

Chapter 15

Social Stress in the Twenty-First Century

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Abbreviations

DSM	Diagnostic and Statistical Manual of Mental Disorders
GAS	General adaptation syndrome
PSS	Perceived Stress Scale
PTSD	Posttraumatic stress disorder

As the stress literature proliferates, it also differentiates. And as the stress literature differentiates, it also becomes increasingly segmented—and therefore disengaged from the core tenets of the Stress Process Model (Pearlin, Menaghan, Lieberman, & Mullan, 1981). These core tenets include the fundamental notion that different sources and types of stress are involved in a causal dynamic through time, and that the impact of one type of stress cannot really be discussed without reference to others (Wheaton, 1999).

This general message can be more specifically described in three points. First, we argue that the varieties of stress distinct from stressful life events (Holmes & Rahe, 1967) have either caught up or surpassed the attention given to life events. We demonstrate below that the growth in research on chronic, macro (contextual), and traumatic stressors collectively suggests that these stress concepts occupy independent and coequal status with life events as components of the larger stress universe (Wheaton, 1994). We speculate that a part of this shift may have followed from the nature of 9/11 as a system-wide and traumatic stressful event. Second, partly as a result of this growth, we see a progressive disaggregation of the study of stressors, seemingly reflective of the increasing complexity of dealing with the impacts of various combinations of sources of stress over time. Finally, we note that this process may result in a return to pre-Stress Process model approaches, emphasizing “one stressor at a time,” but leading to misunderstandings of the ultimate role of stressors in people’s lives.

Using the previous version of this chapter as a starting point (Wheaton, 1999), we review the distinctions among stress concepts and then elaborate the classification scheme for stressors (Wheaton & Montazer, 2010). We then consider the specific growth in the study of chronic, contextual, and traumatic stressors since 2000, to illustrate the growing differentiation in the study of stress.

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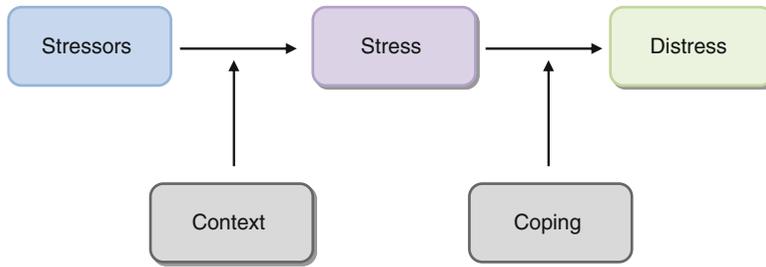


Fig. 15.1 Stressors, stress, and distress

Stressors, Stress, Distress

We begin by reviewing distinctions among three basic terms used in different ways in different literatures. Figure 15.1 represents these distinctions, in a sequence of causation including *stressors*, which *may* precipitate “*stress*,” depending on the social circumstances attending the occurrence of the stressor and, therefore, its meaning, which in turn *may* precipitate *distress*, depending on the state of coping with resources when the stressor occurs. The multiple contingencies in this process suggest that many things we think of as potentially stressful turn out not to be and, even when stressful, may not translate into increased distress.

Stressors exist as a force, external to the person, which constitute a source of challenge to current functioning capacities. Stress is the more difficult term: in the biological stress model, reviewed below, it is a response of the body—a state of physiological alert—in the presence of stressors. But in other approaches (e.g., the engineering model, discussed below), stress and stressors mean the same thing. Distress refers to a manifest maladaptive response pattern in the presence of stress, such as anxiety, depression, anger, fear, or aggression. But Fig. 15.1 shows that every step in the translation of stressors into stress is conditional: the context may make the stressor less threatening (e.g., the stressor may have been experienced before), and coping resources (e.g., high levels of social support) may buffer the consequences of a stressful situation.

We define stressors more fully as *conditions of threat, challenge, demands, or structural constraints that, by the very fact of their occurrence or existence, call into question the operating integrity of the organism*. This definition implies that stressors can occur in different ways. In Fig. 15.1, context—which may be features of life history, current work or residential environments, or position in a social network—intervenes to confer the level of threat defined by the occurrence of a stressor. Broadly, stressors with lower threat are not *stressful* and therefore cannot precipitate stress. Only stressors that pose an actual threat to the stability of identity, role occupancy, social and network locations, or physical well-being have the potential to be stressful. If the context suggests threat—following the classic biological stress model—this precipitates stress or, in fact, the “stress response,” a state of physiological defensive alert of the organism (Selye, 1956). If a stress response occurs, then the issue is whether coping resources are sufficient to avoid a generalized distress response. If they are, then the stress response will *not* translate into generalized states of distress. In this process, there are many things that save us: life histories that lower the threats of stressors, social contexts that train us how to deal with specific forms of stress, networks that help us cope with difficult conditions and, thus, short-circuit a generalized response.

In the *psychosocial* approach to stress, we argue that it is more important to define *stressors* than to define *stress*. Stressors have sometimes been defined as “that which produces stress” (Selye, 1956, p. 64).

The problem with this definition is that it *requires* a biological response to define something as stressful. It is not at all clear that stressors turn into distress *only* because and through a bodily stress response. Some situations people face may not be defined as a “problem” for them, but this does not mean that they will have no impact on their mental or physical health over time—only that the “problem” bypasses their consciousness.

Two Stress Models

There are actually two related versions of the stress concept, one anchored in the biological stress model of Selye (1956) and the other in the standard engineering stress model (Smith, 1987). These two approaches do not exactly say the same thing about stress, so it is important to understand how they are different, as well as the ways in which they converge.

The Biological Stress Model

Selye’s biological stress model (1956) crucially involves the concept of the general adaptation syndrome (GAS) as the centerpiece of the stress process. The GAS refers to the bodily process of alarm (alert), resistance (responsive physiological adaptation to reestablish homeostasis), and, eventually, exhaustion. In this approach, the GAS becomes the arbiter of whether stress occurred, and thus events that do not precipitate this response cannot be considered stressors. The biological stress model is the predominant stress model to date. This model introduced a number of important distinctions in the process leading to distress, including the separation of stressors, as an external threat, from the coping capacity of the organism and the separation of the occurrence of stress from more general and stable behavioral response syndromes. But the model has shortcomings that indirectly limit our understanding of social stress.

First, the biological stress model has little to say about the role of context and prior experience in defining the level of threat. And yet, a stressor cannot be defined independently of the social environment in which it occurs because its meaning, and thus its level of threat, is defined by a complex configuration of life history, the social contextual location of its occurrence (e.g., work, family, community, point in history), and the prevalence of the same experience in that context. Second, stressors may have other consequences beyond health outcomes per se that are important to understanding the broader sociological consequences of their occurrence (Aneshensel, Rutter, & Lachenbruch, 1991). For example, stressors may undermine educational performance, lead to marrying earlier, or cause interruptions in labor force activity.

Finally, as noted above, the biological stress model presumptively makes the physiological stress response a necessary condition for the occurrence of stress. In fact, this assumption may be dangerous if long-term continuous low-level threat, or habituated demands, bypass the stress response, but still accumulate over time into serious physical or mental health changes. In Neil Young’s perfect metaphor for this theoretical possibility, we must remember that “rust never sleeps.” Importantly, it is exactly those types of stressors that function like rust—those that do not signal a definitive threat to the integrity of the organism, allow for routine responses, and yet wear down the coping capacity of the person—that could have the most important impacts on the health and mental health of populations.

Ultimately, the biological model gives minimal guidance on bounding or delimiting what social *stressors* are, or, for that matter, are not. This lack of guidance implies, we believe, that one cannot use the biological stress model exclusively as a basis for defining a universe of stressors or deriving particular measures of stressors.

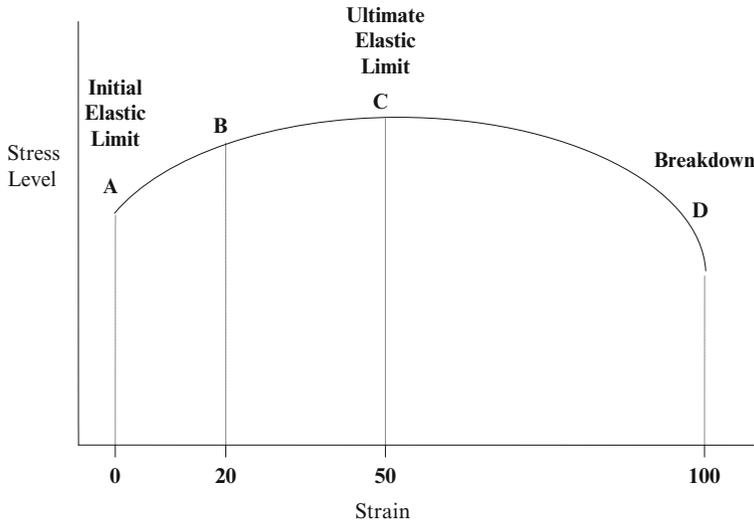


Fig. 15.2 The stress vs. strain curve in the engineering stress model

The Engineering Stress Model

The “original” stress model was formulated to understand the effects of external forces on the integrity of metals (Smith, 1987). This model helps us explain, for example, dramatic metallurgical failures, as in the case of the collapse of the I-35 W bridge in 2007 in St. Paul, Minnesota, and in the equally unexpected collapse of a bridge over a river on Interstate 95 in Connecticut in 1984 for similar reasons. In both cases, the main span of the bridge collapsed without the provocation of a catastrophic “event.”

Breakdowns regularly occur in both the physical and social world without an observable precipitating event, and, thus, require explanations using concepts beyond the very *notion* of an event. In the case of a bridge, the breakdown may be due to the continual stress to the bridge of unobserved rusting, or the inadequacy of a design that leaves bent gusset plates in the bridge. In both cases, the slow process of decay ultimately reaches a threshold, resulting in collapse.

Figure 15.2 reproduces from Smith (1987) the curve showing the relationship between stress and strain in the engineering model. The level of stress is shown on the Y-axis, the level of strain on the X-axis. In the engineering model, stress is an external force acting against a resisting body (Smith, 1987). This model does not distinguish between the stressor and stress—both refer to an external force. Stress becomes *stressful* when the level of force exceeds limits defining structural integrity, known in the engineering model as the “elastic limit” of the material. Strain is the response state of the material (distress), technically, the state of the elongation and compression of the material. As long as the stress applied does not exceed Point A on the stress scale, the material will not exceed its initial elastic limit, and it will return to its original shape after the stress is removed. When stress exceeds A and reaches B, however, the material is able to adjust by elongation or compression (coping) and, in the process, achieve a new, greater elastic limit—it becomes stronger. The model also allows for a limit on capacity to resist, since the material has a finite ultimate elastic limit (Point C), after which the material cannot respond with adaptive adjustments, leading to fracture or breakdown (Point D, distress in the psychosocial model).

A fundamental point of the engineering model—and one that is less clear in the biological model—is that stress occurs in more than one form, sometimes as a catastrophic event, and sometimes as a continuous force. This distinction was articulated in the psychosocial stress model in the

work of Pearlin and his colleagues (Pearlin, 1983; Pearlin & Schooler, 1978; Pearlin et al., 1981), Brown and his colleagues (e.g., Brown & Harris, 1978; Brown, Harris, & Bifulco, 1986), and around the same time by Wheaton (1980, 1983). The terms were different at the time, but the most general accounts emphasized the importance of what have come to be known as *chronic stressors*, rather than *event stressors*.

