Positive Affect and the Other Side of Coping

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Although research on coping over the past 30 years has produced convergent evidence about the functions of coping and the factors that influence it, psychologists still have a great deal to learn about how coping mechanisms affect diverse outcomes. One of the reasons more progress has not been made is the almost exclusive focus on negative outcomes in the stress process. Coping theory and research need to consider positive outcomes as well. The authors focus on one such outcome, positive affect, and review findings about the co-occurrence of positive affect with negative affect during chronic stress, the adaptive functions of positive affect during chronic stress, and a special class of meaning-based coping processes that support positive affect during chronic stress.

Research on coping over the past 30 years has been dominated by contextual models that emphasize coping by a person situated in a particular stressful encounter (e.g., Lazarus, 1966; Lazarus & Folkman, 1984; McCrae, 1984) or stressful social condition (e.g., Pearlin, Lieberman, Menaghan, & Mullin, 1981; Pearlin & Schooler, 1978). Studies based on these conceptualizations vary in the weight they give to the influence of antecedent factors such as personality (e.g., McCrae & Costa, 1986; McCrae & John, 1992), individual and social resources (Holahan & Moos, 1986, 1987, 1990), and development over the life span (e.g., Aldwin, 1994; Strack & Feifel, 1996). Despite these variations, research based on contextual approaches converges on the following points:

1. Coping has multiple functions, including but not limited to the regulation of distress and the management of problems causing the distress (cf. Parker & Endler, 1996).
2. Coping is influenced by the appraised characteristics of the stressful context, including its controllability (Baum, Fleming, & Singer, 1983; Folkman, Lazarus, Dunkel-Schetter, DeLongis, & Gruen, 1986).
3. Coping is influenced by personality dispositions including optimism (for a review, see Carver & Scheier, 1999), neuroticism, and extraversion (McCrae & Costa, 1986).
4. Coping is influenced by social resources (Holahan, Moos, & Schaefer, 1996; Pierce, Sarason, & Sarason, 1996).

Psychologists have made less progress, however, in answering the fundamental questions that motivated interest in coping in the first place: How does coping help individuals minimize or avoid the adverse mental and physical health effects of stress? Does coping really matter? Discussions of this lack of progress often cite limitations of assessment techniques (e.g., Coyne & Gottlieb, 1996; Coyne & Racioppo, 2000, this issue; Stone, Greenberg, Kennedy-Moore, & Newman, 1991) and the underutilization of qualitative methods (Lazarus, 1999), or they cite the lack of attention to the interpersonal aspects of coping (e.g., Lepore, 1997; O'Brien & DeLongis, 1997).

These criticisms all have merit and need to be addressed, but we believe there is another reason that coping research has fallen short of its promise to explain the psychological mechanisms through which people manage stress effectively. Historically, coping has most often been evaluated in relation to its effectiveness in regulating distress. This orientation is completely understandable given the history of coping and its origins in ego psychology (e.g., Menninger's, 1963, and Vaillant's, 1977, classic models) in which the primary concern was the regulation of anxiety. What has been underrepresented in coping research is an approach that looks at the other side of the coin, an approach that examines positive affect in the stress process.

Positive affect has not been entirely neglected in models of stress. It has been discussed in relation to the primary appraisal of stressful situations as challenges, which signals the possibility of mastery or gain and is characterized by positively toned emotions such as eagerness, excitement, and confidence. Positive affect is also discussed in relation to the appraisal of the resolution of a stressful encounter as favorable or successful, leading to emotions such as happiness and pride (Folkman & Lazarus, 1985), and it is discussed as a response to the cessation of aversive conditions, when people are likely to experience an offsetting positive emotion such as relief (for a review, see Taylor, Helgeson, Reed, & Skokan, 1991). In addition, a number of studies have examined other kinds of positive outcomes of stressful events, even though the events themselves may not have had favorable resolutions. Such outcomes include

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the perception of benefit from the stressful encounters (e.g., Affleck, Tennen, Croog, & Levine, 1987), the acquisition of new coping skills and resources (e.g., Schaefer & Coleman, 1992), the perception of growth related to their stress (e.g., Holahan & Moos, 1987, 1990, 1991; Nolen-Hoeksema & Larson, 1999; Park, Cohen, & Murch, 1996), and spiritual or religious transformation that results from the stressful experiences (e.g., Aldwin, 1994; Pargament, 1997).

