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CHAPTER

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From Vulnerability to Growth: Positive and Negative Effects of Stressful Life Events

Severely stressful life events can have a substantial impact on those who experience them. For some, experience with a traumatic life event can leave them confused, withdrawn, depressed, and increasingly vulnerable to the next stressful situation that arises. The clinical literature, for example, has found various stressful life events to be risk factors for the development of depression, anxiety, and in extreme cases, post-traumatic stress disorder (PTSD). For other individuals, a traumatic experience can serve as a catalyst for positive change, a chance to reexamine life priorities or develop strong ties with friends and family. Recent research has explored the immediate and long-term positive effects of similarly severe life events, such as cancer, bereavement, and HIV-infection, to identify the factors and processes that appear to contribute to resilience and growth. These two lines of research, however, have developed largely independent of each other and a number of questions remain to be explored in their integration. For example, do the roots of these apparently divergent patterns lie in the events themselves or in the people who experience them? Do some experiences typically lead to negative outcomes, whereas others contribute to the development of positive changes? What psychological factors appear to moderate these outcomes? How do positive outcomes, such as perceptions of stress-related growth and benefit, relate to measures of negative adjustment?

To address these questions, we begin with a review of positive outcomes that have been reported in response to stressful life events, such as the perceptions of stress-related growth and benefit and theories that help to explain these changes. We then

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look at some of the negative outcomes associated with stressful life experiences, such as depression, anxiety, and post-traumatic stress disorder, and discuss theoretical perspectives on these outcomes. Psychological factors that may moderate the relationship between these stressors and the outcomes, such as coping style, optimism, control, are then addressed. We then address characteristics of stressful events that may contribute to the nature of their long-term impact, and conclude by noting limitations of existing research and directions for future work.

☐ Positive Effects of Stressful Life Experiences

For decades, philosophers and psychologists have written about the paradoxical positive effects that may occur in the wake of severely traumatic events, including the Holocaust, serious illness, natural disasters, and other traumatic events (e.g., Chodoff, Friedman, & Hamburg, 1964; Frankl, 1963; Mechanic, 1977; Visotsky, Hamburg, Goss, & Lebovits, 1961). Although relatively understudied scientifically in comparison to the negative effects, the positive effects of stressful life events have come increasingly under the scrutiny of theorists and researchers. Studies exploring a variety of stressful events have found that typically over half of individuals who experience a traumatic life event report some degree of positive outcomes as a result, including changes in self-perceptions, social relationships, and life perspective (Dhooper, 1983; Taylor, 1983; Wallerstein, 1986; Yarom, 1983). For example, in a study of bereavement, Calhoun and Tedeschi (1990) found that most participants reported positive changes resulting from the deaths of their spouses, with the most prevalent benefits being reported in the domain of self-perception. Two-thirds of the participants in Thompson's (1985) study of residential fire victims and over half of the participants in Affleck, Tennen, and Gershman's (1985) study of parents with children in neonatal intensive care units reported that they perceived benefits from their experiences. Similarly, in a study of cancer patients, Collins, Taylor, and Skokan (1990) found that the changes reported in the domains of social relationships, priorities, and activities were primarily positive, but that changes in the their views of themselves and the world were mixed; on balance, reported changes were positive. Two studies have explicitly compared the quality of life reported by cancer patients with a normal sample free of chronic disease, and found quality of life experienced by the cancer sample to be higher than that of the non-ill sample (Danoff, Kramer, Irwin, & Gottlieb, 1983; Tempelaar et al., 1989). Other studies have shown that, both during the immediate aftermath of traumas such as bereavement and disability and over the course of a long-term stressor such as AIDS caregiving, positive emotions are as prevalent as negative emotions (Folkman, 1997; Silver, 1982; Wortman & Silver, 1987), suggesting that adjustment to stressful events may be far less distressing and much more variable than commonly assumed (Wortman & Silver, 1989).

Across the studies that have examined the benefits that people perceive as resulting from severely stressful life events, three important and consistent domains of change have appeared (Taylor, 1983): (a) self-concept, (b) relationships with social networks, and (c) personal growth and life priorities. The positive changes in self-concept following severe life stressors typically include the belief that one is a stronger person for the experience and is better able to handle the blows that life will inevitably deal. For example, in Calhoun and Tedeschi's (1990) bereavement study, over two-thirds of the participants described themselves as stronger and more competent people, and over 80 percent felt that they were wiser, stronger, more mature, and better able to cope with other crises (see also Thomas, DiGiulio, & Sheehan, 1991). Sledge and colleagues documented similar changes in self-concept in repatriated prisoners of the Vietnam War (Sledge, Boydstun, & Rabe, 1980). Taylor (1983) found that breast cancer survivors often reported a stronger sense of self as a result of their illness, and as did individuals infected with HIV (Taylor, Kemeny, Reed, & Aspinwall, 1991).

A second area in which individuals commonly perceive post-traumatic benefits is in their social relationships. Life crises can force people to take a dependent and receptive stance toward their external environment (Stewart, Sokol, Healy, & Chester, 1986) that may necessitate the solicitation of help from family and friends. Thus, if an individual is overwhelmed by an unanticipated threat and feels that the world is falling apart, having a supportive and stable social network to rely on can increase one's appreciation of friends and family and lead to the perception that these social ties have been strengthened as a result. Indeed, research does bear out such a claim. In Calhoun and Tedeschi's (1990) and Thompson's (1985) studies, the most common benefit that victims cited was the realization that other people were available to help and rely upon. Similarly, in Mendola and colleagues' (1990) study of women with impaired fertility and Schwartzberg's (1993) study of men with AIDS, close to half of the respondents reported improved social relations and a stronger sense of belonging. Evidence is mounting that when stressful events occur in conjunction with high levels of social support, they can have positive influences on mood (Caspi, Bolger, & Eckenrode, 1987) and on psychological growth (Park, Cohen, & Murch, 1996).

A third general area in which people often perceive stress-related benefits is in their personal growth and life priorities. In a study of HIV-positive men, Schwartzberg (1993) reported that three-quarters of the participants viewed their HIV-infection as a catalyst for personal growth, including reprioritizing values and time commitments, becoming more understanding with friends and family, and accomplishing goals that would have otherwise been delayed (see also Reed, 1989). In a study of cancer patients (Collins et al., 1990), more than 90% of respondents reported at least some beneficial changes in their lives. Further, Baumeister (1994) reviews evidence suggesting that a negative life change, even a relatively minor one, can serve to link together other existing problems, conflicts, and dissatisfactions in a person's life, resulting eventually in a broad restructuring of attitudes and priorities that can have positive long-term effects.