Life Change Events: The Model Stressor

When the word “stress” is used in research circles, the most common operational meaning for this term is a “life change event,” a *discrete and observable event representing change and thus requiring some social and/or psychological adjustment on the part of the individual*—the operant word here being *event*. While the early research on important life changes included both positive and negative events, the usual approach over the last three decades has been to focus on negative events in particular, since those events have been found to be much more harmful to mental health than positive events have been found to be harmful or helpful (Ross & Mirowsky, 1979). In other words, change in and of itself is not necessarily stressful.

To give some concreteness to the kinds of life events included in this framework, they include getting fired from a job, getting a divorce, the death of a spouse or loved one, having an abortion or miscarriage, being assaulted or robbed, and ending a romantic relationship. The lists of such events used in research range from the thirty-some to well over a 100, each attempting to capture the essential set of stressful life changes (Holmes & Rahe, 1967; Dohrenwend, Askenasy, Krasnoff, & Dohrenwend, 1978).

If we look to Selye’s specific examples for clues as to what stressors are, we find examples such as toxic substances, noise, extreme heat or cold, injury, and weight (Selye, 1956). While there are some agents here that qualify as “events,” it is also clear that some qualify as conditions or continuous states. In fact, it has never been the case that biological stressors were restricted to the notion of an event denoting change (Hinkle, 1987). The assumption was that change is a challenge, but so is dealing with unremitting sameness. Still, the commitment to “event thinking” when it comes to stress is deep and persistent. Monroe and Roberts (1990) reflect the assumption that “events” are the *sine qua non* of stress in this passage:

It may seem that life events are self-evident. Yet life is a continuous flow of experiences and transactions. Determining at what point ongoing experience becomes an event can be problematic (p. 211).

This quote clearly indicates that stressors can only be defined as events, but this assumption, in either of the stress models reviewed above, is wholly questionable. Fundamentally, a stressor can exist as a “state,” a continuous reality, and it need not start with a clear event.

Chronic Stressors

Taking events as a point of departure, then, we can define a very different class of stressors, referred to as *chronic stressors*, that (1) do not necessarily start as an event, but develop slowly and insidiously as continuing and problematic conditions in our social environments or roles; (2) typically have a longer time course than life events, from onset to resolution; and (3) are naturally less self-limiting than life events. The distinction between event stressors and chronic stressors is meant to contrast qualitatively distinct phenomenologies of stress that, in fact, present very different types of problems as a result. A stressor may begin as an event, for example, with sudden news, but then

become open-ended and protracted. In such “blended cases,” it is likely that two stressors, and not one, have occurred and have been spliced together. Keeping the stressors separate allows us to distinguish between the problems of identity threat and identity adjustment, on the one hand, and the problems of continual vigilance and pressure, on the other.

Forms of Chronic Stress

Chronic stress can occur in a number of ways. Wheaton (1997) distinguishes seven kinds of problems that suggest chronic stress, including: (1) *threat*, often subjectively evaluated; (2) *demands*, levels of expectation or duty that cannot be met with current resources; (3) *structural constraints*, the lack of access to opportunity or necessary means to achieve ends; (4) *underreward*, reduced outputs from a relationship relative to inputs, compared to others with the same inputs, as in lower pay for a job than others with the same qualifications; (5) *complexity*, as in the number of independent sources of demands, or direct conflict of responsibilities across roles; (6) *uncertainty*, the desire to have resolution when an outcome is not available or imminent; and (7) *conflict*, when regularly reenacted and, thus, institutionalized in relationships, without apparent resolution.

It should be clear that the concept of chronic stress is not the same as the concept of role strain. Pearlin (1989) explicitly uses the term chronic stress to include not only role-based stressors but also what he calls “ambient stressors” that cannot be attached to any one role situation. If chronic stress is tied exclusively to occupancy in major social roles—spouse, worker, parent—then we unintentionally confound stress with role occupancy, and thus indirectly with whatever is taken for social competence. Thus, we need to include not only stress that accompanies role occupancy (e.g., work overload, marital conflict), but also role inoccupancy (e.g., not having children when you want to, not having a partner when you do want to be in a relationship) as well as a range of ambient stressors that are not role-bound (e.g., time pressure, or living in a place that is too noisy).

The Stress Universe: A Two-Way Classification

Using the notions of “event stress” and “chronic stress” as anchors, we can imagine a continuum of stress types, varying in the phenomenology of their occurrence. At one end, we have the most discrete forms of stress, those that naturally occur as events, and at the other the most chronic forms, referring to stressors that may build slowly and exist in a continuous state. In-between we have various other types of stressors that exist in the literature, and vary in their typical event versus state phenomenology. This continuum is portrayed as the X-axis in Fig. 15.3, as first stage of a larger two-way classification system of the stress universe, discussed below.

Daily Hassles

A concept that is often mistaken for chronic stress is daily hassles (Kanner, Coyne, Schaefer, & Lazarus, 1981). But the definition of daily hassles as “the irritating, frustrating, distressing demands that to some degree characterize everyday transactions with the environment” (Kanner et al., 1981, p. 3) suggests a unique form of stress, focusing on the microtransactions and interactions of daily life, not the persistent and embedded threats and demands accompanying roles and identities.

The original daily hassles scale has been the subject of some controversy. Complaints that a significant number of items are really measures of other stress concepts, including outcomes such as distress, seem all too valid (Dohrenwend, Dohrenwend, Dodson, & Shrout, 1984). For example,

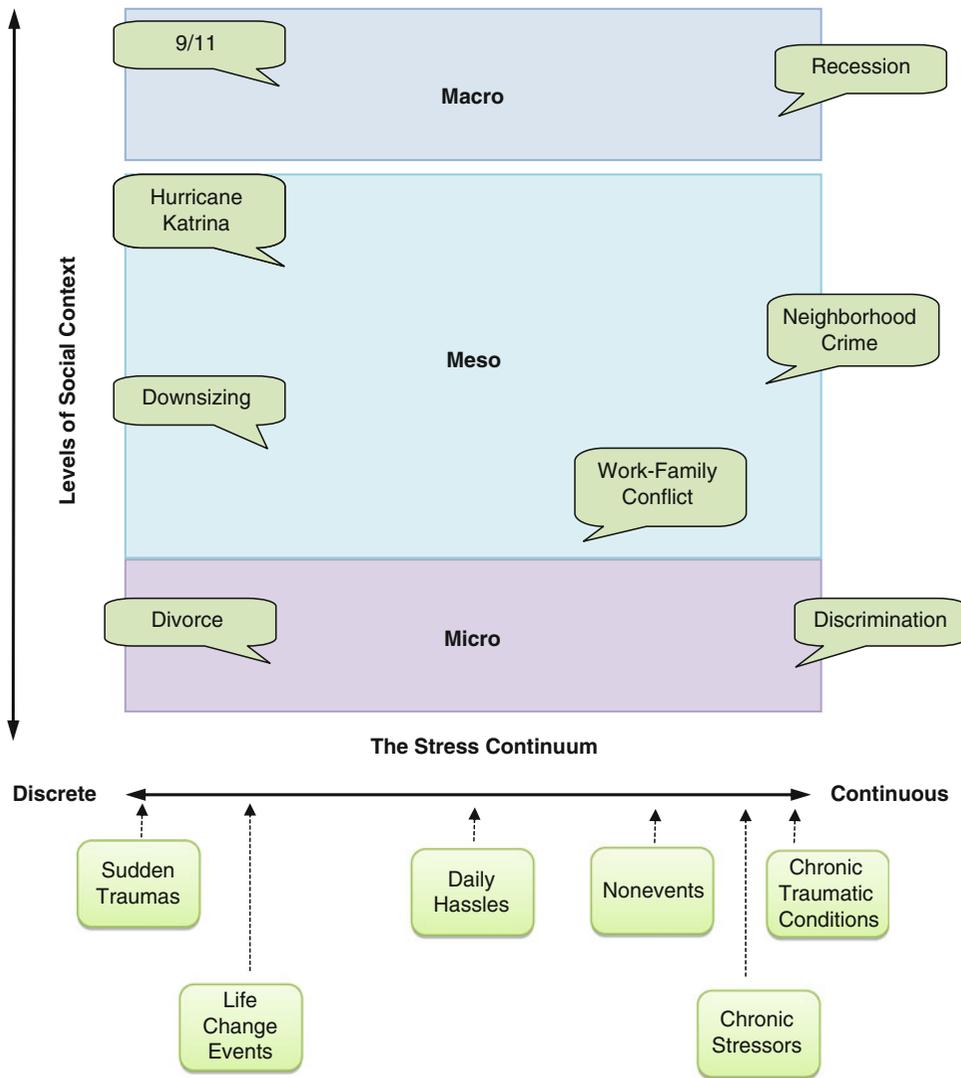


Fig. 15.3 A two-way classification of stressors

items such as “thoughts about death,” “use of alcohol,” or “being lonely” are measures of distress, some items reflect life events, such as “laid off or out of work,” while others reflect standard chronic stress items but have little to do with the stated definition of daily hassles as daily minor stresses, for example, “difficulties getting pregnant,” “overloaded with family responsibilities,” and “prejudice and discrimination from others.” The problem with this measure, then, is that it mixes different types of stress together.

Still, the concerns expressed by the *concept* of daily hassles—traffic jams, losing things, waiting in lines, grocery shopping, the weather—articulate the mundane realities of daily life that, when experienced cumulatively, could be quite stressful. But at the core, they do not reflect the more structured forms of persistent stress. Daily hassles are more usually associated with the exigencies of modern life, rather than issues such as social position and inequality, and, thus, may not directly reflect the risk of stress exposure that accompanies severe social disadvantage. The examples above suggest that daily hassles span a range of the stress continuum, and, on average, occupy a middle position as a result—a mixture of ritually repeated and more episodic and contingent microexperiences in daily life.

Nonevents

Gersten, Langner, Eisenberg, and Orzeck (1974) use arousal theory to point out that lack of change can be as stressful as change. They define a nonevent as an “event that is desired or anticipated and does not occur...[or] when its occurrence is normative for people of a certain group” (p. 169). Thus, an anticipated promotion that does not occur, or not being married by a certain age, can be considered nonevents. These examples suggest that nonevents are a form of chronic stress. But nonevents also have the additional quality of seeming like events at the same time. For example, it takes the *possibility* of a change for a “nonevent” to occur. This quality is clearest in the case of nonevents that reflect the absence of expected events with a time limit, or events with normative and expected scheduling in the life course.

Because nonevents typically stand for continuity in an undesired status, they can be placed close to the chronic (i.e., continuous) end of the stress continuum. At the same time, because nonevents require the nonoccurrence of an event that could have happened, they are not really continuous stressors either.