In general, however, most models of stress do not emphasize positive affect or, in particular, its adaptational significance, nor do they describe the kinds of coping processes that people use to generate or sustain positive affect in the midst of personally significant, enduring stress (see also Folkman & Moskowitz, in press). In this article, we highlight these aspects of positive affect. We argue that:

- positive affect can co-occur with distress during a given period,
- positive affect in the context of stress has important adaptational significance of its own, and
- coping processes that generate and sustain positive affect in the context of chronic stress involve meaning.

Positive Affect Co-Occurs With Distress

Although it is widely recognized that negative affect goes hand in hand with chronic stress, increasing empirical evidence shows that positive affect also occurs during chronic stress, often with surprising frequency. In a study of people hospitalized with a severe or chronic illness, Viney (1986) found that the patients reported significantly higher levels of positive emotion than did participants in a nonpatient comparison group. Silver and Wortman (1987, as reported in Wortman & Silver, 1987) reported similar findings in which people experiencing extreme chronic stress (one group with spinal cord injuries, one group of bereaved parents) experienced positive emotions significantly more frequently than negative emotions within a short time of the occurrence of the negative event that precipitated the chronic stress. In a longitudinal study of 253 caregiving partners of men with AIDS (Folkman, 1997a), participants were assessed every two months for two years and semiannually for three additional years. The participants were found to have significantly elevated levels of depressive mood (assessed with the Center for Epidemiologic Studies Depression Scale; Radloff, 1977) throughout caregiving and up to three years after the deaths of their partners. With the exception of the time immediately surrounding the deaths of their partners, however, they also reported experiencing positive affect (assessed with a modified version of Bradburn's, 1969, affect scales) with at least the same frequency that they experienced negative affect.

The Nature of the Relationship Between Positive and Negative Affect

Our observation that positive and negative affect can co-occur during periods of intense stress touches on the ongoing debate about the extent to which positive and negative affect are bipolar or independent constructs. (See recent work by Feldman Barrett & Russell, 1998, and Russell & Carroll, 1999, for full reviews of the debate and insightful suggestions for a resolution.) For the most part, the debate on the relationship between positive and negative affect has been concerned primarily with the momentary experience of affect and whether a person can experience positive affect and negative affect simultaneously. However, we are not concerned with the relationship between positive and negative affect at any given moment. We are concerned with the slightly different issue of whether positive and negative affect can both occur during a stressful period of time. We argue that this type of co-occurrence, which has been observed in the studies we cited, is completely plausible and, furthermore, may serve an important function. Over a given stressful period, numerous affect-inducing events occur, the majority of which are likely to produce negative affect. However, despite the overriding stressful circumstances, events that prompt positive affect also occur. For example, one caregiver in our study reported feeling "incredibly happy and very hopeful and very positive . . . really elated" in response to a positive event that occurred during the same week in which he reported the following unrelated stressful event:

> It was the day I took C. for his doctor's appointment and he got very weak and we ended up taking him to the emergency room. I had already been upset by seeing him become pale and faint. I realized the situation was not good but I didn't say anything and tried desperately to remain composed. . . . . We had been there for about three hours and his primary doctor came over to see how things were. She said, "It occurs to me that we're not talking about years, but merely a matter of months." It was a chilling statement that has been echoing in my head ever since.

When viewed from a stress and coping perspective, findings that positive and negative affect co-occur during intensely stressful periods suggest that the important question is not the extensively debated issue about the relationship between positive and negative affect. Rather, the question is, why is positive affect there at all? Does it have adaptational significance?

Positive and Negative Affect Viewed From a Coping Perspective

The adaptational significance of negative affect has been extensively studied in terms of its motivational and attentional effects. Negative affect, for example, focuses attention on the problem at hand (Frijda, 1988) and is associated with specific evolutionarily adaptive forms of action (e.g., anger prompts the urge to attack, fear prompts the urge to flee; Frijda, 1986; Frijda, Kuipers, & Schure, 1989; Lazarus, 1991).