Mounting evidence suggests that these reordered priorities may translate into changes in activities. For example, in studies of women with breast cancer, Taylor and colleagues (Taylor, 1983; Taylor, Lichtman, & Wood, 1984) reported that over 75% of the participants made health-related behavioral changes as a result of their condition. Affleck and colleagues' (Affleck, Tennen, Croog, & Levine, 1987) research on heart attack patients found that perceptions of stress-related benefits were associated with better long-term physical health and lower levels of mortality, suggesting that perceptions of benefit might have been associated with the adoption of more healthy behaviors (see also Bar-On, 1987).

Finding benefits in traumatic events is not unexpectedly associated with better psychological adjustment to those events. Park et al. (1996) found that college students who reported high degrees of perceived growth in response to a stressful life event also showed pre-event to post-event increases in optimism and positive affectivity. Other studies of women with impaired fertility (Mendola et al., 1990) and disaster

victims (McMillen, Smith, & Fisher, 1997; Thompson, 1985) have reported similar findings. Lehman and colleagues (Lehman et al., 1993), however, reported no relationship between perceived benefits and psychological adjustment, and suggested that a balanced recognition of the positive and negative aspects of a traumatic event contributes best to psychological functioning, a position supported by other studies (Taylor, Kemeny et al., 1991).

Indeed, the question of whether positive changes, or a mix of positive and negative changes, are associated with optimal adjustment following stressful events is an issue that remains unresolved. Some research (Taylor, Kemeny et al., 1991) has shown that a mix of changes proved to be more beneficial. However, more recent research on women with AIDS found exclusively positive changes to be associated with best adjustment (Updegraff, Taylor, Kemeny, & Wyatt, 1999). It may be that, for ongoing traumatic events that require a major life readjustment, positive changes better predict adjustment, because the sheer stress of the event may be otherwise overwhelming; in contrast, people reporting on events that are in the past and for which the full ramifications are known may be more likely to acknowledge a mix of changes which may be associated with adjustment (cf. Updegraff et al., 1999).

Taken together, these studies suggest that stressful life events can have long-term positive effects and can help people to understand more about themselves, their social network, their priorities, and their lives in general. It should be noted, however, that much of this research has been based on self-report data, so it is unclear how valid these changes may actually be. To date, only a few studies have linked these reported changes to behavioral outcomes (Taylor et al., 1984) or to corroborated perceptions by friends or relatives (Park et al., 1996). A few studies have begun to tie such positive changes to physiological, neuroendocrine, and immune functioning (Epel, McEwen, & Ickovics, 1998; Kamen-Siegel, Rodin, Seligman, & Dwyer, 1991) and to health (Affleck, Tennen, Croog et al., 1987). For example, a study by Bower, Kemeny, Taylor, and Fahey (1998) found that the ability to find meaning in an AIDS-related bereavement experience was associated with a slower course of AIDS among men infected with HIV. Given that these perceptions of stress-related growth may have such salutatory effects on behavior and health, it is important for future research to tie these reports of benefits to tangible outcomes.

Because stressful life events create the potential for positive change as well as negative change, it is important for theories to be able to explain both positive changes as well as the overall variability in response to stressful life events. A number of theories have been proposed to explain the positive effects that people report from stressful life events, such as Taylor's (1983) theory of cognitive adaptation, Aldwin's (Aldwin, Sutton, & Lachman, 1996) deviation amplification model of stress and coping, Hobfoll's (1988) conservation of resources theory, and Meichenbaum's (1985) stress inoculation approach. These theories will be presented in light of evidence noted.

Taylor's Cognitive Adaptation Theory

Taylor's (1983) theory of cognitive adaptation conceptualizes individuals as active agents in restoring psychological equilibrium in the aftermath of a traumatic life event. According to the theory, traumatic life events initially take their toll by challenging people's sense of meaning, their sense of mastery, and their self-esteem. As a result, people are motivated to restore their self-esteem and sense of meaning and mastery by the production of self-enhancing cognitions (Taylor & Brown, 1988). For example, a sense of meaning can be regained by understanding why a traumatic event occurred and what its role in a person's life will be, and a sense of meaning is typically produced by either a causal attributional search or a rethinking of attitudes and life priorities. Similarly, individuals can preserve their sense of mastery by believing that they can exercise control over the event. However, different events allow for different amounts of control, and if an individual's attempts at control in one domain are thwarted, Taylor (1983) suggests that individuals will preserve their sense of control and mastery by focusing on domains of their life where they do have control; empirical research supports this prediction (Taylor, Helgeson, Reed, & Skokan, 1991). An individual's self-esteem can also be preserved by focusing on aspects in which one's self-concept is relatively unaffected or improved, or by comparing oneself to less fortunate others in an effort to cast oneself in a more positive light (Taylor & Lobel, 1989; Taylor, Wood, & Lichtman, 1983).

Thus, Taylor's theory of cognitive adaptation posits that positive reinterpretation and selective focus and evaluation are mechanisms by which individuals restore their views of themselves and the world. Within this perspective, perceptions of stress-related growth are likely to be the natural and inevitable products of a person's motivation to enhance his or her self-perceptions, which creates some speculation as to the validity of people's reports of stress-related growth (Affleck & Tennen, 1996; Lehman et al., 1993). It is important to note, however, that even though Taylor's basic model focuses almost exclusively on the production and maintenance of people's positive beliefs about themselves and their situations, it may have implications for guiding adaptive behavior, because research suggests that these positively-biased beliefs can motivate people towards active goal attainment (Taylor et al., 1992; Taylor & Gollwitzer, 1995).

On the whole, evidence supports perceptions from Taylor's framework with a few exceptions. The evidence relating causal attributions for the victimizing event to successful adjustment is mixed (Taylor et al., 1984; Bulman & Wortman, 1977; but see Bar-On, 1987). Evidence concerning the predictions regarding social comparisons is largely supportive but are somewhat more complex than the theory originally proposed. For example, comparison of one's situation with less fortunate others appears to benefit those coping with traumatic events, but actual contact with and information from people who have managed those events successfully seems to be beneficial (Taylor & Lobel, 1989). As noted, the question of whether the recognition of primarily positive changes or a mix of positive and negative changes following a traumatic event is optimal for adjustment remains unresolved.

Aldwin's Deviation Amplification Model and Hobfoll's Conservation of Resources Theory

Whereas Taylor's theory of cognitive adaptation focuses on the processes by which people faced with traumatic life events restore their positively-biased beliefs by the use of cognitive reinterpretation and selective focus, other theorists have focused on the differential resources and skills that people may bring to traumatic events that may be more or less likely to help them find long-term benefits in those events. Aldwin's (Aldwin et al., 1996) deviation amplification model of stress and coping proposes that coping is "a process that extends across situations by resulting in general changes in

coping resources, such as management skills, and, as such, can affect personality processes such as mastery and self-esteem" (p. 842). As Aldwin's theory proposes, the changes that occur in response to traumatic life events may be subject to positive feedback processes, in which small changes for the worse can trigger maladaptive spirals, such as increases in intrusive thoughts and avoidant coping strategies, and small changes for the better can trigger adaptive spirals, such as increases in mastery and the use of active coping strategies.