Traumas

Some stressors are thought to be so serious, so overwhelming in their potential for impact that they tend to be given separate status as stressors. The most applicable term for these stressors is *traumas*. The DSM-III-R manual defined a traumatic event as one “that is outside the range of usual human experience and... would be markedly distressing to almost anyone” (American Psychiatric Association, 1987, p. 250). This definition emphasizes one of the essential characteristics distinguishing traumas from the kinds of events commonly seen in life event inventories: the magnitude of the stressor. Consistent with Norris’ (1992) definition of traumas as involving “violent encounters with nature, technology, or humankind” (p. 409), the latter more specific definition of traumas in DSM-IV emphasizes exposure to violence but also includes a number of nonviolent experiences as examples. In the psychosocial approach, *not* presuming that these stressors are specific to posttraumatic stress, traumatic stressors can include a potentially wide range of severe situations and events, such as war stress (Laufer, Gallops, & Frey-Wouters, 1984), natural disasters (Erickson, 1976), sexual abuse or assault (Burnam et al., 1988; Kendall-Tackett, Williams, & Finkelhor, 1993), physical violence and abuse (Bryer, Nelson, Miller, & Krol, 1987; Gelles & Conte, 1990; Kessler & Magee, 1994), parental death (McLeod, 1991; Saler & Skolnick, 1992), and the death of a child (Lehman, Wortman, & Williams, 1987).

The archetypal form of a trauma, characterized by a sudden, unanticipated, dramatic, and clearly threatening experience and exemplified by events such as a natural disaster or sexual assault, suggests that these stressors often occur as the most discrete form of stress on the stress continuum. These are represented as “sudden traumas” in Fig. 15.3. But it is also important to realize that some of the most important traumas may occur as a series of recurring and expected events that become chronic in form, with the victim living with the belief and the fear that the next event could occur at any time. These kinds of traumatic situations are represented as “chronic traumatic conditions” at the most chronic end of the stress continuum in Fig. 15.3.

Contextual Stressors

Stressors that exist at levels of social reality beyond the individual and in which the individual is embedded are referenced by a number of similar terms, including *macro stressors*, *system stressors* (Wheaton, 1994, 1999), and *ecological stressors* (Wheaton & Montazer, 2010). Contextual stressors

are defined by exposure to threats resulting from membership in social units. Each member of the unit, by definition, is exposed at some level, although the *level* of exposure may vary by time and place. The classic treatments of stressors of this type focus on macroeconomic problems, especially as embodied by increases in the unemployment rate (Brenner, 1973; Dooley & Catalano, 1984). However, recent work points to the fact that there are many other levels of social organization to consider, such as neighborhoods, schools, families, workplaces, communities, voluntary groups, networks, regions, and even entire countries.

The discussion of combined models of contextual and individual stressors by Aneshensel and Sucoff (1996b) suggests the importance of considering contextual stressors in order to understand the impacts of individual-level stressors. Just as we could claim that the influence of life events on mental health will be misspecified and misunderstood unless we take into account more chronic forms of stress simultaneously, we emphasize that the same claim applies regarding the study of individual-level stressors if we exclude the influence of contextual stressors, especially if we expect contextual realities to shape the meaning of individual-level threats when they occur.

The Second Dimension

To accommodate the notion that stressors occur at different levels of social reality, Fig. 15.3 incorporates a second dimension (the *Y*-axis) to classify stressors by the level of social context (micro-, meso-, macrolevels) at which they occur, thus denoting the *potential* boundaries and ranges of exposure in a population. As one goes up the *Y*-axis, the generality of exposure increases. The “microlevel” is the familiar and predominant focus in stress research, differentiating exposure across individual lives. “Meso” includes all levels of social reality ranging from those levels in which we are immediately embedded, such as family, neighborhood, and workplace, to levels that are circumscribed by community or social boundaries, such as networks. Finally, “macrolevel” refers to levels described by larger political units like states, regions, and nations.

As noted above, the early study of contextual stress focused on economic recessions (Brenner, 1973; Dooley & Catalano, 1984). But there is no reason to see the macrolevel as embodied only by economic issues. Figure 15.3 shows that the types of stressors that can occur at this level can be widely varying in character: recessions are a type of chronic macro-stressor, but 9/11 was an event, with other more chronic macro-stressors following as distinct sequelae. The microlevel contains the usual individual-level stressors we study as life change events, chronic stress, traumatic stress, daily hassles, and nonevents. At the more proximal mesolevels, we see stressors that occur at the family level because they result from family-level structure, demands, and expectations, such as work-family conflict. Neighborhoods, schools, workplaces, and social networks occupy a middle-range set of social contexts. Families are embedded in neighborhoods, so we show “neighborhood crime” as an example of a chronic neighborhood stressor, occurring at a higher level of social unit roughly equal to the issue of “downsizing” as an event workplace stressor. Disasters often occur at the community or regional level, and thus we show “Hurricane Katrina” as a discrete mesolevel stressor, albeit at a more distal mesolevel. Note the distinction between 9/11 and Hurricane Katrina is really a matter of degree, and depends entirely on whether the stressor *was defined* as a national threat.

By considering stress as a multilevel issue, we access the possibility of investigating the effects of the conjunction of stressors across levels (Aneshensel & Sucoff, 1996a; Wheaton & Clarke, 2003). This may be extremely important if we discover that the meaning, and therefore effects, of individual stressors are inherently dependent on contextual stressors at higher levels of social organization.

Since the Millennium

Since the last publication of this handbook in 1999, the world of stress research has been naturally affected by major sociopolitical events, the rise of social media, the instant global-level diffusion of local events, and our resulting increasing awareness of everything about everyone. To track how stress research may have been affected in the last decade, we conducted an online search of five databases in sociology and psychology to assess the trajectory of research on different types of stressors and to detect shifts in the relative prominence of different sources of stress in the stress universe. Our search used standard terms used in abstracts, and as many reasonable variants as necessary to be fair to each type of stress, to assess the number of articles each year that mentioned each of four types of stress—event, chronic, traumatic, and contextual—between 1981, the year the stress process model was published (Pearlin et al., 1981), and 2010, the last complete available year.

The results of this search are shown in two graphs, Figs. 15.4 and 15.5. Figure 15.4 shows the rate of publication of articles including a focus on life events (dashed line) and chronic stressors (solid line). Figure 15.4 is embedded in Fig. 15.5, which is on a different scale due to the massive increases in the study of traumatic stress in recent years. We include both so that we can focus first on the relative growth trajectory for event versus chronic stress—the details of which are lost in Fig. 15.5.

It is important to remember that at the starting year in Fig. 15.4, the assumption was that life events were the *sine qua non* of stress research, the operational embodiment of the concept. But the rise of research on chronic stress has matched the rise of research on life events since that time, though it is most often assumed that life events are studied more widely. Thus, the graph suggests that the stress

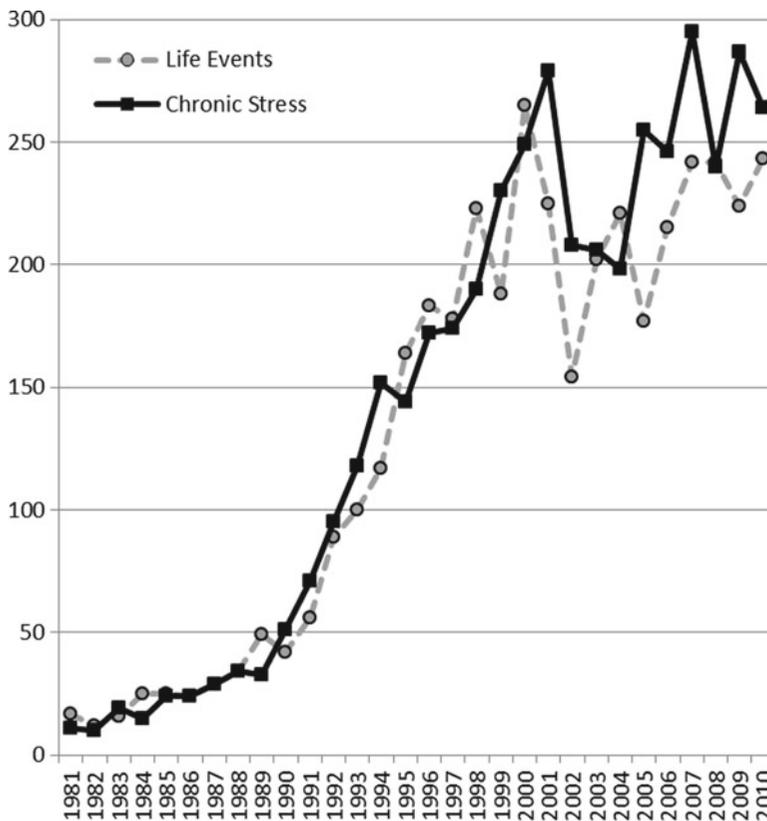


Fig. 15.4 Publications on life events and chronic stress, 1981–2010

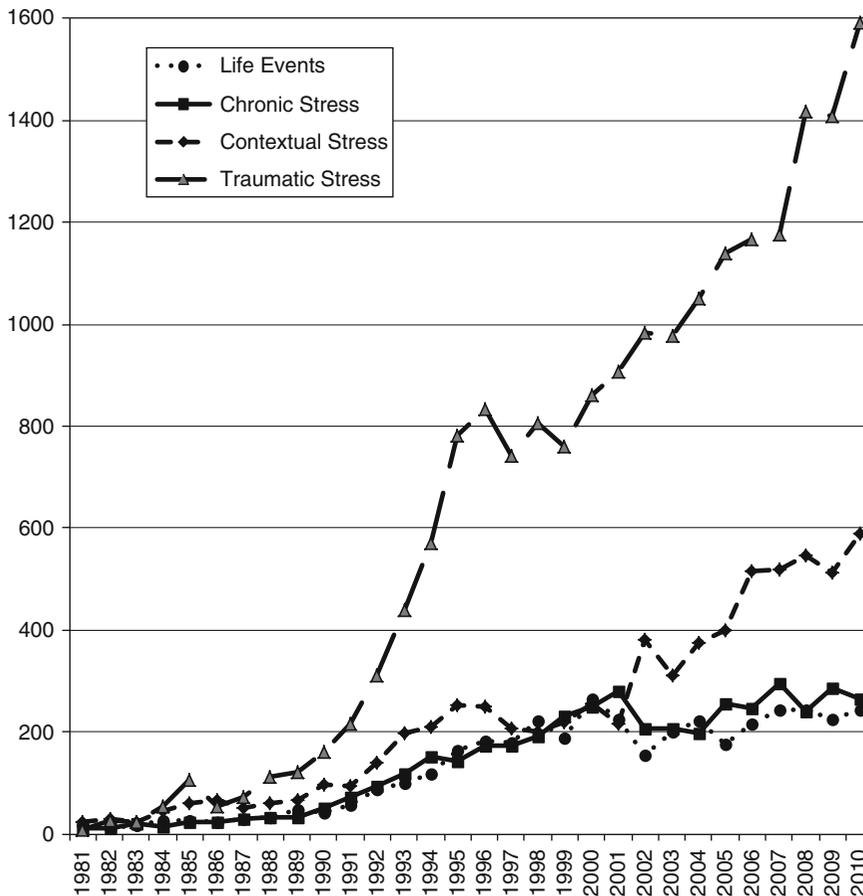


Fig. 15.5 Publications on four types of stressors, 1981–2010

process model had its impact—from that point forward, there was a coequal interest in life events and chronic ongoing forms of stress.

Note that the increase in published articles is particularly impressive in the 1990s, perhaps a reflection of the multiplicative nature of the diffusion of ideas through time. The rise of interest in both event and chronic forms of stress reflects what could be exemplified as a natural dialectic representing the concerns of psychiatric epidemiology focusing on stressors as a starting point in a disorder process, combined with the concerns emanating historically from sociology focusing on structure and stable sources of inequality.