In comparison, there has been little discussion of the adaptational significance of positive affect. Early emotion theorists, when they considered positive affect at all, proposed that it served as a safety signal and was likely to lead to decreased vigilance and shallower processing of information compared with negative affect (for reviews, see

Aspinwall, 1998; Fredrickson, 1998). If this were the case, positive affect would be maladaptive in the context of chronic stress because it would counteract the adaptive attentional and motivational effects of negative affect. However, theoretical and empirical work indicate that positive affect can have significant adaptive functions, both under normal conditions and under conditions of stress.

Twenty years ago, Lazarus, Kanner, and Folkman (1980) considered the functional role that positive emotions serve in the context of stressful events. They hypothesized that under stressful conditions, when negative emotions are predominant, positive emotions may provide a psychological break or respite, support continued coping efforts, and replenish resources that have been depleted by the stress. Recently, Fredrickson (1998) proposed a complementary *broaden-and-build model* of the function of positive emotions. In contrast to the narrowing of attention and specific action tendencies associated with negative emotions, Fredrickson reviewed evidence showing that positive emotions broaden the individual's attentional focus and behavioral repertoire and, as a consequence, build social, intellectual, and physical resources—resources that can become depleted under chronically stressful conditions.

Empirical evidence for the function of positive affect has begun to accumulate. Isen and her colleagues have shown in a number of studies that positive affect promotes creativity and flexibility in thinking and problem solving (Isen & Daubman, 1984; Isen, Daubman, & Nowicki, 1987; Isen & Geva, 1987; Isen, Johnson, Mertz, & Robinson, 1985). Positive affect also facilitates the processing of important (e.g., self-relevant) information even if that information is negative and may potentially damage self-esteem (Reed & Aspinwall, 1998; Trope & Neter, 1994; Trope & Pomerantz, 1998).

Positive affect may also serve as a buffer against adverse physiological consequences of stress. Positive affect, for example, has been shown to offset the potentially damaging physiological concomitants of negative affect. Fredrickson and Levenson (1998) induced negative emotion in participants by showing them a film that elicited fear. Participants were then shown one of four films designed to elicit contentment, amusement, sadness, or no emotion (neutral condition). Measures of cardiovascular reactivity indicated that those individuals who were shown the contentment or amusement film had faster recovery to baseline than did participants shown the sad or neutral film. This study suggests one route by which positive emotions may undo some of the negative physiological effects associated with negative emotions.

Another route through which positive affect may offset the deleterious physiological effects of stress is through the neuroendocrine system. Suggestive preliminary data come from a study by Epel, McEwen, and Ickovics (1998) in which women who reported finding positive meaning in response to a traumatic event had more adaptive hormonal responses to a subsequent laboratory stressor. The women's positive affect as a result of meaning-based coping in response to traumatic events may have made them more physiologically resilient in the face of subsequent stress and may have helped protect them from the maladaptive neural, endocrine, and immune responses to chronic stress that can lead to disease (Epel et al., 1998; McEwen, 1998). The possibility that positive affect may have a role in the prevention of adverse physiological effects of stress that is not simply the obverse of negative affect's deleterious role is further reinforced by findings that positive and negative affect are associated with different neural structures (Cacioppo & Gardner, 1999; Davidson, 1992; LeDoux, 1995; Tomarken & Keener, 1998).

Positive affect in the context of chronic stress may also help prevent clinical depression. Intense, prolonged negative affect, such as that experienced in chronically stressful conditions, without compensatory experiences of positive affect may overwhelm the regulatory function of emotion and result in clinical depression (Gross & Munoz, 1995). Experiences of positive affect in the midst of stressful circumstances may interrupt and thereby short-circuit this rumination spiral and prevent the decline into clinical depression.

Work by Reich and Zautra and their colleagues supports this possibility. They found that positive life events (and presumably the positive affect associated with them) were related to decreased distress as well as increased positive affect in individuals who were experiencing the chronic stress of disability (Zautra, Reich, & Guarnaccia, 1990) or who had recently experienced many negative life events (Reich & Zautra, 1981). However, the association between positive events and decreased distress may be specific to contexts that are stressful (Zautra, Potter, & Reich, 1997), because for control groups who were not experiencing stress, positive events were associated with increased positive affect only and not with decreased distress (Reich & Zautra, 1981; Zautra et al., 1990).

