example, if there are causal connections between stress and heart disease, they probably would be clearly revealed only in investigations of considerable duration. Also, a more refined understanding of outcomes depends appreciably on the integrated contributions of researchers representing multiple disciplines. Although scholars from multiple disciplines are involved in studies relevant to outcomes, their contributions cannot as yet be described as integrated (Fleming, Baum & Singer, 1984).

A wide variety of mental and physical states have been identified as possible outcomes of the stress process. In addition to emotional distress (e.g., Breslau & Davis, 1986), these include behavioral disorders (e.g.,Burns & Geist, 1984), suppression of the immune system (Irwin & Patterson, 1994), lower back pain (Atkinson, Slater, Grant, Patterson, & Garfin, 1988), dermatological problems (Arnetz, Fjellner, Eneroth & Kallner, 1985), and many more. The strength of the empirical evidence linking stressful experience to the different psychological, behavioral and physiological outcomes varies a good deal. Nevertheless, stress is clearly manifested in diverse ways.

The sheer diversity of outcomes has implications important to research into the health and well being of people in the context of the stress process. As discussed earlier, the same individual may harbor multiple outcomes, these outcomes may be observed at multiple levels and systems of organismic functioning. Thus, diverse outcomes affecting health and well being can accumulate within the same individuals: A person may not only be depressed by life problems but may also suffer from anxiety, abuse alcohol, engage in anti-social behavior, have cardio-vascular problems, and so on. Co-morbidity, which is currently a matter of considerable interest, probably has some of its roots in individuals becoming host to a variety of outcomes stemming from the constellations of stressors to which they are exposed over time. That is, if individuals tend to harbor configurations of stress-related disorders, these disorders will then appear as statistical correlates in our research.

Although multiple and diverse outcomes may be traced back to a common set of stressors, the outcomes are not necessarily produced directly and independently by the stressors. Specifically, it is worth questioning whether some outcomes, once generated by stressors, become the cause of other outcomes. Any statements about causal connections within the box we have labeled as outcomes must be highly speculative, particularly when the issue is addressed by a social scientist. However, at the risk of displaying an unacceptable level of naivete, it seems reasonable to hypothesize the presence of at least some lines of causal relationship. For example, a situation of chronic stress might lead to anxiety, and anxiety might result in changes in the functioning of the central nervous system; these changes could then trigger endocrine changes and immune system suppression, with the resulting malfunction of an organ system. This illustration suggests a line of inquiry that begins to unravel the possible interconnections among outcomes. The stress process paradigm that simply ends with undifferentiated "outcomes," as in Figure 1, may be obscuring the causal connections subsumed by that inclusive component of the stress process.

Discussion and Implications for Intervention

As we follow the course of the stress process, it can be seen that intervention may be aimed at various junctures and take several forms, ranging from preventing stress to alleviating outcomes. At the outset, preventing randomly occurring stressors can be eliminated from consideration; by definition, stressors that occur by chance are beyond the reach of planned preventive intervention.

Happenstance stressors aside, prevention is arguably the most desirable intervention because it obviates the need for amelioration or alleviation. It would seem that preventive interventions are most likely to succeed when they center on the sources of the stressors that people experience. Within the conceptual framework of the stress process, the sources of stressors can frequently be observed as residing within the hierarchical arrangements of social and economic statuses. Theoretically, then, preventive efforts are most effective when they appropriately alter the conditions of life experienced by status groups that are differentially at risk for particular stressors.

In reality, however, preventive strategies aimed at stress-related conditions associated with statuses are difficult to initiate. Although knowledge of these groups and their stressful circumstances would presumably guide us in modifying such circumstances, planned interventions aimed at changing the distribution of power, privilege, and prestige are typically greeted with something other than enthusiasm-- especially by those possessing the means to implement such interventions. In general, status hierarchies and the inequalities they embody are highly resistant to change through purposive planning. This seems to be especially true in the case of economic stratification, which is perhaps the most pivotal in regard to risks for exposure to stressors. I do not suggest that systems of inequality and the status orders within them are immutable; they do change over time, but usually only as a result of struggle and conflict. It thus appears that preventive strategies involving the change of structural arrangements have little chance of being adopted in the short run, even though these arrangements may be at the root of many stressors that put the well

being of some populations at disproportionate risk.