A striking and pivotal feature of Fig. 15.4 is the decline in research on both life events and chronic stress in the years following 9/11. We interpret this as a shift in interest toward other sources of stress, signaled by the nature of 9/11, specifically, toward interest in contextual forms of stress and traumatic events (see Fig. 15.5). The decline in research on chronic stress and life events turned out to be temporary, but since that time, chronic stress has received slightly more attention than stressful life events in the literature. This may be due to the increasing awareness that stress can in fact be expressed as a chronic condition or situation that is not easily resolvable, just as it slowly became clear in the years after 9/11 that the resulting shift in the nature, location, and even definition of threat defined a new level of complexity and elusiveness of resolution.

Figure 15.5 combines the search involving event and chronic sources with two other types: traumatic and contextual stressors. Although all four sources of stress drew similar levels of attention

in the 1980s, this figure makes two things dramatically clear. First, traumatic stressors emerged as the dominant source of research on stress in the early 1990s, and after an uncertain period from 1995 to 2000, increased at a faster rate than any other form of stress after 2000, resulting in close to 1,600 articles a year published on traumatic stressors by 2010. Second, research on contextual stressors was on a similar trajectory to both event and chronic stressors at the individual level until 2001, but after 9/11, increased markedly throughout the decade, resulting in a rate of publication more than double the rate for either event or chronic stressors. Looking at the trends for all stressors, Fig. 15.5 also makes clear that stress is not a twentieth century “period” concept.

The clear increase in both contextual and traumatic stressors may have followed from a redirection of interest away from event and chronic stress after 9/11, and may reflect two crucial traits represented by 9/11 as a stressor: the macrolevel at which it occurred and its unprecedented qualities as a traumatic event.

We believe that these shifts may have important consequences for stress research in general. The impressive rise of stress research continues unabated, but it also means that more articles may be focusing on specific forms of stress rather than the stress process as an overarching framework. There is no evidence of this per se, especially since Wheaton (2010) showed that research on the stress process as a whole is still increasing. However, it is also clear that the total number of articles on stress per se outpaces articles on the stress process, and, thus, it is likely that more articles are returning to a focus on specific stressors in isolation of the accompanying process—if only out of necessity. If this is the case, we must raise the possibility that these strong and increasingly independent literatures are potentially returning to the kind of misspecifications that occurred in the 1970s, where leaving out a type of stress, or an array of coping resources, or the origins of stress, led to a misimpression of the interrelationships among stressors over time and to the array of possible consequences (Aneshensel et al., 1991). It is also the case that the study of specific stressors tends to separate the issue from the larger stress framework—9/11 is 9/11, not stress, and work-family conflict is a role-specific incompatibility, and not a chronic stressor, for example.

In the sections that follow, we consider further the recent interest in both traumatic and contextual stress and the directions of these literatures, but first, we consider the explicit use of stress as a concept. Is it necessary to invoke the term stress for research to be *about* stress? And if the word stress is not used, does this promote the development of parallel but functionally equivalent terms and ideas across literatures? The one type of stress that is most prone to this problem is chronic stress, because there are so many ways *not* to refer to this concept in studying persistent difficulties and “built-in” threatening situations at work, at home, or in social networks.

Chronic Stress in the Twenty-First Century

The direction of research on chronic stress over the past decade can be summarized by three points. First, many researchers have focused on the association between chronic stress and various coping mechanisms. For example, some have considered the role of positive emotions (Grote, Bledsoe, Larkin, Lemay, & Brown, 2007; Ong, Bergeman, & Bisconti, 2004), emotional disclosure (Schüler, Job, Fröhlich, & Brandstätter, 2009), and time-of-day (i.e., morning vs. diurnal) preference (Buschkens, Graham, & Cottrell, 2010) in attenuating the deleterious effects of stressors. Second, research has placed considerable attention on the association between chronic stressors and neurological functioning, sometimes confounding the two, and/or physical functioning. Outcomes considered include cardiovascular reactivity (Chatkoff, Maier, & Klein, 2010; Kaestner, Pearson, Keene, & Geronimus, 2009), neuroendocrine activation (Kunz-Ebrecht, Kirschbaum, & Steptoe, 2004), and physical capabilities in later life (Lee & Carr, 2007). The third trend focuses on inequalities in exposure and

vulnerability to chronic stressors in terms of a variety of sources, such as neighborhood context (Hill, Ross, & Angel, 2005; Wheaton & Clarke, 2003), racial discrimination (Taylor & Turner, 2002), gender (McDonough & Walters, 2001), and socioeconomic status (Mossakowski, 2008).

Importantly, very few of the articles published in the last decade draw upon stress process theory or its associated language. Approximately seven of the ~30 articles reviewed explicitly discuss the stress process model (including Hill et al., 2005; Taylor & Turner, 2002; Turner & Turner, 2005; Wheaton & Clarke, 2003). Others allude to specific terms in this model (Grote et al., 2007; House, 2002; Lee & Carr, 2007), or stress theory more generally (Kunz-Ebrecht et al., 2004; Ong et al., 2004), but not the overall framework. At the same time, chronic stress is usually not considered in isolation: most of the articles we reviewed consider chronic stressors in addition to other life-changing or traumatic events, or potential coping mechanisms, and a few consider the combined role of chronic stress with contextual stressors (Hill et al., 2005; Wheaton & Clarke, 2003).

The measurement of chronic stressors also varied considerably. Among those who measured “general chronic stress,” some used Cohen, Kamarck, and Mermelstein’s (1983) Perceived Stress Scale (PSS) (see Buschkens et al., 2010; Ong et al., 2004), Schulz, Schlotz, and Becker’s (2004) Trier Inventory of Chronic Stress (see Kromm, Gadinger, & Schneider, 2010, for a review), and Wheaton’s Chronic Stress scale (Turner & Turner, 2005; also House, 2002, mentions this in his overview). Single-item indicators of chronic stress were also used, including chronic poverty and unemployment (Mossakowski, 2008), work demands (Kunz-Ebrecht et al., 2004), and care-giving (Buschkens et al., 2010; Lee & Carr, 2007). The variability in these measures is important. Some measures refer to objectively verifiable life conditions. Other measures emphasize perception heavily and thus come close to actually measuring the outcome of stress, rather than the stressors themselves. For example, the PSS includes items such as “In the last month, how often have you felt nervous and ‘stressed’?” or “In the last month, how often have you felt confident about your ability to handle your personal problems?” This is not actually a measure of exposure to stress per se, as much as a measure of possible exposure *plus* the already observed impact of stress, in other words, distress. And the sources of stress are unspecified—the measure tells us nothing about stressors. In general, chronic stress will have an evaluative component, but the specific sources of the stress still need to be specified.

Stress in Other Words

Figures 15.4 and 15.5 suggest that chronic stress has been a somewhat hidden component of the stress universe over time—it is as prevalent an issue in research as life events, if not more so, but it does not yield the specific attention given to contextual stress or traumatic stress. To a certain extent, chronic stress is the invisible glue of the stress process: it nicely describes the stressful situations that proceed from the sudden onset of major life events that are not resolved, it allows for the notion of insidious threats or slowly increasing burden that become institutionalized without requiring “event” thinking or phenomenology, and it suggests a method for framing and, therefore, understanding the “meaning” of stressful events when they occur (Wheaton, 1990). But it is exactly the elusiveness of chronic stress and its continuous character that prevents it from predominating more clearly in the world of stress research. Despite this, some have demonstrated that it tends to have the largest impacts on various stress outcomes (Turner, Wheaton, & Lloyd, 1995; Wheaton & Montazer, 2010).

Chronic stress might have a much more ubiquitous presence in the study of stress if we stop requiring use of the word “stress” as a descriptor. In fact, there is wide interest in the *implicit* study of stress in related literatures, which exist independently of stress research but articulate most of the meanings of stress. If we enlarge the stress universe to include the implicit study of stress, that is, “stress in other words,” we would have a much more inclusive stress universe, one that looks quite different from the current explicit stress universe.

Work-Family Conflict

Clearly, the concept of work-family conflict is at the center of a large and growing literature, and it is an increasing focus of media commentary in an age of technological diffusion of work into family time. Extensive research documents the deleterious health outcomes of both work-to-family and family-to-work conflict (Allen, Herst, Bruck, & Sutton, 2000; see Bellavia & Frone, 2005, for a review; Glavin, Schieman, & Reid, 2011). Work-to-family and family-to-work conflicts have been broadly defined by scholars as some combination of time-based, strain-based, or behavioral-based conflict across work and family role sets (Greenhaus & Beutell, 1985). In both variants, there is a clear indication that work-family conflict is an ideal example of a chronic stressor—it typically begins due to the progressive diffusion of responsibilities or expectations in one or both domains over time, it becomes stressful when it exceeds a given elastic limit of typical demand for the individual, and it is enacted and reenacted by the built-in definitions of the role responsibilities in each domain.

Because work-family conflict is typically a persistent reality in people's lives, and it is structured by the nature of role commitments, one *could* legitimately refer to it as a chronic stressor and thereby gain access to the stress literature as a reference point. Young and Wheaton (2011) argue that the current theories framing the work-family conflict literature—such as “demands-resource” models and “border/boundary theories” (Clark, 2000; Nippert-Eng, 1996)—are often limited in scope because they cite the same definitional components as used in the stress process literature but do not take advantage of the existing canon on how stressors are defined, produced, and managed. For example, Wheaton's (1999) prior definitions of chronic stress make clear that it does have both objective and subjective referents, that is, it refers to the coexistence of an objective condition and the subjective evaluation of threat or demand. Given this distinction, for example, we can begin to theorize work-family conflict as including a subjective component, over and above actual levels of demands and conflict across roles, whereas the literature focuses on it as an objective reality only (see Hochschild & Machung, 1989; Nippert-Eng, 1996, for exceptions).

In addition, by defining work-family conflict explicitly as a chronic stressor, we enfranchise a considerable literature on coping with chronic stress. This literature goes beyond the consideration of objective resources involved in the coping process, and includes emotional social support and persistent beliefs in mastery. We also become more interested, through attention to the stress process, in the origins of work-family conflict in other stressors and the social positions of individuals experiencing work-family conflict.

Discrimination

The concept of discrimination represents a transitional example of stress “in other words”: it has been the focus of independent literatures on gender, race/ethnicity, and work, for example, but it also has become more explicitly embedded in the stress literature in recent years, especially with regard to the health consequences of discrimination (Taylor & Turner, 2002; Mossakowski, 2008; Williams, Neighbors, & Jackson, 2003). While work on discrimination does vary widely in its incorporation and application of stress concepts, it is clear that a basic theoretical framework for arguing health consequences proceeds from considering a stress framework. The emphasis in this literature is on the experience of *perceived* discrimination, which hypothetically can occur both as an event and as a chronic reality. In fact, the emphasis is on discrimination as a chronic stressor, either as a continuing *possibility* in daily experience or as an endemic structural reality. Although discrimination events are often cited, these events are not random, and may be better conceptualized as the manifest surface of an underlying continuing presence and, therefore, expectation.

What is the gain from the link between discrimination and the experience of stress? Research now emphasizes the specificity of dealing with chronic stress via *stable* resources in coping. This could mean, for example, the individual's role situation, or the in-place social network. The issue here is a

phenomenological matching of how the stressor occurs and the kind of coping that has a chance of success: continuous sources of stress suggest the importance of immediately accessible and stable sources of coping (Williams et al., 2003).