In a study of AIDS-related caregiving, Moskowitz, Acree, and Folkman (1998) explored the possibility that positive affect helps prevent clinical depression. Moskowitz et al. compared the average levels of positive and negative affect (assessed with modified versions of Bradburn's, 1969, positive and negative affect scales) of men who did and did not experience clinical depression over the course of the study. Not surprisingly, men who experienced clinical depression (as assessed by a version of the Structured Clinical Interview for the *Diagnostic and Statistical Manual of Mental Disorders,* 3rd ed., revised [SCID]; Spitzer, Williams, Gibbon, & First, 1988) had significantly higher levels of negative affect on average in the interviews prior to becoming clinically depressed than did men who did not become clinically depressed. In addition, however, depressed men also reported significantly lower average levels of positive affect (Moskowitz et al., 1998). Although these correlational data cannot prove that the combination of increased negative affect and decreased positive affect caused clinical depression, the data are consistent with the possibility that without the protective effects of sufficient levels of positive affect, people who are experiencing high levels of negative affect are more likely to become clinically depressed.

Coping That Generates Positive Affect

In light of the evidence suggesting that positive affect has significant adaptational functions in the coping process, it becomes important to understand how positive affect is generated and sustained in the context of chronic stress. In a longitudinal study of AIDS caregivers, we identified three kinds of coping related to the occurrence and maintenance of positive affect: positive reappraisal, goal-directed problem-focused coping (Moskowitz, Folkman, Collette, & Vittinghoff, 1996), and the infusion of ordinary events with positive meaning (Folkman, Moskowitz, Ozer, & Park, 1997).

Positive Reappraisal

Positive reappraisal refers to cognitive strategies for reframing a situation to see it in a positive light (seeing a glass half full as opposed to half empty). It is akin to the concepts of benefit reminding (Affleck & Tennen, 1996) and downward social comparisons (e.g., Wills, 1981; Wood, 1989), both of which refer to cognitive coping strategies that enable the individual to appraise a difficult situation more positively. Positive reappraisal is often taught and encouraged in cognitive behavioral therapy (e.g., Fava, Rafanelli, Cazzaro, Conti, & Grandi, 1998), and it is assessed by many contemporary paper-and-pencil measures of coping (e.g., Billings & Moos, 1984; Carver, Scheier, & Weintraub, 1989; Folkman & Lazarus, 1988). Positive reappraisal has been associated with positive affect in stressful events (for a review, see Aldwin, 1994). This was the case in Moskowitz et al.'s (1996) study of caregiving and bereavement. Moskowitz et al. selected 110 participants whose positive reappraisal had been assessed with a scale from the Ways of Coping Questionnaire (Folkman & Lazarus, 1988) and whose positive and negative affect had been assessed with modified versions of Bradburn's (1969) positive and negative affect scales. Participants completed these assessments three months and one month before the deaths of their partners and three months and five months after the deaths of their partners. On each of the four occasions, positive reappraisal was significantly and independently associated with increases in positive affect, controlling for the previous month's positive affect and for the other seven types of coping assessed with the Ways of Coping Questionnaire (Moskowitz et al., 1996).

Positive reappraisal often involves deeply held values that are activated by the stressful situation. In qualitative data, for example, caregivers commented on how their caregiving activities demonstrated their love and preserved the dignity of their ill partners (Folkman, Chesney, & Christopher-Richards, 1994). Thus, the potentially painful, exhausting, and stressful experience of being a caregiver was reappraised as very worthwhile. Awareness of the value of caregiving activities should have a motivational effect on subsequent caregiving. This kind of coping, in which people focus on the value of their efforts and appraise them positively, may thus be especially important in helping people sustain efforts, such as those associated with caregiving, over long periods of time.

Problem-Focused Coping

Problem-focused coping refers to efforts directed at solving or managing the problem that is causing distress. It includes strategies for gathering information, making decisions, planning, and resolving conflicts; it includes efforts directed at acquiring resources (e.g., skills, tools, and knowledge) to help deal with the underlying problem; and it includes instrumental, situation-specific, task-oriented actions (Lazarus & Folkman, 1984).

The study described by Moskowitz et al. (1996) was conducted during the early 1990s, when there was little that could be done to control the course of AIDS. The overall situation was essentially uncontrollable. At first blush, we might seem to be posing a contradiction by discussing goals, efficacy, mastery, and control under conditions that are stressful in large part precisely because there is a general lack of control. But it is, in fact, quite possible to identify goals and experience efficacy, mastery, and control in situations that appear uncontrollable and even worsening (e.g., Taylor et al., 1991). Often this requires relinquishing previous goals that are no longer tenable and turning to new, realistic goals (for a discussion, see Carver & Scheier, 1998; Folkman & Stein, 1996).