Whether a particular event triggers a maladaptive or adaptive cycle may depend on a person's personal and coping resources, such as socioeconomic status, social network, self-esteem, optimism, and mastery (Hobfoll, 1988; Holahan & Moos, 1987), as well as the nature and severity of the event itself. Both Hobfoll's (1988) conservation of resources theory and the deviation amplification model predict that individuals who have higher levels of initial personal and coping resources should use more adaptive coping strategies and perceive more advantages from a traumatic events, which in turn should predict more positive long-term effects and subsequent increases in mastery. In contrast, individuals with lower levels of initial resources should rely more on maladaptive coping strategies, which should predict more negative long-term effects and subsequent decreases in mastery. Consistent with these predictions, Aldwin and colleagues (Aldwin et al., 1996) found that coping strategies differentially predicted perceived positive effects (such as strengthened coping skills) or negative effects (such as learning about their own weaknesses) in a large sample that reported on a significant stressful life event, and these effects predicted current mastery and depression levels. Research by Holahan and Moos (1990) also shows that improvements in self-confidence and an easygoing disposition over the course of high stress were predicted by higher initial resources, which appeared to be mediated by the use of more adaptive coping strategies.

Although Aldwin's deviation amplification model is a useful conceptual tool in understanding how stressful events may lead to both positive and negative long-term consequences, it is difficult to test the cyclical effects that it predicts. The above findings, however, are consistent with other studies that suggest positive long-term effects for individuals who perceive benefits from traumatic life events. For example, in Aldwin, Levenson, and Spiro's (1994) study of war veterans, beneficial appraisals of combat experience moderated the relationship between combat exposure and PTSD development, even after controlling for depressive symptomatology.

Both Aldwin's theory and Hobfoll's resource analysis suggest a personality-based explanation for the perception of benefits in traumatic events. Specifically, both models suggest that the ability to find benefits in a stressful situation may result from a stable coping style (Park, 1998a), dispositional optimism (Scheier & Carver, 1985), or some other dispositional resource. Some support for such a personality-based cause comes from a study by Park et al. (1996), which found moderately high within-person correlations of reported growth over different events in a six-month period.

In certain respects, the Taylor perspective and the Aldwin and Hobfoll perspective might be seen as providing alternative explanations for the relation of perceived benefits in traumatic events to psychological adjustment. It is possible, however, that the perspectives are compatible. Specifically, Aldwin and Hobfoll suggest that dispositional resources may predispose people to find benefits in stressful or traumatic events (Aldwin et al., 1996; Hobfoll, 1988), and Taylor's perspective emphasizes the dynamic adaptive mechanisms whereby these benefits may be obtained. As such, the two approaches may represent complementary perspectives on a fundamentally similar set of outcomes.

Meichenbaum's Stress Inoculation Approach

An additional positive effect of traumatic life events, understudied but potentially important, is the experience it may give people to draw from in appraising and dealing with subsequent stressful life events. This potential benefit of stressful life events forms the basis of Meichenbaum's (1985) stress inoculation approach, which proposes that experience in dealing effectively with moderate-level stressors may inoculate individuals against the potentially pathogenic effects of subsequent stressful events. This inoculation may result from knowledge of and use of more adaptive coping strategies, confidence in one's ability to deal with events, or a less threatening appraisal of potential threats. Some support for this proposition is offered by Aldwin and colleagues (Aldwin et al., 1996) in their qualitative study of adults coping with a variety of stressful life events. Nearly all of their participants reported drawing from previous experiences in dealing with a current problem, although only 22% of the participants reported drawing from similar experiences. The other specific experiences that the participants drew from included work experience, illnesses and deaths of others, military experience, and childhood problems.

More concrete evidence in support of this inoculation perspective comes from studies of rape victims (Burgess & Holmstrom, 1978), war veterans (Elder & Clipp, 1989), and Holocaust survivors (Shanan & Shahar, 1983). In Burgess and Holmstrom's (1978) study, women who had experienced the death of a family member more than two years before a rape victimization recovered more quickly than women who had not. Shanan and Shahar (1983) also found that Holocaust survivors coped more actively and reported more life satisfaction and more long-term stability than a matched control group of people who did not directly experience the Holocaust. Further, Elder and Clipp (1989) found that veterans with heavy combat experience became more resilient and less helpless over time when compared to veterans with less severe combat experience (see also Sledge et al., 1980). The veterans with more heavy combat experience were also more likely to report that they had learned to cope with adversity, learned self-discipline, and had a clearer sense of direction than those with less heavy combat experience (but see Lee, Vaillant, Torrey, & Elder, 1995; McCarroll, Fagan, Hermsen, & Ursano, 1997).

Although all of the above studies suggest that experience with traumatic life events may, in some cases, actually improve one's ability to deal with subsequent life events, they may be limited by selection bias and, thus, are only suggestive of the inoculative effects of stressful experiences. Moreover, several of the events hypothesized to inoculate people against stress (such as the Holocaust and combat experience) are extremely traumatic stressors that have been associated with negative outcomes as well. For example, one of the chief risk factors for post-traumatic stress disorder is a prior intense stressful event, such as combat experience or sexual abuse, and so the point at which a prior stressor inoculates an individual against subsequent stressors versus renders that individual more vulnerable to adverse consequences of stress remains unclear. Most of these studies do not specify the processes or factors that may affect how such experiences inoculate individuals against the effects of future life stressors

or specify which individuals will show positive versus negative effects. Inasmuch as prior experience with stressful life events has been posited both to inoculate against adverse effects of stress and to exacerbate adverse effects of stress, the factors that determine the inflection point at which the effects of prior stressful experiences begins to reverse requires delineation; as yet, there is little suggestion other than the magnitude of the stressor of what such boundary conditions might be. Some of the factors that may determine this range of outcome will be discussed later, although further research is needed to understand how individuals may actually benefit and ultimately thrive as a result of their experiences with traumatic life events.

☐ Negative Effects of Stressful Life Experiences

Some widely researched effects of stressful life events include negative reactions, such as depression and anxiety (Nolen-Hoeksema & Morrow, 1991; Stewart & Salt, 1981), and cognitive disruptions such as intrusive thoughts and ruminations that can interfere with a person's normal activities and successful adjustment (Horowitz, 1976; Shaham, Singer, & Schaeffer, 1992). Much of this research has been guided by cognitive processing theories of adjustment, such as Horowitz's (1976) theory of stress responses and Janoff-Bulman's (1992) assumptive world theory.