Even if it were possible to create more equity among the statuses that divide people, it would be surprising if discernible consequences for health and well being immediately appeared. The reason for this negative expectation lies with the proliferation of stressors. The stressors to which people are exposed as a result of their statuses are likely to have fanned out over time, reaching into a number of areas of life. For example, people may simultaneously be at risk for family conflicts, for having spotty work histories, for living in noxious communities, for lifestyles and social affiliations that maintain them at the margins of the society, for behaviors injurious to good health, and so on. The very groups most exposed to these constellations of stressors, furthermore, may also be the least likely to have developed coping repertoires, protective feelings about self, or stable support systems that would help them deal with or extricate themselves from a web of hardships.

It should by no means be concluded that interventions among people whose lives are embedded in a history of proliferated stressors and its entangling effects are futile. We can conclude that in such instances intervention strategies must cast a wide net; it is not enough that they target one problem, even if it appears to be a central problem, when there might be multiple problems structuring people's lives. Moreover, even when a broad range of interventions is applied, there will probably be a considerable lag time between their introduction and the surfacing of benefits. Thus, the diverse array of stressors to which people can be exposed might require maintaining interventions over a considerable span of time before some of these stressors can be removed and people are able to reorganize their lives. Where prevention is concerned, quick results may be elusive.

Of course, the status arrangements of the society are not the source of all serious stressors. Certain diseases, for example, may ignore status locations, and some events, such as the death of a loved one, may similarly be independent of social and economic statuses. Although the stress processes set in motion by such exigencies may be influenced by statuses, they are not preventable in themselves. Thus, prevention is not always a feasible intervention, either because of societal resistance or because the stressors arise independent of social and economic factors. Therefore, interventions other than prevention need to be considered as well. The paradigm of the stress process is useful in mapping the points at which different interventions can be applied.

In this regard, interventions that inhibit the development of secondary stress become crucial. These interventions might be designed either to minimize the scope and intensity of the primary stressors or to reinforce a person's own resources, thus maximizing the effectiveness of naturalistic interventions in reducing or buffering the effects of these stressors. Similar strategies might be shaped to block or reduce the impact of both primary and secondary stressors on outcomes. Finally, interventions may directly target the outcomes, seeking to ease their severity; this approach leaves the hardships of lives unchanged, but alleviates negative consequences for health and well-being. As the stress process has been modeled, this is the intervention of last resort; that is, the outcomes are portrayed as having no further consequences for the stress process. However, ameliorating these outcomes may reduce the chances they might otherwise have in increasing one's risk for exposure to further stressors.

Developing effective interventions around stress and its processes, whether preventive or ameliorative, is obviously a complex undertaking. The planning and execution of such interventions requires a partnership that includes those doing the research, those knowledgeable about the planning process, and those who know how to convert plans into policies. Those involved must be prepared for a long-term partnership. Because the stress process and its multiple health outcomes may unfold slowly and because interventions should have the benefit of long-term evaluation, successful quick fixes are unlikely.

However, whatever the effort required to improve our understanding of the stress process and to construct reasonable interventions, it is worth it. The effort is worthwhile because of the variety of stress-related effects that sap people's energies, relegate their lives to emotional troughs, create ill health, disrupt social relationships, and reduce productivity. Interventions that eliminate or reduce these outcomes are warranted on humanitarian grounds alone. Beyond these concerns, we can remind ourselves that the entire society has a stake in devising effective interventions; regardless of the extent to which we as individuals may be caught up in the stress process, all of us are paying the very heavy economic costs of its consequences.

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