This point was driven home to us in our studies of AIDS caregivers (e.g., Folkman et al., 1994; Moskowitz et al., 1996). One of the most prominent themes in participants' narrative accounts of their stressful events was their sense of helplessness because of the unpredictability and uncontrollability of their partners' disease (Folkman et al., 1994). As much as they wanted to make their partners better, they could not. However, participants were not passive in the face of uncontrollability; instead, they pursued realistic, attainable goals by focusing on specific, proximal tasks or problems related to caregiving. In fact, problem-focused coping actually increased significantly from three months to one month prior to a partner's death (Moskowitz et al., 1996). The increase in problem-focused coping during this period attests to the need and the ability to assert control in situations that appear uncontrollable. In addition, problem-focused coping was positively and significantly related to positive affect during this period, controlling for the previous month's affect and for other types of coping.

Ordinarily, problem-focused coping might not seem to have much to do with meaning; it is, after all, task focused and instrumental in its nature. Yet, problem-focused coping can be very meaningful, first, because it involves identifying situation-specific goals that engage the individual and focus his or her attention, and, second, because the enactment of problem-focused coping makes it possible for the individual to feel effective and experience situational mastery and control. Both of these meaning-based functions of problem-focused coping are critical for positive well-being (Carver & Scheier, 1998; Klinger, 1998). The sense of mastery and control engendered by successful problem-focused efforts helps explain caregivers' reports of positive affect in the midst of their distress. At the same time, problem-focused coping included caregiving-related in-

strumental behavior that was extremely functional in relation to what the caregiving situation required. In this sense, problem-focused coping had three positive outcomes: It focused attention, it generated a sense of mastery and control, and it resulted in the enactment of caregiving responsibilities.

Infusing Ordinary Events With Positive Meaning

The study of stress and coping in caregivers of people with AIDS (e.g., Folkman, 1997a; Moskowitz et al., 1996) included a question that asked the participant to describe "something that you did, or something that happened to you, that made you feel good and that was meaningful to you and helped you get through the day." Perhaps the most startling finding from this question was the simple observation that participants reported a positive event in 99.5% of the 1,794 interviews that asked about such an event (Folkman, 1997a). The participants were clearly noting and remembering positive events in the midst of their distress, and they had little trouble recalling these events when asked. Little was unusual about the events per se. The vast majority were seemingly ordinary events of daily life. Half the positive events were planned, such as preparing a special meal or getting together with friends, suggesting that caregivers took initiative in creating them, and half the events just happened, such as seeing a beautiful flower or receiving a compliment for something minor, suggesting that caregivers also took advantage of ordinary events by infusing them with positive meaning (Folkman et al., 1997).

The key question is whether people who are not experiencing intense stress would note and remember these events. Several studies have shown that within individuals, positive and negative events tend to be moderately positively correlated (Headey & Wearing, 1989; Magnus, Diener, Fujita, & Pavot, 1993; Reich & Zautra, 1981; Suh, Diener, & Fujita, 1996) such that individuals who experience many negative events also experience many positive events. It may be that when a negative event occurs, the individual creates a positive event or interprets an otherwise ordinary event as positive as a way of offsetting the negative affective consequences of the negative event. Hobfoll (1998) commented that people are keyed to respond to the adverse sequelae of loss by turning their attention to their resources and looking for positive aspects of their lives. Cognitive behavioral therapists have long recognized the benefits of having patients schedule positive events to help remediate depressive mood (Lewinsohn, Sullivan, & Grosscup, 1980; Reich & Zautra, 1981). Thus, some evidence suggests that under stressful conditions, individuals may be more likely to bring about, note, or remember ordinary positive events, but explicit tests of this hypothesis await further research.