More extreme negative responses to traumatic events have been chronicled in post-traumatic stress disorder, a syndrome characterized by extensive, long-lasting, and severe responses to stress. These aftereffects of a stressful experience can include physiological arousal, distractibility, and other negative effects that last for days, months, or even years after the event has terminated. Such symptoms have most clearly been documented among soldiers exposed to combat – indeed, before PTSD was acknowledged as a psychological disorder, it was called “shell shock” – but these responses may also occur in response to assault, rape, domestic abuse, or a violent encounter with nature, such as an earthquake or flood (Ironson et al., 1997), or a technological disaster, such as a nuclear accident (Norris, 1990). The person suffering from PTSD typically shows several symptoms of psychic numbing, such as reduced interest in once-enjoyable activities, detachment from friends, or constriction in emotions. In some cases, the person will relive aspects of the trauma. In addition, PTSD appears to be a risk factor for extremely negative responses to subsequent stressful events (American Psychiatric Association [APA], 1994).

Horowitz’s and Silver’s Perspectives on Cognitive Reworking

Theories developed by Horowitz (1976) and by Silver and her associates (Silver, Boon, & Stones, 1983; Tait & Silver, 1989) propose that many of the negative effects of traumatic events result from an individual’s difficult attempts to rework distressing thoughts of the traumatic event into a viable cognitive framework. Horowitz and Silver suggest that this cognitive reworking is brought about by repetitive cycles of intrusive thoughts and denial (Horowitz, 1979; Tait & Silver, 1989), which serve to gradually fit the event-related thoughts into a stable and viable cognitive framework. Further, Silver proposes that this cognitive reworking is intimately tied with the processes of finding meaning in the event and dealing with the ongoing social and personal implications of the event (Tait & Silver, 1989). In cases of severely negative experiences, this cognitive integration can be extremely difficult and the cycles of intrusive and avoidant thoughts can lead to long-term distress (Lepore, Silver, Wortman, & Wayment, 1996; Miller, Rodoletz, Schroeder, Mangan, & Sedlacek, 1996), and can contribute to the development of PTSD symptomatology (Horowitz, Wilner, & Alvarez, 1979). Indeed, level of intrusive thoughts has been shown to be a strong predictor of overall distress following a traumatic event (Creamer, Burgess, & Pattison, 1992). In their study of incest survivors, Silver and her associates (Silver et al., 1983) found that many of the women were unable to make sense of the event, to find meaning in it, or to understand why the incest had happened and, decades later, reported that the events were as intense, disruptive, and disturbing as they had been at the time of occurrence. Those women who had been able to resolve the events in their minds were less likely to be troubled by rumination. Similar results were also found in Tait and Silver’s (1989) study of elderly community members. A majority of the participants in their study experienced frequent, intense, and intrusive thoughts of their most negative experience (which had occurred, on average, over twenty years earlier), and these ruminations were also associated with lower life satisfaction and the inability to find meaning in the event (see also Holman & Silver, 1996).

Although the theoretical perspective on cognitive reworking has considerable data to support it (e.g., many individuals ruminate following stressful events), there is little evidence that the need to cognitively rework a stressful event is what gives rise to rumination. It is possible that rumination is a symptom of poor adjustment, such as depression, rather than the manifestation of the causal process that leads to adverse coping with stressful events. Further, other researchers suggest that it is this difficult reworking process that ultimately leads to long-term benefit rather than decline (Tedeschi & Calhoun, 1995), a perspective that, although consistent with Silver’s idea that ruminations are tied to the process of finding meaning in traumatic events, requires some empirical reconciliation with research showing the long-term drawbacks of these ruminative processes. Nonetheless, it is clear that adverse life events can have a long-term impact on the individual, and that the thoughts and images of the event may last long after the actual event has subsided. To the extent that these distressing thoughts are ongoing and intense, an individual's ability to effectively cope with subsequent stressors may be significantly diminished, leaving the individual even more vulnerable to the negative effects of later stressful events.

Janoff-Bulman’s Assumptive World Theory

Janoff-Bulman’s (1992) assumptive world theory is an alternative cognitive theoretical perspective for understanding the negative impact of traumatic events. The theory proposes that untraumatized individuals maintain positive perceptions of themselves and others, and hold a belief in a just, meaningful, and benign world. One of the negative effects of traumatic life events is the shattering of these "fundamental assumptions" (Janoff-Bulman, 1989, 1992; cf. Beck & Clark, 1988), and a major task of recovery is the reestablishment of viable beliefs with which to understand oneself and the world.

Janoff-Bulman's research suggests that traumatic life events such as bereavement, incest, rape, and disaster can and do shatter these beliefs, and leave individuals with a

less positive self-concept and less likely to believe in a benevolent and meaningful world (Janoff-Bulman, 1989; Schwartzberg & Janoff-Bulman, 1991). Other research has similarly documented negative effects of war involvement on self-efficacy (Solomon, Benbenishty, & Mikulincer, 1991) and Holocaust survival on beliefs in the benevolence of the world (Prager & Solomon, 1995). Little research, however, has examined the long-term effects of these changes in fundamental assumptions, so it is unclear what effects these disconfirmations may have on people's future functioning and ability to handle later life stressors.

To the extent that traumatic events bring people's cognitions more in line with reality, such changes may aid in the processing of future threatening events by facilitating a less threatening appraisal and easier cognitive integration of adverse experiences (Wortman & Silver, 1987). From this perspective, shattered assumptions may actually have a beneficial effect on subsequent coping, although research remains to support this possibility. On the other hand, it is possible that these shattered assumptions may contribute to the distress that is often reported following severely stressful life events (Nolen-Hoeksema & Morrow, 1991; Stewart & Salt, 1981). For example, research has shown that experiencing a severely stressful life event such as a loved one's death, a health threat, or a loss of employment, can lead to a significantly increased risk of developing clinical depression and anxiety within a one-year period (Bifulco & Brown, 1996; Finlay-Jones & Brown, 1981), and these psychological effects may be due in part to the interaction of negative events with a person's maladaptive cognitions about themselves and the world (Beck & Clark, 1988). Other research has found low belief in a just world is related to more threatening appraisal of stressful events and greater stress-related autonomic reactivity (Tomaka & Blascovich, 1994). It must be noted, however, that these effects of shattered assumptions are suggestive and there is little research indicating that these changes in beliefs drive the process of adjustment, affect coping behavior, or determine adjustment to subsequent stressful events.

