Tenacious Goal Pursuits and Striving Toward Personal Growth:

Proactive Coping

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Trends in Stress and Coping Theory: Resources, Goals, and Positive Emotions

Researchers disagree about the definition of stress. In the biomedical sciences, stress is understood as an organism's response to adverse stimulation. In psychology, however, stress is usually the process where a person and the environment interact, whereby research sometimes focuses on the nature of the stressor. Health psychologists study the joint effects of the person and environment on pathology, along with mediating and moderating factors, such as coping and social support (Hobfoll et al., 1998). Basically, three broad perspectives can be chosen when studying the stress process: (a) response-based, (b) stimulus-based, and (c) cognitive-transactional. We will briefly address this distinction in order to provide a better understanding of the history and scope of the topic. We will mention the theories of Selye (1956), Holmes and Rahe (1967), Lazarus (1966, 1991), and Hobfoll (1998) and will conclude with our Proactive Coping Theory (Greenglass, this volume; Schwarzer, 2000).

The Response-Based Perspective

When people say, 'I feel a lot of stress,' they are usually referring to their response to an adverse situation. The focus is on the way their body reacts. Selye (1956) has distinguished between a stressor (the stimulus) and stress (the response). Selye was not interested in the nature of the stressor, but rather in the physiological response and the development of illness.

This response to a stimulus follows the same typical three-stage pattern in humans and animals, called the general adaptation syndrome (GAS). According to the GAS, the body initially defends itself against adverse circumstances by activating the sympathetic nervous system. This has been called the *alarm reaction*. It mobilizes the body for the 'fight or flight' response, which can be seen phylogenetically as an adaptive short-term reaction to emergency situations. In many cases, the stress episode is mastered during the alarm reaction stage.

Often, however, stress is a longer encounter, and the organism moves on to the *resistance stage*, in which it adapts more or less successfully to the stressor. Although the person does not give the impression of being under stress, the organism does not function well and eventually becomes sick. According to Selye, the immune system is compromised, so some typical 'diseases of adaptation' develop under persistent stress, such as cardiovascular diseases.

Finally, in the *exhaustion stage*, the organism's adaptation resources are depleted, and a breakdown occurs. This is associated with parasympathetic activation that leads to illness, burnout, depression, or even death.

This response-based perspective of stress has its merits, and it is still dominant in the biomedical sciences. However, it is no longer supported in psychology, mainly because Selye has disregarded the role of emotions and cognitions by focusing solely on physiological reactions in animals and humans. Selye (1956) claimed that all these organisms show a nonspecific response to adverse stimulations, regardless of how the situation appears. In contrast, modern psychological theories highlight the individual's interpretation of the situation as a major determinant of a stressful encounter.

The Stimulus-Based Perspective

When someone says, 'I have a stressful marriage,' they refer to a trying situation, not to their response to that situation. The stimulus-based perspective takes this approach, paying more attention to the particular characteristics of the stressor. It is argued that each critical episode has its unique demands, be it physical, social, role, or task, that specifically tax the individual's coping resources, thus triggering a particular stress response. The research question is how to establish relationships between a variety of distinct stressors and outcomes, including illness.

This line of research emerged when Holmes and Rahe (1967) attempted to measure life stress by assigning numbers, called life-change units, to critical life events. They assumed that the average amount of adaptive effort necessary to cope with an event would be a useful indicator of the severity of such an event. Dohrenwend and Dohrenwend (1974) subsequently edited a publication that was another milestone of the stimulus-based perspective of stress. Today, research in this tradition continues, but it is often flawed by several problems. One basic shortcoming is the use of average weights for events, neglecting the fact that different individuals may perceive the same kind of event differently. Also, studies rely too often on retrospective reports of previous challenges that might not be remembered correctly, or that are distorted as a result of defense mechanisms. In addition, coping processes and changes in social support are often insufficiently examined. The degree to which the objective nature of the stressor should be emphasized in contrast to its subjective interpretation is still undergoing debate (Hobfoll, 1998; Schwarzer and Schulz, in press).

Cognitive-Transactional Theory of Stress

The *cognitive-transactional* paradigm sees stress as an on-going process, initiated and maintained by the cognitive appraisal of demands and resistance resources. It is the standard

paradigm in the field of psychology. The present section summarizes this approach. This cognitive-transactional theory of stress emphasizes the continuous, reciprocal nature of the interaction between the person and the environment. Since its first publication (Lazarus, 1966), it has not only been further developed and refined, but it has also been expanded to a meta-theoretical concept of emotion and coping processes (Lazarus, 1991). Stress is defined as a particular relationship between the person and the environment that is appraised by the person as taxing or exceeding his or her resources and endangering his or her well-being.

Within a meta-theoretical system approach, Lazarus (1991) conceives the complex processes of emotion as being composed of causal antecedents, mediating processes, and effects. *Antecedents* are personal resources, such as wealth, social networks, competencies, commitments or beliefs, on the one hand, and objective demands, critical events, or situational constraints on the other. *Mediating processes* refer to cognitive appraisals of such resources and demands as well as to coping efforts. The experience of stress and coping bring along *immediate effects*, for example affect and physiological changes, and *long-term effects* concerning psychological well-being, somatic health, and social functioning.

There are three meta-theoretical assumptions: *transaction*, *process*, and *context*. It is assumed, first, that emotions occur as a specific encounter of the person with the environment, and that both exert a reciprocal influence on each other; second, that emotions and cognitions are subject to continuous change; and third, that the meaning of a transaction is derived from the underlying context, that is, various attributes of a natural setting determine the actual experience of emotions and the resulting action tendencies.