The Special Role of Situational Meaning

Positive reappraisal, problem-focused coping, and the positive events that we described in the context of AIDS caregiving all involve creating, reinstating, or reinforcing meaning in the midst of stress. Meaning has long been implicated in the appraisal of stress (Lazarus, 1966, 1991, 1999; Lazarus & Folkman, 1984), where it helps determine the personal significance of a stressful situation in relation to the individual's beliefs, goals, values, or commitments. This appraised or *situational meaning* shapes the emotions the person experiences in the stressful encounter. Appraised situational meaning contrasts with *global meaning*, which refers to more abstract, generalized meaning related to people's fundamental assumptions, beliefs, and expectations about the world and the self in the world (Janoff-Bulman, 1992; Park & Folkman, 1997).

Appraised situational meaning—the evaluation of the personal significance of a stressful situation—is typically posited as influencing subsequent coping activity (Lazarus & Folkman, 1984), but in the case of coping processes that support positive affect, appraised meaning is also integral to the process of coping itself. The manner in which people use meaning as part of the coping process has usually been described in relation to the reconstitution of global meaning, such as existential beliefs or distal goals that define one's identity in the aftermath of trauma (see reviews in Aldwin, 1994; Baumeister, 1991; Tedeschi, Park, & Calhoun, 1998). In contrast, we emphasize the importance of coping processes that focus on the creation of situational meaning in the proximal, ongoing stressful context. We described three coping processes that serve this function; there are undoubtedly many more that could be identified by studying people who are faced with severe and persistent stress.

Some Methodological Challenges

Research on the role of positive affect and on coping that generates positive affect in the stress process poses some particularly challenging methodological issues. We touch on two of these here. The first has to do with the reciprocal relationship between affect and coping. On the one hand, depressed people are more likely to engage in maladaptive coping strategies, such as emotional discharge, escape–avoidance, and rumination (Billings & Moos, 1984; Nolen-Hoeksema, Larson, & Grayson, 1999), that make things worse, whereas people who are not depressed are probably more likely to engage in the kinds of meaning-based coping processes that we have described. People high in optimism, for example, are more likely to engage in problem-focused coping, which in turn is more likely to be associated with positive affect (Scheier et al., 1989; Taylor et al., 1992). On the other hand, findings from several longitudinal studies are consistent with the idea that coping explains changes in emotion (Carver & Scheier, 1994; Holahan, Holahan, Moos, & Brennan, 1997; Moskowitz et al., 1996). Which direction of causation is of greater importance depends on the research question. For example, if the question is how best to intervene to reduce depression, the direction of interest is from coping to emotion. On the other hand, if the question is the prediction of who will be able to engage in adaptive coping under distressing conditions, then the direction of interest is more likely to be from emotion to coping.

The second issue has to do with the importance of qualitative methods for this kind of research. Although quantitative methods have the advantage of facilitating comparisons within and between individuals across stressful events and require little labor to score, they usually provide only a superficial description of actual coping processes. A great deal more can be learned about coping that helps support positive affect by asking people to provide narratives about stressful events, including what happened, the emotions they experienced, and what they thought and did as the situation unfolded. Although the analysis of narratives is time consuming and labor intensive, we believe the insights that are gained through these efforts are worth the extra effort (e.g., Folkman, 1997b).

Regardless of the methodological challenges of this type of research, data from the studies we have described (e.g., Folkman et al., 1994, 1997; Moskowitz et al., 1996) clearly show that people who are not clinically depressed, but who nonetheless report very high levels of depressed mood, retain the capacity to engage in meaning-based coping and experience positive affect. This phenomenon may be critical in understanding how people manage to minimize the negative consequences of stress and produce positive outcomes.

Conclusion

The theme of affect and emotion in the stress process has been dominated by discussions of negative affect and other adverse outcomes. Positive affect and other positive outcomes have been given much less consideration. Psychologists need to understand more clearly the adaptational significance of positive affect in the midst of stress, and they need to learn how people generate and sustain positive affect under these conditions. What are the psychological conditions that are necessary to generate and sustain positive affect? What are the coping processes that people use to generate positive affect in the midst of stress? Which kinds of coping generate positive affect in the moment, and which kinds require time for the positive effects to be perceived? Do positive affect and negative affect independently influence physical health and other outcomes such as social functioning and health behavior? Broadening models of stress and coping to include positive as well as negative affect will change the kinds of questions psychologists ask about coping. In addition, psychologists will gain greater insight into not only how coping helps people avoid or minimize adverse effects of chronic stress but, of equal importance, how coping promotes psychological well-being and other positive outcomes in the context of chronic stress.

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