☐ Factors That May Influence Growth and Vulnerability

Although the previous theoretical perspectives allow us to understand how adverse experiences can have both positive and negative effects, they do less to specify why some people benefit from stress while others become debilitated. As Park (1998b) notes, the prediction of positive versus negative outcome is a challenge for this broader conceptualization of stress and coping (see also O'Leary & Ickovics, 1995). Accordingly, this section will focus on some of the potential determinants of stress-related growth and vulnerability. These factors include an active coping style, optimism, perceptions of control over life events, a strong sense of self, as well as the nature of the stressful experience itself. Correspondingly, a personality marked by negativity, a severe prior traumatic experience, such as victimization, disaster, combat experience, and physical or sexual abuse, may act as vulnerability factors leading to a greater likelihood of stress-related maladaptive symptoms and poor adjustment.

Coping Style

The ways in which an individual copes with a traumatic life event are important predictors of how well a person adjusts to it. Although a number of possible coping

strategies have been identified and examined in the literature (Carver, Scheier, & Weintraub, 1989; Lazarus & Folkman, 1984), for this discussion they will be grouped into three general categories: active coping, acceptance and positive reinterpretation, and avoidance coping. Active coping refers to strategies that are directed at problem solving, and entail taking direct action to confront the stressor and reduce its effects. In Carver et al.'s (1989) typology of coping strategies, active coping strategies include problem-solving, planning, suppression of competing activities, restraint coping, and seeking support for instrumental reasons. Acceptance and positive reinterpretation refer to acceptance of a stressor as real and unavoidable and attempts to focus on the positive aspects of a situation. Avoidance coping refers to primarily emotion-focused strategies, which may reduce the distress associated with a stressful event by denial or withdrawal from the situation, without reducing the noxious aspects of the situation itself. In Carver et al.'s (1989) typology, avoidance coping strategies include mental and behavioral disengagement, alcohol-drug disengagement, and denial.

Active coping can lead to adjustment and improvement by both reducing the distress and the impact of a traumatic event, as well as by contributing to perceptions of stress-related growth. In general, an active coping style is highly effective in the management of severe stressors and future threats (Suls & Fletcher, 1985; Taylor & Clark, 1986). Research suggests that the use of active coping strategies in dealing with a stressful life event can contribute to lower levels of depression (Aldwin, 1991) and less distress and PTSD symptomatology (Solomon, Mikulincer, & Flum, 1988). Further, the use of active, problem-focused coping strategies may contribute to positive outcomes, such as greater resolution of the event (Aldwin & Revenson, 1987; Thoits, 1994), stable psychological functioning (Holahan & Moos, 1990), positive psychological states (Folkman, 1997), motivation (Aspinwall & Taylor, 1992), and perceptions of benefits and growth (Holahan, Moos, & Schaefer, 1996; Park et al., 1996; Collins et al., 1990). Consistent with theories presented earlier, an active coping style may also be determined by psychosocial factors such as perceptions of control over the stressful event (Taylor et al., 1984; Thompson, 1981), a confidence in one's ability to manage the event (Bandura, 1977), and the availability and effective seeking of social support (Folkman, Lazarus, Dunkel-Schetter, DeLongis, & Gruen, 1986).

While an active coping style may be most adaptive in situations that are controllable and modifiable, acceptance and positive reinterpretation coping may be most adaptive in situations that are not controllable by direct action. As Carver et al. (1989) note, positive reinterpretation and acceptance coping may be important in situations where a stressor is essentially unchangeable, requiring accommodation. Positive reinterpretation can be used to manage one's emotions in an uncontrollable situation and to motivate the use of active coping strategies in a controllable situation. Most important, positive reinterpretation and acceptance coping appear to be significant determinants of stress-related growth. By allowing individuals to accept a situation and focus on its positive aspects and implications, these coping strategies may be the most responsible for contributing to people's beliefs that they have benefited from a stressful life event. Accordingly, Park et al.'s (1996) research with college students does, in fact, show positive reinterpretation and acceptance coping to be among the best predictors of stress-related growth.

Research suggests that strategies of positive reinterpretation may also contribute to better adjustment across a variety of stressful experiences. Folkman's (1997) study of caregivers of men with AIDS shows that positive reappraisal of the experience was

associated with greater positive psychological states. Likewise, positive reinterpretation coping has been associated with better psychological well-being in chronic fatigue syndrome patients (Moss-Morris, Petrie, & Weinman, 1996) and decreased depression and anxiety in first year medical students (Stewart et al., 1997). Similarly, acceptance has also been shown to predict lower distress in breast cancer patients (Carver et al., 1993), better adjustment in HIV-infected men (Thompson, Nanni, & Levine, 1994), and better physical functioning over a variety of events (Gall & Evans, 1987). Taken together, these studies suggest that positive reinterpretation and acceptance can be important contributors to long-term adjustment, particularly in situations that may not be amenable to active, problem-focused coping.

In contrast, an avoidant coping style appears to be a less adaptive response to a stressful life event and can ultimately lead to greater long-term distress and disruptive cycles of intrusion and avoidance. Although avoidance coping may reduce short-term distress and may be an effective strategy for dealing with a short-term stressor, it can lead to more maladaptive functioning in response to more severe, long-term stressors (Holahan & Moos, 1987; Suls & Fletcher, 1985). The research of Miller and colleagues (Miller et al., 1996) and Wegner (1994) show that efforts to avoid the unpleasant thoughts and emotions associated with a traumatic event are often unsuccessful. The thoughts and emotions that are avoided frequently resurface in the form of intrusive and distressing thoughts that, when met by further avoidance, can lead to maladaptive cycles of intrusion and avoidance discussed earlier (Horowitz, 1976; Miller et al., 1996; Tait & Silver, 1989). A number of studies indicate these intrusion/avoidance cycles frequently mediate the relationship between stressful life events and long-term distress (Bifulco & Brown, 1996; Creamer et al., 1992; Holahan & Moos, 1986; Hovanitz, 1986) and even the development of PTSD (Sutker, Davis, Uddo, & Ditta, 1995). Other research suggests that the use of avoidant coping strategies is most common in individuals with fewer personal and social resources, poorer mental health, more recent stressful life events and higher levels of chronic stress (Aldwin & Revenson, 1987; Baum, Cohen, & Hall, 1993; Holahan & Moos, 1987). Avoidant coping strategies are also more likely to be used in response to events that are perceived as significant threats, as opposed to challenges or potentially beneficial experiences (Carver & Scheier, 1994).