Electronic Connectedness

There is growing interest in the possibility that electronic connectedness has the potential to be stressful. There is more popular commentary on this point than actual research, but at least one study (Sachoff, 2011) found that “Facebook stress” exists under some circumstances. An article by Hair, Ramsay, and Renaud (2008) considers the association between ubiquitous connectivity and work-related stress. Theorizing about the potentially stressful effects of connectedness is more common (Kraut et al., 1998), and in the reasoning used we see some of the standard characteristics of chronic stress. First, we see speculation about the lack of control over privacy and the unintended spread of personal information. The issue here is less about giving permissions to others to access your personal information as it is having access to too much information *about* others. Goffman (1959) pointed out long ago that social life requires a distinction between “front stage” and “back stage.” The consequences of the absence of a back stage may be the viral communication of stress, where one person’s stress becomes another’s. Second, the structure of connectedness puts pressure on relationships, pressures that ride through cycles of ins and outs with various others in an electronic social network, and reflect exposures to rejection, disloyalty, and lying in others that otherwise would not occur. For example, one website cites a law firm study of over 5,000 divorce cases, which claims that 20% of all current divorce cases cite Facebook as an issue (Lawyers.com, 2011). Third, there is the issue of work-to-family spillover as indicated by constant dependence on and availability to the modern-day Blackberry®—or its equivalent. The spread of anytime/anyplace work demands multiplies the instances of conflict across roles, and the root stressor here is connectedness. If one is captive to this problem, it is also very difficult to resolve, since it is defined by the nature of one’s job.

There are at least three potential benefits here of an explicit link between the study of technological change and stress. First, by defining electronic connectedness as a potential chronic stressor, researchers can consider the role of technology as a continuous stressor that may exacerbate the effects of other stressors, such as work pressures or interpersonal conflict (Hair et al., 2008). Second, such a definition speaks to the conceptualization of technological advances in communication as a “double-edged sword”: while considered a “stressor” for some, it may function as a “resource” for others (contingent upon age and work-defined communication expectations, for example). Third, the language of stress helps us understand how technology also impacts individuals at a *macro* level, where additional pressure is placed on individuals because of the sheer volume of information, or excessive opportunities for social communication (i.e., Facebook, Twitter, e-mail, texting, etc.).

These three examples of stress “in other words” suggest many more examples are possible, but the basic point is clear. Explicit embeddedness in a stress framework gives access to a readily available explanation for consequences, provides a model for thinking about contingencies that determine differential vulnerability and the shaping of meaning due to coexisting or prior stress exposures, and promotes an interest in the social distribution of exposures.

Contextual Stress: The Stress World Moves with the Larger World

We have presented some speculative evidence that research on stress after 9/11 shifted generally toward more macro forms of stress and more severe forms of stress experience. The events of 9/11 can be considered as a “sensitizing” historical event, one which drew our attention to new possibilities and unanticipated sources of threat.

Compared to the earlier work on economic downturns, recent research on contextual stress has focused more on natural and man-made disasters and mass violence. This is likely due to the density of macroevents of this type over the last 15 years. Recent studies focus on *natural disasters*, such as Hurricane Katrina (e.g., DeSalvo et al., 2007; Glass, Flory, Hankin, Kloos, & Turecki, 2009; Kessler et al., 2008; Pina et al., 2008), Hurricane Gustav (Harville et al., 2011), and the 2004 Tsunami in Southern Thailand (e.g., Thienkrua et al., 2006) and India (e.g., Kumar et al., 2007). Research on “unnatural disasters” has focused on failures of technology, including the Chernobyl disaster (Havenaar et al., 1996) and mass violence—such as the Oklahoma City Bombings (North et al., 1999), school shootings (Fallahi & Lesik, 2009), and of course, 9/11 (e.g., DiGrande, Neria, Brackbill, Pulliam, & Galea, 2011; Galea, Ahern, Resnick, & Vlahov, 2006; Knudsen, Roman, Johnson, & Ducharme, 2005; Richman, Cloninger, & Rospenda, 2008; Silver, Holman, McIntosh, Poulin, & Gil-Rivas, 2011; Silver et al., 2006).

Because we are still learning what we can learn from these events, there are many opportunities in this research to expand what we know about stress processes. Much of this research is focused on the amelioration of the consequences of these events. For example, Silver et al. (2006) note that to fully understand how macro-traumatic events affect human functioning, it is important “to consider the unique roles of individual differences (e.g., coping responses, previous experience with trauma), and social interactions (e.g., social constraints, conflict, social support) in mediating the relations between specific events and subsequent outcomes” (p. 65). However, just as often, studies that examine the effect of a contextual stressor on a given population treat the contextual stressor as if it would have the same effect on all individuals involved (e.g., Kessler et al., 2008; Knudsen et al., 2005; Kumar et al., 2007). The most consistent component of the stress process present in the majority of studies is the proliferation of stress—as measured by stressors caused by the macroevent (Pearlin, Aneshensel, & LeBlanc, 1997). In general, mental health outcomes are worse among those individuals exposed to secondary stressors caused by the contextual event, such as death of a loved one due to the event, injury due to the event, or loss of livelihood. Indeed, according to Norris (2006), persistent disaster specific psychopathology appears to be rare in absence of severe, *personal* trauma or loss.

What is most often missing in this literature is the influence of life course patterns and exposures on the meaning and therefore impact of a macroevent (Wheaton & Montazer, 2010). This issue is beginning to surface in the most recent studies which consider the role of coping resources and pre-event factors on the relationship between the contextual stressor and mental health outcomes (e.g., Galea et al., 2006; Glass et al., 2009; Harville et al., 2011; Silver et al., 2006, 2011). While traumatic event stressors experienced prior to a contextual event are associated with a higher likelihood of mental health problems (see e.g., Galea et al., 2006; Silver et al., 2006), support mechanisms such as extra-familial support (Pina et al., 2008) and social support (Galea et al., 2006) are protective. These findings suggest that the stress process model *is* both useful and relevant in understanding the impacts of macroevents.

We do not want to imply that most of the research on contextual stress focuses only on macroevents. Research on neighborhood, school, and workplaces at the mesolevel all point to the ubiquitous importance of contextual stress beyond what is experienced individually. Research on neighborhoods is still an expanding topic, based on expectations of the importance of structural disadvantage (Schieman, Pearlin, & Meersman, 2006; Hill et al., 2005; Latkin & Curry, 2003; Ross & Mirowsky, 2001; Boardman, Finch, Ellison, Williams, & Jackson, 2001) but also resource differences (O’Campo, Xue, Wang, & Caughy, 1997) and compositional features, which imply differences in the availability of coping resources in the face of individual-level stressors (Young & Wheaton, 2011).

Traumatic Stressors: History and the Expansion of the Stress Universe

Attention to a form of stress begets more attention. Figure 15.5 makes clear that traumatic stressors now draw the most attention in the stress universe. There are multiple reasons for this attention. The

increase in publications focusing on traumas is especially notable after 1990, and after a plateau, doubles in the years after 9/11. Given the plateau, and the timing, it is likely that there are different explanations for the trend seen in the 1990s versus the trend seen in the 2000s.

Prior to the millennium, three historically related trends should be mentioned. First, there already was a strong focus on this type of stress in the psychiatric literature in the 1980s. Second, the idea that many disorders may have an early age of first onset was suggested by community and national epidemiological studies in the 1980s and 1990s (Robins et al., 1984; Kessler et al., 1994) and thus redirected attention to the early stages of life and the importance of childhood and adolescent experience. Third, the development and importance of the life course perspective in sociology (Elder, George, & Shanahan, 1996) made possible a specifically sociological perspective in explaining linked events in lives without reference necessarily to psychodynamic and/or developmental approaches in psychology. In sum, the prevalent foci in stress research on *current and/or recent* stressors proved both to be unnecessary and misleading, especially considering the fact that more remote traumatic stressors are likely to have indirect effects on mental health through the change in risk of more recent stressors (Kessler & Magee, 1994; Wheaton, 1994). An important consequence of this approach is a concern with stress “starting points” in the long-term devolution of functioning.

The issues raised by 9/11 likely added to the attention given to traumatic events in particular, as this was a sudden and unprecedented event that was traumatizing in part because it challenged fundamental American beliefs and assumptions—in other words, challenged the core of American identity. In addition, the series of macroevents starting at the time of Chernobyl and continuing recently with Virginia Tech, tsunamis leading to a myriad of secondary stressors, mass shootings of children in Norway, and the *density* in the rate of these macroevents over the last 15 years, draws our attention collectively to catastrophic and traumatic change in people’s lives. There is a sense that all of this misfortune acts like an advertisement for the power of stressful experience—but also for resilience.

Public discourse and political interest groups also factor into attention paid to specific forms of traumatic stress, such as sexual abuse or domestic violence involving children. Where social movements create pressure for further research, it is often based on the assumption that the prevalence of the problem is underestimated (Koss, 1992), and that there is more widespread victimization than was previously assumed. This often leads to expansions of the operational concepts involved in the measurement of traumatic stress, higher prevalence, and—up to a point—greater public concern directed at the problem (Wheaton, 2010). Together, these separate inputs may have each added to the specific attention given to traumatic stressors in recent years.

Research over the last 10 years tends to focus on the obvious candidates—sexual abuse (Ullman, Najdowski, & Filipas, 2009), terrorist attacks (Braun-Lewensohn, Celestin-Westreich, Celestin, Verté, & Ponjaert-Kristoffersen, 2009; Chemtob, Nomura, Josephson, Adams, & Sederer, 2009; Southwick & Charney, 2004), domestic violence (Brown, Hill, & Lambert 2005; Graham-Bermann, Howell, Miller, Kwek, & Lilly, 2010), and living in a war zone (Elbert et al., 2009; Overland, 2011). This diverse list shares two crucial characteristics—the magnitude of the threat faced and the difficulty of resolving the threat. What is clear in recent studies is a very epidemiological focus, with attention to PTSD as the primary outcome. A minority of studies do consider other outcomes, especially depression (O’Donnell, Creamer, & Pattison, 2004). Another minority of studies considers how coping with resources matter in dealing with traumatic events, but not ongoing traumatic situations (McNally, 2003; Hyman, Gold, & Cott, 2003). Still, the focus on individual forms of trauma results in even less attention to the role of adjunct or prior stressors, or stress proliferation through lives (with Ullman et al., 2009 as an exception). Ironically, it is the very strength and independence of the different trauma literatures that has led to the development of parallel literatures with little horizontal referencing or influence.

The Interdependence of Multiple Stressors

One of the ironies of the successes of the stress literature, and its growth and differentiation, is the accompanying difficulty in maintaining the “big picture.” Studying stressors one-by-one has its benefits, for example, the seeming clarity afforded by the specificity of the case. But it has its costs as well. If the joint impact of different types of stressors is omitted when research is focusing on individual stressors, then all sorts of opportunities for misspecification and misleading findings can run through these literatures. If, for example, attendant chronic stressors multiply the impact of sexual trauma, then the true level of risk is underestimated in a significant portion of the population. If a history of unrelated traumas still provides generalized training for dealing with later very difficult situations, then we also miss the fact that for some portion of the population, these later-life traumas are not as problematic or threatening as we assume. If we start with the stressor as the focal issue, but leave out the social epidemiology of that stressor and thus its social origins, we either imply a randomness in the occurrence of the stressor (wrongly) or we imply individual characterological rather than social origins. In other words, we abandon some of the core lessons of the stress process perspective.