Although there is some evidence that the types of coping strategies used in response to a stressful event depend upon characteristics of the event itself, such as its controllability, chronicity, and severity (Felton & Revenson, 1984; McCrae, 1984, 1992; Paterson & Neufeld, 1987), other research suggests that a person's characteristic style of coping may be fairly consistent across a variety of situations. For example, McCrae (1992) estimated that a person's coping strategies were determined largely by personality and personality-situation interactions, which explained 13% and 11% of the variance in coping behaviors, respectively. In contrast, situational factors alone explained only 2% of the variance in coping behaviors. Further, in Folkman, Lazarus, Gruen, and DeLongis' (1986) study of coping across situations, positive reappraisal emerged as the most stable intra-individual coping strategy. Finally, Carver and colleagues (Carver et al., 1989) found that people's dispositional style of coping was fairly consistent with their style of coping with a specific stressor, with the exception that an active coping style was more likely to be used in a situation that was perceived as controllable.

Optimism

Research has shown that dispositional optimism and pessimism can influence how a person deals with a stressful life experience, and may also affect a person's long-term adjustment. The basis for this research comes from expectancy-value theories (for a discussion, see Scheier & Carver, 1985), which propose that people remain engaged in efforts to deal with difficult or adverse events to the degree that they expect that success will be likely. In simple terms, optimists, or people with positive expectations for themselves and the future, should be more likely to persevere in the face of adverse events than those with more negative expectations of themselves and the future. Although optimism and pessimism may appear to be opposite sides of the same coin, research suggests that measures of these two dimensions may be relatively unassociated with each other (Marshall, Wortman, Kusulas, Hervig, & Vickers, 1992; Mroczek, Spiro, Aldwin, Ozer, & Bosse, 1993) but may begin to show negative associations under situations of significant stress (Robinson-Whelen, Kim, MacCallum, & Kiecolt-Glaser, 1997). Further, as will be noted, both optimism and pessimism may independently predict positive and negative outcomes and the use of both adaptive and maladaptive coping strategies, and may be driving forces in understanding how some people may grow and benefit from experience with traumatic life events, while others succumb to them.

In general, optimism predicts better adjustment to stressful life events. Some specific effects of optimism on adjustment include greater well-being and less perceived stress (Aspinwall & Taylor, 1992), less psychological symptomatology (Scheier & Carver, 1985) and more perceived growth and benefits in college students (Affleck & Tennen, 1996; Park et al., 1996), and less distress in women with breast cancer (Carver et al., 1993) and HIV-positive men (Taylor et al., 1992). The effects of optimism on adjustment, however, appear to be mediated by the coping strategies that optimistic people rely on for dealing with stress. For example, Taylor and colleagues (Aspinwall & Taylor, 1992; Taylor et al., 1992) and Hart and Hittner (1995) found optimism to be associated with greater use of active coping strategies and less reliance on avoidant strategies. Further, Park et al.'s (1996) research suggests that the relationship between optimism and stress-related growth may be mediated by the use of positive reframing and acceptance strategies. Likewise, Scheier and Carver's research (Carver et al., 1993; Scheier, Weintraub, & Carver, 1986) shows that optimistic people are more likely to use positive reframing and humor in dealing with stressful events in general, and acceptance coping in dealing with uncontrollable stressors. Thus, optimism may contribute to better adjustment to a stressful life event by promoting the use of an active, problem-focused coping style (for controllable events) and to the use of positive reinterpretation and acceptance coping strategies (for uncontrollable events), which should both predict overall adjustment as well as perceptions of stress-related growth and benefits.

In contrast, research indicates that pessimism, or negative expectancies for the self and the future, is associated with greater vulnerability to stressful life events and the use of maladaptive coping strategies. In particular, the relationship between stressful life events and the onset of depression appears to be mediated by pessimistic expectations (Bifulco & Brown, 1996; Nolen-Hoeksema, Parker, & Larson, 1994). Further, in a sample of adult caregivers, pessimism was found to predict greater levels of both

physical and psychological symptomatology over time (Robinson-Whelen et al., 1997). Although these studies do not investigate how pessimism may lead to these negative effects, other research suggests that pessimism may contribute to negative outcomes through the use of avoidant coping strategies. In particular, Scheier et al. (1986) found pessimism to be associated with greater use of denial and distancing in response to a stressful life event. Thus, the research presented here suggests that pessimism may be an important predictor of negative outcomes such as distress and depression, as well as a predictor of avoidant coping, which may lead to the maladaptive intrusion and avoidance cycles described previously.

Perceptions of Control over Life Events

Numerous studies have indicated that the amount of control individuals feel they have over a particular event or events in general can influence their ways of dealing with stressful life events and their long-term adjustment. In the stress literature, control has been most commonly conceptualized in three ways: mastery (Pearlin & Schooler, 1978), locus of control (Rotter, 1966), and perceived control over a particular life event (Rothbaum, Weisz, & Snyder, 1982; Thompson, 1981). All of these conceptualizations provide evidence that control is associated with better adjustment in response to stressful life events, and they will be discussed in light of supporting research below.

Mastery is the most general conceptualization of the three, and refers to the degree to which people feel that they have control over the their life, their problems, and their future (Pearlin & Schooler, 1978). Mastery can promote adjustment to and resolution of stressful life events (Thoits, 1994), and may also be substantially correlated with optimism (Marshall & Lang, 1990). Hobfoll and colleagues have shown a high degree of mastery to be associated with less depression and anxiety in studies of college students during a military conflict (Hobfoll, London, & Orr, 1988), women undergoing cancer biopsies (Hobfoll & Walfisch, 1984, 1986), mothers of ill children (Hobfoll & Lerman, 1988), and families of men recruited into the Israel-Lebanon military conflict (Hobfoll & London, 1986). Further, Hobfoll and colleagues showed mastery to be a moderating factor in the relationship between stressful life events and depression (Hobfoll & Walfisch, 1986). Other research, however, has examined the reciprocal effects of stressful life events on people's sense of mastery, and found that ongoing stressful life experiences can be important determinants of a person's overall sense of mastery. For example, research by Pearlin and colleages (Pearlin, Menaghan, Lieberman, & Mullan, 1981) suggests that stressful experiences can diminish people's mastery, which can, in turn, lead to a greater likelihood of depression. Similarly, other research on Alzheimer's caregivers (Skaff, Pearlin, & Mullan, 1996) showed decreases in mastery levels for participants who continued to give care to their relatives, stability in mastery levels for participants who placed their relatives in a care facility, and increases in mastery for participants who experienced the death of their relatives over the course of the study. In light of Aldwin's deviation amplification model described earlier, these studies suggest that the initial effects of a negative experience on a person's perception of control may be subject to positive feedback processes, which may contribute in part to either long-term growth or vulnerability.

Locus of control is a concept developed by Rotter (1966), and refers to people's beliefs in whether events are controlled by themselves (internal locus of control) or by outside forces such as other people, chance, or luck (external locus of control). Similar to a high sense of mastery, an internal locus of control can moderate the relationship between stressful life events and psychological distress (Sandler & Lakey, 1982; Taylor et al., 1984). Werner's longitudinal research on children from high-risk environments has shown an internal locus of control to be a factor associated with long-term resiliency (Werner, 1986; Werner & Smith, 1982). Further, Aspinwall and Taylor (1992) found that an internal locus of control predicted better adjustment in a longitudinal sample of college freshman, and that this relationship was moderated by the use of active coping strategies and the non-use of avoidant coping strategies.

The third common conceptualization of control is a person's perceived control over a particular experience, and this conceptualization is often broken down into primary control and secondary control (Rothbaum et al., 1982). Primary control refers to people's beliefs that they can take direct action to bring an event or experience in line with their wishes and expectations. If an event is resistant to primary control attempts, then attempts at secondary control may emerge. Secondary control refers to people's attempts to fit in with the experience and "flow with the current" (Rothbaum et al., 1982, p. 8), and can include attempts to seek an understanding of the event and derive meaning from the experience. In a study of parents of high-risk infants, perceptions of both primary and secondary control were shown to be related to better mood and less intrusive thoughts and avoidance of the experience (Affleck et al., 1985). Taylor, Helgeson et al. (1991) found that primary control may be more adaptive for men, but that either primary or secondary control may be adaptive for women coping with stressful events. In a study of HIV-positive men, perceptions of both primary and secondary control were associated with better adjustment, but perceptions of secondary control were found to be most beneficial at low levels of primary control, suggesting that secondary control may be most effective in situations that may be resistant to direct attempts at control (Thompson et al., 1994). Further, research on women with impaired fertility found that as women's expectations of conception decreased, perceptions of secondary control and benefit from the experience increased (McLaney, Tennen, Affleck, & Fitzgerald, 1995), suggesting that secondary control is associated with perceptions of benefits and growth.

Strong Sense of Self

Since the inception of research on coping with trauma, philosophers and researchers have suggested that a strong sense of self may provide the basis for resilience in the face of traumatic events. A sense of coherence about one's life (Antonovsky, 1979), a sense of purpose in life (Visotsky et al., 1961), and a hardy personality (Kobasa, 1979) have all been described as valuable resources for coping with trauma. High self-esteem may enable people to cope more successfully with stressful events (Whisman & Kwon, 1993) and may help to protect against some of the debilitating physiological consequences that are sometimes seen in response to stressful events (e.g., Seeman et al., 1995). A cluster of personality qualities called ego strength – dependability, trust, and lack of impulsivity – appear to represent coping resources that also help people manage the stresses of daily life over time (e.g., Friedman et al., 1995; Holahan &

Moos, 1990). Holahan & Moos (1990) have suggested that these resources may improve coping by increasing the likelihood of the use of active coping behaviors.

Preexisting Vulnerabilities

A counterpoint to these findings is the observation that preexisting vulnerabilities represent risk factors for poor adjustment to stressful events. Some of this work has focused on negative affectivity (Watson & Clark, 1984), a pervasive dispositional negative mood marked by an anxiety, depression, and hostility. Individuals high in negative affectivity express distress, discomfort, and dissatisfaction across a wide range of situations (Brett, Brief, Burke, George, & Webster, 1990; Watson & Clark, 1984). Negative affectivity appears to be associated with poor responses to stressful events, including elevations in neuroendocrine activity (e.g., cortisol) that may presage health problems in response to stressful events (van Eck, Berkhof, Nicolson, & Sulon, 1996). The adverse effects of negative affectivity on coping may be mediated, in part, by behavioral avoidance coping. For example, people who are high in negative affectivity are more prone to drink heavily (Francis, Franklin, & Flavin, 1986), to be depressed (Francis, Fyer, & Clarkin, 1986), and to engage in suicidal gestures or even suicide (Cross & Hirschfeld, 1986) in response to stress. Preexisting dispositional vulnerabilities have also been tied to a higher likelihood of post-traumatic stress disorder in the face of intensely stressful or traumatic events. Research suggests that those who exhibit the symptoms of PTSD in response to stress were disproportionately likely to have preexisting psychological problems, such as depression or anxiety (APA, 1994; Keane & Wolfe, 1990).

Related dispositional vulnerabilities include neuroticism (Boland & Cappeliez, 1997; McCrae & Costa, 1986) and pessimistic explanatory style (Burns & Seligman, 1989; Peterson, Seligman, & Vaillant, 1988). Neuroticism appears to be linked to avoidant coping behavior and less reliance on growth-related coping style (McCrae & Costa, 1986). Pessimistic explanatory style refers to a tendency that some people have to characteristically explain the negative events of their lives in terms of internal, stable, and global qualities of themselves. In so doing, they may lay the groundwork for depression and poor health (e.g., Kamen-Siegel et al., 1991). The extent to which pessimistic explanatory style is independent of depression and the degree to which these three preexisting vulnerabilities cohere or maintain relative independence has not been formally ascertained. Nonetheless, research has related all three to risk for adverse adjustment to stressful life events.

Event Characteristics

In addition to personality resources as determinants of positive and negative outcomes of traumatic events, the characteristics of events themselves may influence whether people derive long-term positive or negative consequences. The severity of the adversity, for example, appears to be related to greater risk for the negative effects of depression (Frank, Tu, Anderson, & Reynolds, 1996; Kendler, Karkowski, & Prescott, 1998), anxiety (Kendler et al., 1998), and PTSD (Yehuda, Southwick, & Giller, 1992). On the other hand, greater severity also appears to be related to increased reports of stress-related growth (Elder & Clipp, 1989; McMillen et al., 1997; Park et al., 1996; Sledge et al., 1980). As these studies of stress-related growth are based on retrospective accounts, one possible explanation is that the greater the initial disruption and distress that an event creates, the greater the potential that benefit will later be found. This perspective is consistent with Tedeschi & Calhoun's (1995) process model of posttraumatic growth, which argues that the more an individual needs to work through a traumatic event and its painful after-effects, the more an individual will subsequently benefit from the experience. To date, however, there is little evidence examining how stress-related growth develops over time, and the processes by which initial distress is transformed to later growth. An alternate view – but not necessarily contrary one – is that the more an event disrupts a person's life, the more potential it has to change the person, with some individuals ultimately benefiting from the experience and others succumbing to it. Evidence from McMillen et al.'s (1997) study of disaster victims lends support to this individual differences perspective, in that levels of stress-related benefit moderated the effect of severity on long-term change in mental health. For individuals who reported high levels of perceived benefits, increased severity was associated with subsequent decreases in psychopathology; for individuals who reported low levels of perceived benefit, increasing severity was associated with increases in psychopathology. A final perspective, suggested by Carver (1998), is that the actual relationship between severity and outcome may be curvilinear: low level stressors may not be disruptive enough to have significant effects, either positive or negative; more severe stressors may be disruptive enough to elicit some negative effects, but manageable enough to allow for ultimate benefit; finally, extremely severe stressors – such as those that commonly are associated with the development of PTSD – may be beyond the range of effective management and may contribute to more long-term decrement.