Conclusions

This chapter makes clear that the world of stress research is still flourishing and growing more than a quarter century after the publication of *The Stress Process* (Pearlin et al., 1981), more than 40 years after the publication of the Holmes-Rahe Life Events scale (1967), and more than a half century beyond the Midtown Manhattan study (Langner & Michael, 1963). With this success, we also see potential problems because of the growing independence of the study of different sources of stress. And yet, we know there are multiple demonstrations in the literature that the assessment of the total impact of stress depends on the simultaneous consideration of multiple key sources of stress, and over significant periods of time in lives.

The growth of stress research also means that it has become an almost ritual explanation of an array of problems, often invoked when other explanations fail and at the same time inviting criticism about its status as a residual explanation (Wheaton, 1996). We include a discussion of “stress in other words” to indicate that the discussion of stress concepts extends in a number of directions beyond the original stress literature per se, but, unfortunately, does not always make use of that literature. Stress is neither ubiquitous nor rare; it is usually the experience of a minority, but nevertheless a sizable minority. Despite the seemingly universal self-labeling of lives as stressful, that viewpoint actually fails to see stress as important and specific—and, therefore, resolvable.

Still Needed: The Road to Biological Pathways

Little has been said in this chapter about the rising recent interest in connecting exposures to social stress to ensuing biological responses, both short term and long term. The issue here is the biological processes precipitated by real-world exposures in naturalistic settings, not controlled laboratory conditions. The issue of *causation* here is a subtle source of noise across literatures. If the biological response is evidence of stress, and a necessary condition of its occurrence, then we have less interest in the source of stress. As Selye (1956) pointed out, stress thus becomes anything that leads to that response.

If we allow that indirect causation *is* causation—as is the case with most forms of social causation of illness—then we still need to specify the linkages and conditions between exposures to specific and aggregate configurations of stressors and biological responses. This work is in fact a welcome and growing focus, but primarily as an *explanation* of how social stress may work, and not to replace its role with a later biological link in the chain. As noted earlier, we need to remember that habituation and sublimation, each of which may signal the absence of a biological response, do not imply the absence of impact on health in the long run.

Recent Directions, Future Directions

In the 1999 version of this chapter, five themes were identified as recent directions in stress research. These were: (1) *contextual specification* of stressfulness of events and chronic conditions; (2) *life course approaches* to the linkages, sequencing, and timing of stress and coping over lives; (3) *disaggregation* of stressors and the study of interdependence across stress domains; (4) study of the *social origins* of stress; and (5) concern with the complete specification of the *multiple outcomes* of stress.

If we now reassess what has evolved since the millennium in the study of stress, we note that much of what was noted in 1999 has continued and expanded—but with shifts in emphasis. The study of multiple outcomes has become a standard expectation in stress research, but the substantive foci of stress consequences has now grown far beyond health or mental health concerns (Aneshensel, 1996), including lifetime achievements, role functioning, and role exits and entries (Clarke & Wheaton, 2005; Wheaton, 2010).

And it is clear that the expansion of the contextual specification of stress has also continued as expected. The current state of the art allows for various approaches, but the emerging emphasis is on the joint impacts of individual-level stressors and contexts measured separately, usually involving the hypothesis that social context modifies the impact of specific individual-level stressors.

What was not necessarily anticipated in 1999 was the degree to which the disaggregation of stressors into individual cases would emerge as the dominant approach. This has important implications for understanding the overall state of the stress process. Wheaton (1999) notes that “the primary problem with focusing on individual stressors is the tendency to see the stressor as presumptively unique, and treat it as if it is operating in a social vacuum” (p. 294). The additional growth of literatures that amount to “stress in other words” suggests further fracturing of the stress literature. Even though the study of work-family conflict reflects a connection between work and family stress, ironically, this literature exists separately of literatures on work stress, marital stress, and domestic burden per se. The fact is that the effects of stressors in each role depend crucially on the state of stressors in the other role, as has been made clear in a series of studies reported in Eckenrode and Gore (1990).

On the other hand, what has *not* developed as much as expected is the application of the life course framework to the study of stress and the continued expansion of the focus on social origins. Each of these issues is still prominent in stress research, but what has grown in particular are articles that do *not* incorporate life course or origin issues. This is unfortunate because the life course perspective has played a central role in expanding the timeframes for stress impacts across stages of life. It is important to remember that the historical frame for this role is the earlier findings suggesting that only recent or current event stressors were relevant in predicting current mental health (Dohrenwend & Dohrenwend, 1969; Eaton, 1978).

The life course approach can be thought of as informing the issue of contextual specification. The pattern of past stress exposures, and their timing and sequencing, tell us how much current stressors even matter as stressors. If we leave out the past in stress research, we risk rendering some current stressors as equally problematic to all, when they are not. Wheaton (1990) argues that role histories in general will lead to contrasting implications of life changes and transitions—sometimes leading to

negative downturns in mental health, because a beneficial role is lost, and other times leading to improvements in mental health, because of escape from a stressful situation. Thus, even issues such as “divorce” or “job loss” cannot be defined as stressful without reference to life history.

If there is a relative loss of attention given to social origins, it may be due to the corresponding rise in importance of traumatic and contextual stressors. In many cases, contextual stressors have causes that are more difficult to specify and assess, and the focus is often on the reduction of widespread damage more than how they happened. Similarly, traumatic events often direct attention to consequences rather than causes, because of the severity of the presumed impact. And yet, it is important to trace the origins of even traumatic stressors, perhaps especially traumatic stressors. We know across a number of literatures that there are patterns to the risk of abuse and violence, but the focus tends to be on proximal, rather than distal causation. There is still much to be done to locate the origins of risk for traumatic events in various forms of social inequality. Gender looms large in many (but not all) of these issues, and the feminist literature gives us plenty of leads that need to be incorporated into stress research—such as studies of the risk factors for perpetration of sexual abuse (Koss, 1988, 1992)—but we have not yet systematically incorporated these leads into our research beyond the broadest patterns (Turner & Lloyd, 1995).

Final Thoughts

At this point, we might ask these questions: Has the concept of stress become so differentiated that the boundaries do not matter? Is there still a reason to invoke stress explicitly and to embed this concept in the larger stress process?

The fact is that even if we choose not to use the term “stress” for what we study, we continue to be interested in things that are *stressful*. As such, we will want to preselect things to focus on as possible stressors. Guidance in this, and a conceptual framework, surely help in avoiding confusion about the roles of variables in an overall model for health—or anything we try to understand as a consequence of stress. Considerable confusion in the *measurement* of stress proceeds from confusion about the *concept* of stress. If we believe that stress is a biological response, for example, we will develop scales to measure this response, but the stressors involved will remain invisible.

A fundamental mistake is made when we try to decide a priori whether a stressor is actually stressful. We want to measure the context and coping capacities that are brought to bear on the stressor of interest and thus *discover* whether it is stressful. Ideally, stress should be measured as a continuous variable, thus avoiding categorical representations of stress that in turn require the imposition of a threshold to define “presence.” The idea that we should impose or predefine a threshold of stressfulness has led to problems and confusion in the stress literature. The important point is not to presume, but to find out. Thus, it is essential that we give more attention to the elements of context and coping that in sum define the current stress potential of an event or chronically stressful situation.

We suggest three other reasons why it may be advisable to retain the term “stress.” First, there are important advantages of working from a conceptual framework such as the stress process. One of the most important is that the potential roles of variables in an overall explanation are made clear by a conceptual framework. Furthermore, the articulation of outstanding issues depends on these explicit conceptual roles. Second, the attempt to differentiate stress concepts while retaining the overarching notion of a stress domain allows us to investigate the interrelationships among stressors, either in terms of stress proliferation, stress containment, or desensitization or sensitization processes describing the combination of effects of particular sequences of stressors. Third, avoidance of the term stress as a “place holder” for the various concepts used in this chapter will have the unintended secondary consequence of delegitimizing socio-environmental explanations of mental health. This is because issues that are now clearly representative of the social causation argument in the stress model become

less clearly articulated as alternatives to biological or genetic causation. It is actually fortunate, for example, that some stressors are truly random, or cannot possibly be anticipated or predicted, because it provides an elegant argument for social causation that cannot be easily understood as the unfolding of biological or genetic givens. In other words, social stress remains one of the most important alternative hypotheses to biological models of mental disorders.

Daunting life changes, chronic intractable problems, those irritating hassles tomorrow, the construction of a “big box” chain store in your neighborhood, the drop in the worth of your dollar, not getting that job you wanted, your community losing jobs, the loss of union rights in public professions at the state level, the threat of violence when you get home tonight—they are all *stressors*.

References

- Allen, T. D., Herst, D. E., Bruck, C. S., & Sutton, M. (2000). Consequences associated with work-to-family conflict: A review and agenda for future research. *Journal of Occupational Health Psychology, 5*, 278–308.
- American Psychiatric Association. (1987). *Diagnostic and statistical manual of mental disorders* (3rd ed., text rev.). Washington, DC: Author.
- American Psychiatric Association. (2000). *Diagnostic and statistical manual of mental disorders* (4th ed., text rev.). Washington, DC: Author.
- Aneshensel, C. S. (1996). The consequences of psychosocial stress: The universe of stress outcomes. In H. B. Kaplan (Ed.), *Psychosocial stress: Perspectives on structure, theory, life-course, and methods* (pp. 111–136). New York: Academic.
- Aneshensel, C. S., Rutter, C. M., & Lachenbruch, P. A. (1991). Social structure, stress, and mental health: Competing conceptual and analytic models. *American Sociological Review, 56*, 166–178.
- Aneshensel, C. S., & Sucoff, C. A. (1996a). The neighborhood context of adolescent mental health. *Journal of Health and Social Behavior, 37*, 293–310.
- Aneshensel, C. S., & Sucoff, C. A. (1996b, August). *Macro and micro influences in the stress process*. Paper presented at the American Sociological Association meeting, New York.
- Bellavia, G. M., & Frone, M. R. (2005). Work-family conflict. In J. Barling, E. K. Kelloway, & M. R. Frone (Eds.), *Handbook of work stress* (pp. 113–148). Thousand Oaks, CA: Sage.
- Boardman, J. D., Finch, B. K., Ellison, C. G., Williams, D. R., & Jackson, J. S. (2001). Neighborhood disadvantage, stress, and drug use among adults. *Journal of Health and Social Behavior, 42*, 151–165.
- Braun-Lewensohn, O., Celestin-Westreich, S., Celestin, L.-P., Verté, D., & Ponjaert-Kristoffersen, I. (2009). Adolescents' mental health outcomes according to different types of exposure to ongoing terror attacks. *Journal of Youth and Adolescence, 38*, 850–862.
- Brenner, M. H. (1973). *Mental illness and the economy*. Cambridge, MA: Harvard University Press.
- Brown, G. W., & Harris, T. (1978). *Social origins of depression: A study of psychiatric disorder in women*. New York: Free Press.
- Brown, G. W., Harris, T., & Bifulco, A. (1986). Long-term effects of early loss of parent. In M. Rutter, G. E. Izard, & P. B. Read (Eds.), *Depression in young people: Developmental and clinical perspectives* (pp. 251–296). New York: Guilford Press.
- Brown, J. R., Hill, H. M., & Lambert, S. F. (2005). Traumatic stress symptoms in women exposed to community and partner violence. *Journal of Interpersonal Violence, 20*, 1478–1494.
- Bryer, J. B., Nelson, B. A., Miller, J. B., & Krol, P. A. (1987). Childhood sexual and physical abuse as factors in adult psychiatric illness. *The American Journal of Psychiatry, 144*, 1426–1430.
- Burnam, M. A., Stein, J. A., Golding, J. M., Siegel, J. M., Sorenson, S. B., Forsythe, A. B., et al. (1988). Sexual assault and mental disorders in a community population. *Journal of Consulting and Clinical Psychology, 56*, 843–850.
- Buschkens, J., Graham, D., & Cottrell, D. (2010). Well-being under chronic stress: Is morningness an advantage? *Stress and Health, 26*, 330–340.
- Chatkoff, D. K., Maier, K. J., & Klein, C. (2010). Nonlinear associations between chronic stress and cardiovascular reactivity and recovery. *International Journal of Psychophysiology, 77*, 150–156.
- Chemtob, C. M., Nomura, Y., Josephson, L., Adams, R. E., & Sederer, L. (2009). Substance use and functional impairment among adolescents directly exposed to the 2001 World Trade Center Attacks. *Disasters, 33*, 337–352.
- Clark, S. C. (2000). Work/family border theory: A new theory of work/family balance. *Human Relations, 53*, 747–770.

- Clarke, P., & Wheaton, B. (2005). Mapping social context on mental health trajectories through adulthood. In R. Macmillan (Ed.), *Advances in life course research: The structure of the life course: Standardized? Individualized? Differentiated?* (Vol. 9, pp. 269–302). New York: Elsevier.
- Cohen, S., Kamarck, T., & Mermelstein, R. (1983). A global measure of perceived stress. *Journal of Health and Social Behavior, 24*, 385–396.
- DeSalvo, K. B., Hyre, A. D., Ompad, D. C., Menke, A., Tynes, L. L., & Muntner, P. (2007). Symptoms of posttraumatic stress disorder in a New Orleans workforce following hurricane Katrina. *Journal of Urban Health, 84*, 142–152.
- DiGrande, L., Neria, Y., Brackbill, R. M., Pulliam, P., & Galea, S. (2011). Long-term posttraumatic stress symptoms among 3,271 civilian survivors of the September 11, 2001, terrorist attacks on the world trade center. *American Journal of Epidemiology, 173*, 271–281.
- Dohrenwend, B. S., Askenasy, A. R., Krasnoff, L., & Dohrenwend, B. P. (1978). Exemplification of a method for scaling life events: The PERI Life Events Scale. *Journal of Health and Social Behavior, 19*, 205–229.
- Dohrenwend, B. P., & Dohrenwend, B. S. (1969). *Social status and psychological disorder: A causal inquiry*. New York: Wiley.
- Dohrenwend, B. S., Dohrenwend, B. P., Dodson, M., & Shrout, P. E. (1984). Symptoms, hassles, social supports, and life events: Problem of confounded measures. *Journal of Abnormal Psychology, 93*, 222–230.
- Dooley, D., & Catalano, R. (1984). Why the economy predicts help-seeking: A test of competing explanations. *Journal of Health and Social Behavior, 25*, 160–176.
- Eaton, W. W. (1978). Life events, social supports, and psychiatric symptoms: A re-analysis of the New Haven data. *Journal of Health and Social Behavior, 19*, 230–234.
- Eckenrode, J., & Gore, S. (Eds.). (1990). *Stress between work and family*. New York: Plenum Press.
- Elbert, T., Schauer, M., Schauer, E., Huschka, B., Hirth, M., & Neuner, F. (2009). Trauma-related impairment in children—A survey in Sri Lankan provinces affected by armed conflict. *Child Abuse & Neglect, 33*, 238–246.
- Elder, G. H., Jr., George, L. K., & Shanahan, M. J. (1996). Psychosocial stress over the life course. In H. B. Kaplan (Ed.), *Psychosocial stress: Perspectives on structure, theory, life-course, and methods* (pp. 247–292). New York: Academic.
- Erickson, K. T. (1976). Disaster at Buffalo Creek. Loss of community at Buffalo Creek. *American Journal of Psychiatry, 133*, 302–305.
- Fallahi, C. R., & Lesik, S. A. (2009). The effects of vicarious exposure to the recent massacre at Virginia Tech. *Psychological Trauma: Theory, Research, Practice, and Policy, 1*, 220–230.
- Galea, S., Ahern, J., Resnick, H., & Vlahov, D. (2006). Post-traumatic stress symptoms in the general population after a disaster: Implications for public health. In Y. Neria, R. Gross, R. Marshall, & E. Susser (Eds.), *9/11: Mental health in the wake of terrorist attacks* (pp. 19–44). New York: Cambridge University Press.
- Gelles, R. J., & Conte, J. R. (1990). Domestic violence and sexual abuse of children: A review of research in the eighties. *Journal of Marriage and the Family, 52*, 1045–1058.
- Gersten, J. C., Langner, T. S., Eisenberg, J. G., & Orzeck, L. (1974). Child behavior and life events: Undesirable change or change per se? In B. S. Dohrenwend & B. P. Dohrenwend (Eds.), *Stressful life events: Their nature and effects* (pp. 159–170). New York: Wiley.
- Glass, K., Flory, K., Hankin, B. L., Kloos, B., & Turecki, G. (2009). Are coping strategies, social support, and hope associated with psychological distress among Hurricane Katrina Survivors? *Journal of Social and Clinical Psychology, 28*, 779–795.
- Glavin, P., Schieman, S., & Reid, S. (2011). Boundary-spanning work demands and their consequences for guilt and psychological distress. *Journal of Health and Social Behavior, 52*, 43–57.
- Goffman, E. (1959). *The presentation of self in everyday life*. New York: Doubleday Anchor Books.
- Graham-Bermann, S. A., Howell, K. H., Miller, L. E., Kwek, J., & Lilly, M. M. (2010). Traumatic events and maternal education as predictors of verbal ability for preschool children exposed to intimate partner violence (IPV). *Journal of Family Violence, 25*, 383–392.
- Greenhaus, J. H., & Beutell, N. J. (1985). Sources of conflict between work and family roles. *The Academy of Management Review, 10*, 76–88.
- Grote, N. K., Bledsoe, S. E., Larkin, J., Lemay, E. P., Jr., & Brown, C. (2007). Stress exposure and depression in disadvantaged women: The protective effects of optimism and perceived control. *Social Work Research, 31*, 19–33.
- Hair, M., Ramsay, J., & Renaud, K. (2008). Ubiquitous connectivity and work-related stress. In P. Zemliansky & K. St. Amant (Eds.), *Handbook of research on virtual workplaces and the new nature of business practices* (pp. 167–182). Hershey, PA: Information Science Reference.
- Harville, E. W., Xiong, X., Smith, B. W., Pridjian, G., Elkind-Hirsch, K., & Buekens, P. (2011). Combined effects of hurricane Katrina and hurricane Gustav on the mental health of mothers of small children. *Journal of Psychiatric and Mental Health Nursing, 18*, 288–296.
- Havenaar, J. M., Van Den Brink, W., Van Den Bout, J., Kasyanenko, A. P., Poelijoe, N. W., Wohlfarth, T., et al. (1996). Mental health problems in the Gomel region (Belarus): An analysis of risk factors in an area affected by the Chernobyl disaster. *Psychological Medicine, 26*, 845–855.

- Hill, T. D., Ross, C. E., & Angel, R. J. (2005). Neighborhood disorder, psychophysiological distress, and health. *Journal of Health and Social Behavior, 46*, 170–186.
- Hinkle, L. E., Jr. (1987). Stress and disease: The concept after 50 years. *Social Science & Medicine, 25*, 561–566.
- Hochschild, A. R., & Machung, A. (1989). *The second shift*. New York: Viking.
- Holmes, T. H., & Rahe, R. H. (1967). The social readjustment rating scale. *Journal of Psychosomatic Research, 11*, 213–218.
- House, J. S. (2002). Understanding social factors and inequalities in health: 20th century progress and 21st century prospects. *Journal of Health and Social Behavior, 43*, 125–142.
- Hyman, S. M., Gold, S. N., & Cott, M. A. (2003). Forms of social support that moderate PTSD in childhood sexual abuse survivors. *Journal of Family Violence, 18*, 295–300.
- Kaestner, R., Pearson, J. A., Keene, D., & Geronimus, A. T. (2009). Stress, allostatic load, and health of Mexican immigrants. *Social Science Quarterly, 90*, 1089–1111.
- Kanner, A. D., Coyne, J. C., Schaefer, C., & Lazarus, R. S. (1981). Comparison of two modes of stress measurement: Daily hassles and uplifts versus major life events. *Journal of Behavioral Medicine, 4*, 1–39.
- Kendall-Tackett, K. A., Williams, L. M., & Finkelhor, D. (1993). Impact of sexual abuse on children: A review and synthesis of recent empirical studies. *Psychological Bulletin, 113*, 164–180.
- Kessler, R. C., Galea, S., Gruber, M. J., Sampson, N. A., Ursano, R. J., & Wessely, S. (2008). Trends in mental illness and suicidality after hurricane Katrina. *Molecular Psychiatry, 13*, 374–384.
- Kessler, R. C., & Magee, W. J. (1994). Childhood family violence and adult recurrent depression. *Journal of Health and Social Behavior, 35*, 13–27.
- Kessler, R. C., McGonagle, K. A., Zhao, S., Nelson, C. B., Hughes, M., Eshleman, S., et al. (1994). Lifetime and 12-month prevalence of DSM-III-R psychiatric disorders in the United States: Results from the National Comorbidity Survey. *Archives of General Psychiatry, 51*, 8–19.
- Knudsen, H. K., Roman, P. M., Johnson, J. A., & Ducharme, L. J. (2005). A changed America? The effects of September 11th on depressive symptoms and alcohol consumption. *Journal of Health and Social Behavior, 46*, 260–273.
- Koss, M. P. (1988). Hidden rape: Sexual aggression and victimization in a national sample of students in higher education. In A. W. Burgess (Ed.), *Rape and sexual assault II* (pp. 3–25). New York: Garland.
- Koss, M. P. (1992). The under detection of rape: Methodological choices influence incidence estimates. *Journal of Social Issues, 48*, 61–75.
- Kraut, R., Patterson, M., Lundmark, V., Kiesler, S., Mukophadhyay, T., & Scherlis, W. (1998). Internet paradox: A social technology that reduces social involvement and psychological well-being. *American Psychologist, 53*, 1017–1031.
- Kromm, W., Gadinger, M. C., & Schneider, S. (2010). Peer ratings of chronic stress: Can spouses and friends provide reliable and valid assessments of a target person's level of chronic stress? *Stress and Health, 26*, 292–303.
- Kumar, M. S., Murhekar, M. V., Hutin, Y., Subramanian, T., Ramachandran, V., & Gupte, M. D. (2007). Prevalence of posttraumatic stress disorder in a coastal fishing village in Tamil Nadu, India, after the December 2004 Tsunami. *American Journal of Public Health, 97*, 99–101.
- Kunz-Ebrecht, S. R., Kirschbaum, C., & Steptoe, A. (2004). Work stress, socioeconomic status and neuroendocrine activation over the working day. *Social Science & Medicine, 58*, 1523–1530.
- Langner, T. S., & Michael, S. T. (1963). *Life stress and mental health: The Midtown Manhattan Study*. London: Free Press of Glencoe.
- Latkin, C. A., & Curry, A. D. (2003). Stressful neighborhoods and depression: A prospective study of the impact of neighborhood disorder. *Journal of Health and Social Behavior, 44*, 34–44.
- Laufer, R. S., Gallops, M. S., & Frey-Wouters, E. (1984). War stress and trauma: The Vietnam veteran experience. *Journal of Health and Social Behavior, 25*, 65–85.
- Lee, M.-A., & Carr, D. (2007). Does the context of spousal loss affect the physical functioning of older widowed persons? A longitudinal analysis. *Research on Aging, 29*, 457–487.
- Lehman, D. R., Wortman, C. B., & Williams, A. F. (1987). Long-term effects of losing a spouse or child in a motor vehicle crash. *Journal of Personality and Social Psychology, 52*, 218–231.
- McDonough, P., & Walters, V. (2001). Gender and health: Reassessing patterns and explanations. *Social Science & Medicine, 52*, 547–559.
- McLeod, J. D. (1991). Childhood parental loss and adult depression. *Journal of Health and Social Behavior, 32*, 205–220.
- McNally, R. J. (2003). Acute responses to stress: Psychological mechanisms in acute response to trauma. *Biological Psychiatry, 53*, 779–788.
- Monroe, S. M., & Roberts, J. E. (1990). Conceptualizing and measuring life stress: Problems, principles, procedures, progress. *Stress Medicine, 6*, 209–216.
- Mossakowski, K. N. (2008). Is the duration of poverty and unemployment a risk factor for heavy drinking? *Social Science & Medicine, 67*, 947–955.