Another event characteristic that may be related to the nature of the response is the controllability of the event. The previous discussion of secondary control perceptions and positive reinterpretation strategies leads to the intriguing hypothesis that experiences most resistant to direct control and coping attempts may be most likely to contribute to perceptions of benefit and growth. Such events may be dealt with through positive reinterpretation and acceptance coping strategies, which may contribute to perceptions of positive consequences. Indeed, many of the experiences that were discussed earlier as contributors to perceptions of growth are essentially unmodifiable experiences that typically follow a long course of adaptation, such as bereavement, cancer, HIV infection, and impaired fertility. In contrast, experiences that are modifiable by direct control and active coping attempts may contribute to a person's sense of mastery and self-efficacy (see Bandura, 1977), but may not generate high perceptions of stress-related growth or meaning. Thus, it may be that the less a person feels that he or she can take direct control over a negative event, the more the person may engage in the coping strategies that appear to lead to perceptions of benefit and growth.

The specific nature of the event itself may also influence the ability to derive benefits from traumatic events, specifically, whether the event represents a significant loss such as a death, a separation, a loss of employment or possession, or a significant threat such as a health threat, combat experience, or victimization. In one line of research, Finlay-Jones and Brown (1981) showed differential effects of loss events and threat events. Events that represented severe losses, in general, were related to the subsequent onset of depression, but not anxiety. In contrast, events that represented severe threats or dangers were related to the subsequent onset of anxiety, but not de-

pression (Finlay-Jones, 1989; Finlay-Jones & Brown, 1981). While this research suggests some specificity between the nature of the event and the nature of the negative response, it is not known how the distinction between severe losses and threats may relate to positive outcomes. Perhaps positive reinterpretation and acceptance are more likely to be used as coping strategies in dealing with severe losses than severe threats, so it may be useful to examine losses as a distinct class of events that may disproportionately contribute to the phenomena of growth and meaning (see also Harvey & Miller, 1998). In contrast, severe threats may elicit the more typical "fight or flight" response, and may be responded to with more attempts at either direct action or avoidant coping strategies, rather than the positive reinterpretation that contributes to perceptions of stress-related growth.

Other dimensions of stressful events may also influence whether responses to them are primarily positive or predominantly negative. Some researchers have suspected that impersonal events, such as those that result from natural disasters or illness, may be more amenable to finding benefits than events that represent the malevolent agentic response of another individual, such as rape or assault. Although there is insufficient research comparing responses across events to justify such a conclusion, one study examined responses to three community traumas and found a natural disaster to result in greater reports of perceived benefit, in comparison to a shooting and a technological disaster (McMillen et al, 1997). Also potentially consistent with this hypothesis is the finding that, when people blame another person for a stressful event, their psychological adjustment is worse (Affleck, Tennen, Pfeiffer, & Fifield, 1987; Taylor et al., 1984); however, such attributions may themselves be characteristics of the people making them, rather than characteristics of the events, and so this issue remains unresolved.

Conclusion

Traumatic events are known to produce many adverse psychological outcomes, including depression, anxiety, and rumination. Yet most people derive at least some benefits from these intensely stressful events as well, including positive changes in the self-concept, beneficial changes in relationships with others, and personal growth and alteration of life priorities. The last two decades have provided manifold evidence of the many mechanisms by which people can construe benefit from stress or trauma, including selective perceptions, selective evaluation, and selective social comparisons. In this paper, we have examined the processes of finding benefits versus adversity in stressful events, and the personal resources and the characteristics of events that are conducive to finding benefits or that predispose people to negative psychological outcomes.

Overall, the process of achieving growth versus enhancing vulnerability in the wake of traumatic events appears to be heavily predicted by personal resources. People with a strong sense of self, who cope actively, are optimistic, and perceive more control over life events can thrive in the face of adversity. On the other hand, people who rely more on avoidant coping strategies, have more pessimistic expectancies, have low perceptions of control, and have preexisting dispositional vulnerabilities may succumb to the negative effects of stressful life events and become more vulnerable to subsequent stresses.

A number of qualifications of a dispositional analysis should be noted, however. First, some of these dispositional factors may be substantially correlated with each other in individuals, and these general orientations may be driven in part by outcome expectancies (Aspinwall & Taylor, 1992) or even a genetic basis (e.g., Kendler et al., 1991; Plomin et al., 1992). Second, much of research reviewed here is cross-sectional, raising the possibility that some of the personal resources associated with finding benefits or adversities in stressful events may be outcomes of the process, rather than causes of it; hence, it is important to conduct longitudinal studies to identify the predictors of a positive versus negative trajectory. Last, whether or not a stressful experience triggers a cycle of growth or vulnerability may depend on the resources a person initially has available to use in dealing with a stressful life event (Hobfoll, 1988). In this light, resources such as supportive social relations, self-confidence, and a sense of control may be outgrowths of prior and more fundamental resources, such as income and education, which may profoundly determine who is able to turn a threatening situation to their advantage and who will become increasingly vulnerable as a result (Taylor & Seeman, 1999). Thus, although the general model discussed here is primarily personality-based, other factors outside the individual may influence the nature of the response.

Relative to characteristics of the person, research has focused somewhat less on characteristics of the traumatic events that may lead disproportionately to finding meaning versus sustaining negative outcomes in the face of traumatic events. Rather, some intriguing dimensions, such as whether the event is a loss or threat, and whether an event is perceived to be an intentional or motivated act of another versus a random, impersonal event, may be important. However, research has not yet sustained the importance of these distinctions, so additional work is needed.

In sum, this review highlights the importance of taking into account both the positive and the negative changes reported by people who are confronted with adversity. Research clearly shows that there is a wide variety in people's responses to severely stressful life events, and future research may profit from greater attention to both the scope of people's responses as well as the processes and factors that influence this range of outcomes. We also stress that, although experience with adversity can lead to a number of the vulnerabilities described earlier, it can also serve as an opportunity for personal change, growth, reassessment, and a chance to deepen people's appreciation of themselves, their life, and their loved ones. This ability to transform adversity into opportunity is perhaps the most impressive finding across the studies reviewed here, and highlights a human resiliency that is by no means rare. Such resiliency is reflected in the observations of Viktor Frankl (1963), who drew from his own experiences in a Nazi concentration camp, when he wrote, "When we are no longer able to change a situation … we are challenged to change ourselves" (p. 135).

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