- Nippert-Eng, C. E. (1996). *Home and work: Negotiating boundaries through everyday life*. Chicago: University of Chicago Press.
- Norris, F. H. (1992). Epidemiology of trauma: Frequency and impact of different potentially traumatic events on different demographic groups. *Journal of Consulting and Clinical Psychology, 60*, 409–418.
- Norris, F. H. (2006). Community and ecological approaches to understanding and alleviating postdisaster distress. In Y. Neria, R. Gross, R. Marshall, & E. Susser (Eds.), *9/11: Mental health in the wake of terrorist attacks* (pp. 141–156). New York: Cambridge University Press.
- North, C. S., Nixon, S. J., Shariat, S., Mallonee, S., McMillen, J. C., Spitznagel, E. L., et al. (1999). Psychiatric disorders among survivors of the Oklahoma City Bombing. *Journal of the American Medical Association, 282*, 755–762.
- O'Campo, P., Xue, X., Wang, M. C., & Caughy, M. (1997). Neighborhood risk factors for low birthweight in Baltimore: A multilevel analysis. *American Journal of Public Health, 87*, 1113–1118.
- O'Donnell, M. L., Creamer, M., & Pattison, P. (2004). Posttraumatic stress disorder and depression following trauma: Understanding comorbidity. *The American Journal of Psychiatry, 161*, 1390–1396.
- Ong, A. D., Bergeman, C. S., & Bisconti, T. L. (2004). The role of daily positive emotions during conjugal bereavement. *Journal of Gerontology: Psychological Sciences, 59*, P168–P176.
- Overland, G. (2011). Generating theory, biographical accounts and translation: A study of trauma and resilience. *International Journal of Social Research Methodology, 14*, 61–75.
- Pearlin, L. I. (1983). Role strains and personal stress. In H. B. Kaplan (Ed.), *Psychosocial stress: Trends in theory and research* (pp. 3–32). New York: Academic.
- Pearlin, L. I. (1989). The sociological study of stress. *Journal of Health and Social Behavior, 30*, 241–256.
- Pearlin, L. I., Aneshensel, C. S., & LeBlanc, A. J. (1997). The forms and mechanisms of stress proliferation: The case of AIDS caregivers. *Journal of Health and Social Behavior, 38*, 223–236.
- Pearlin, L. I., Menaghan, E. G., Lieberman, M. A., & Mullan, J. T. (1981). The stress process. *Journal of Health and Social Behavior, 22*, 337–356.
- Pearlin, L. I., & Schooler, C. (1978). The structure of coping. *Journal of Health and Social Behavior, 19*, 2–21.
- Pina, A. A., Villalta, I. K., Ortiz, C. D., Gottschall, A. C., Costa, N. M., & Weems, C. F. (2008). Social support, discrimination, and coping as predictors of posttraumatic stress reactions in youth survivors of hurricane Katrina. *Journal of Clinical Child and Adolescent Psychology, 37*, 564–574.
- Richman, J. A., Cloninger, L., & Rospenda, K. M. (2008). Macrolevel stressors, terrorism, and mental health outcomes: Broadening the stress paradigm. *American Journal of Public Health, 98*, 323–329.
- Robins, L. N., Helzer, J. E., Weissman, M. M., Orvaschel, H., Gruenberg, E., Burke, J. D., Jr., et al. (1984). Lifetime prevalence of specific psychiatric disorders in three sites. *Archives of General Psychiatry, 41*, 949–958.
- Ross, C. E., & Mirowsky, J. (1979). A comparison of life-event-weighting schemes: Change, undesirability, and effect-proportional indices. *Journal of Health and Social Behavior, 20*, 166–177.
- Ross, C. E., & Mirowsky, J. (2001). Neighborhood disadvantage, disorder, and health. *Journal of Health and Social Behavior, 42*, 258–276.
- Sachoff, M. (2011, February). Does facebook stress you out? *WebProNews.com*. Retrieved from <http://www.webpronews.com/too-many-facebook-friends-causes-stress-2011-02>
- Saler, L., & Skolnick, N. (1992). Childhood parental death and depression in adulthood: Roles of surviving parent and family environment. *The American Journal of Orthopsychiatry, 62*, 504–516.
- Schieman, S., Pearlin, L. I., & Meersman, S. C. (2006). Neighborhood disadvantage and anger among older adults: Social comparisons as effect modifiers. *Journal of Health and Social Behavior, 47*, 156–172.
- Schüler, J., Job, V., Fröhlich, S. M., & Brandstätter, V. (2009). Dealing with a 'hidden stressor': Emotional disclosure as a coping strategy to overcome the negative effects of motive incongruence on health. *Stress and Health, 25*, 221–233.
- Schulz, P., Schlotz, W., & Becker, P. (2004). *Trierer Inventar zum Chronischen Stress (TICS) [Trier Inventory for Chronic Stress (TICS)]*. Göttingen, Germany: Hofgrete.
- Selye, H. (1956). *The stress of life*. New York: McGraw-Hill.
- Silver, R. C., Holman, E. A., McIntosh, D. N., Poulin, M., & Gil-Rivas, V. (2011). Nationwide longitudinal study of psychological responses to September 11. *Journal of the American Medical Association, 288*, 1235–1244.
- Silver, R. C., Holman, E. A., McIntosh, D. N., Poulin, M., Gil-Rivas, V., & Pizarro, J. (2006). Coping with a national trauma: A nationwide longitudinal study of responses to the terrorist attacks of September 11. In Y. Neria, R. Gross, R. Marshall, & E. Susser (Eds.), *9/11: Mental health in the wake of terrorist attacks* (pp. 45–70). New York: Cambridge University Press.
- Smith, W. K. (1987). The stress analogy. *Schizophrenia Bulletin, 13*, 215–220.
- Southwick, S. M., & Charney, D. S. (2004). Responses to trauma: Normal reactions or pathological symptoms. *Psychiatry: Interpersonal and Biological Processes, 67*, 170–173.
- Taylor, J., & Turner, R. J. (2002). Perceived discrimination, social stress, and depression in the transition to adulthood: Racial contrasts. *Social Psychology Quarterly, 65*, 213–225.

- Thienkrua, W., Cardozo, B. L., Chakkraband, M. L. S., Guadamuz, T. E., Pengjuntr, W., Tantipiwatanaskul, P., et al. (2006). Symptoms of posttraumatic stress disorder and depression among children in tsunami-affected areas in Southern Thailand. *Journal of the American Medical Association*, *296*, 549–559.
- Turner, R. J., & Lloyd, D. A. (1995). Lifetime traumas and mental health: The significance of cumulative adversity. *Journal of Health and Social Behavior*, *36*, 360–376.
- Turner, H. A., & Turner, R. J. (2005). Understanding variations in exposure to social stress. *Health*, *9*, 209–240.
- Turner, R. J., Wheaton, B., & Lloyd, D. A. (1995). The epidemiology of social stress. *American Sociological Review*, *60*, 104–125.
- Ullman, S. E., Najdowski, C. J., & Filipas, H. H. (2009). Child sexual abuse, post-traumatic stress disorder, and substance use: Predictors of revictimization in adult sexual assault survivors. *Journal of Child Sexual Abuse*, *18*, 367–385.
- Wheaton, B. (1980). The sociogenesis of psychological disorder: An attributional theory. *Journal of Health and Social Behavior*, *21*, 100–124.
- Wheaton, B. (1983). Stress, personal coping resources, and psychiatric symptoms: An investigation of interactive models. *Journal of Health and Social Behavior*, *24*, 208–229.
- Wheaton, B. (1990). Life transitions, role histories, and mental health. *American Sociological Review*, *55*, 209–223.
- Wheaton, B. (1994). Sampling the stress universe. In W. R. Avison & I. H. Gotlib (Eds.), *Stress and mental health: Contemporary issues and prospects for the future* (pp. 77–114). New York: Plenum Press.
- Wheaton, B. (1996). The domains and boundaries of stress concepts. In H. B. Kaplan (Ed.), *Psychosocial stress: Perspectives on structure, theory, life-course, and methods* (pp. 29–70). New York: Academic.
- Wheaton, B. (1997). The nature of chronic stress. In B. H. Gottlieb (Ed.), *Coping with chronic stress* (pp. 43–73). New York: Plenum Press.
- Wheaton, B. (1999). Social stress. In C. S. Aneshensel & J. C. Phelan (Eds.), *Handbook of the sociology of mental health* (pp. 277–300). New York: Kluwer Academic/Plenum.
- Wheaton, B. (2010). The stress process as a successful paradigm. In W. R. Avison, C. S. Aneshensel, S. Schieman, & B. Wheaton (Eds.), *Advances in the conceptualization of the stress process: Essays in honor of Leonard I. Pearlin* (pp. 231–252). New York: Springer.
- Wheaton, B., & Clarke, P. (2003). Space meets time: Integrating temporal and contextual influences on mental health in early adulthood. *American Sociological Review*, *68*, 680–706.
- Wheaton, B., & Montazer, S. (2010). Stressors, stress, and distress. In T. L. Scheid & T. N. Brown (Eds.), *A handbook for the study of mental health: Social contexts, theories, and systems* (2nd ed., pp. 171–199). New York: Cambridge University Press.
- Williams, D. R., Neighbors, H. W., & Jackson, J. S. (2003). Racial/ethnic discrimination and health: Findings from community studies. *American Journal of Public Health*, *93*, 200–208.
- Young, M., & Wheaton, B. (2011, August). *Structural equivalence among residents: The impact of neighborhood composition on work-family conflict and distress*. Paper presented at the American Sociological Association meeting, Las Vegas, NV.