Research has mostly neglected these meta-theoretical assumptions in favor of unidirectional, cross-sectional, and context-free designs. Within methodologically sound empirical research, it is hardly possible to study complex phenomena such as emotions and coping without constraints. Also, because of its complexity and transactional character leading to interdependencies between the variables involved, the meta-theoretical system approach cannot be investigated and empirically tested as a whole model. Rather, it represents a heuristic framework that may serve to formulate and test hypotheses in selected subareas of the theoretical system only. Thus, in practical research, one has to compromise within the ideal research paradigm. Researchers have often focused on *structure* instead of *process*, measuring single states or aggregates of states. Ideally, however, stress has to be analyzed and investigated as an *active, unfolding process*. Cognitive appraisals comprise two component processes, namely (primary) *demand appraisals* and (secondary) *resource appraisals*. Appraisal outcomes are divided into the categories challenge, threat, and harm/loss. First, demand appraisal refers to the stakes a person has in a stressful encounter. A situation is appraised as challenging when it mobilizes physical and mental activity and involvement. In the evaluation of *challenge*, a person may see an opportunity to prove herself or himself, anticipating gain, mastery, or personal growth from the venture. The situation is experienced as pleasant, exciting, and interesting, and the person feels ardent and confident in being able to meet the demands. *Threat* occurs when the individual perceives danger, anticipating physical injuries or blows to one's self-esteem. In the experience of *harm/loss*, some damage has already occurred, for instance injury or loss of valued persons, important objects, self-worth, or social standing.

Second, resource appraisals refer to one's *available coping options* for dealing with the demands at hand. The individual evaluates his or her competence, social support, and material or other resources that can help to readapt to the circumstances and to reestablish an equilibrium between person and environment.

Antecedents of Stress and Coping: Demands and Resources

To characterize *demands* or situational stressors, Lazarus (1991) describes formal properties, such as novelty, event uncertainty, ambiguity, and temporal aspects of stressful conditions. For example, demands that are difficult, ambiguous, unexpected, unprepared, or prolonged under time pressure, are more likely to induce threat than easy tasks that can be prepared for thoroughly and solved at a convenient pace without time constraints. The work environment can be evaluated with respect to the stakes inherent in a given situation. For example, demanding social situations imply interpersonal threat, the danger of physical injury is perceived as physical threat, and anticipated failures endangering self-worth indicate ego threat. Lazarus additionally distinguishes between task-specific stress, including cognitive demands and other formal task properties, and failure-induced stress, including evaluation aspects, such as social feedback, valence of goal, possibilities of failure, or actual failure. In general, unfavorable task conditions combined with failure-inducing situational cues are likely to provoke stress.

Personal resources refer to the internal coping options that are available in a particular stressful encounter. Competence and skills have to match the work demands. Individuals who are affluent, healthy, capable, and optimistic are seen as resourceful and, thus, are less vulnerable toward stress at work. Social competence, empathy, and assertiveness might be necessary to deal with specific interpersonal demands. It is essential to feel competent to handle a stressful situation. But actual competence is not a sufficient prerequisite. If the individual underestimates his or her potential for action, no adaptive strategies will be developed. Therefore, perceived competence is crucial. This has been labeled 'perceived self-efficacy' or 'optimistic self-beliefs' by Bandura (1997). Perceived self-efficacy and optimism are seen as a prerequisite for coping with all kinds of stress, such as job loss, demotion, promotion, or work overload.

Social resources refer to the environmental options that are available to a person in a stressful encounter. Social integration reflects the person's embeddedness in a network of social interactions, mutual assistance, attachment, and obligations. Social support reflects the actual or perceived coping assistance in critical situations (for a review, see Schwarzer and Rieckmann, in press). Social support has been defined in various ways, for example as a resource provided by others, coping assistance, or an exchange of resources the provider or the recipient perceives to be intended to enhance the well-being of the recipient. Among the types of social support that have been investigated are: instrumental (e.g., assist with a problem), tangible (e.g., donate goods), informational (e.g., give advice), and emotional support (e.g., give reassurance).

Dimensions of Coping

Many attempts have been made to reduce the universe of possible coping responses to a parsimonious set of coping dimensions. Some researchers have made two basic distinctions, such as instrumental, attentive, vigilant, or confrontative coping, as opposed to avoidant, palliative, and emotional coping (for an overview, see Schwarzer & Schwarzer, 1996). A well-known approach is that by Lazarus (1991), who separates *problem-focused* from *emotion-focused* coping. Another conceptual distinction has been suggested between *assimilative* and *accommodative* coping, whereby the former aims at modifying the environment and the latter at modifying oneself (Brandtstädter, 1992). This coping pair has also been coined '*mastery* versus *meaning*' (Taylor, 1983) or '*primary control* versus *secondary control*' (Rothbaum et al., 1982). These coping preferences may occur in a certain time order, for example, when individuals first try to alter the demands that are at stake, and, after failing, turn inward to reinterpret their plight and find subjective meaning in it.

The number of dimensions that have been established theoretically or found empirically also depends on the level within a hierarchy of coping concepts. Krohne (in press), for example, distinguishes between a behavioral level and a conceptual level, each consisting of two subclasses:

1. Reactions and acts constitute the behavioral level at the bottom of this hierarchy. A coping *reaction* is considered as a single behavioral element, for instance tuning in to a music channel instead of an information channel during a laboratory stress experiment. Several similar reactions can be grouped into an *act*, such as executing a specific problem-solving behavior.

2. At the conceptual level, researchers can identify a set of acts reflecting a particular *strategy*, for example making use of social resources or turning to religion. Strategies, in turn, can be grouped into dispositional *superstrategies*, two of which are vigilance and cognitive avoidance (similar to monitoring and blunting; Miller, 1987).

Theoretical Advancements in the Field

Hobfoll (1988, 1998) has expanded stress and coping theory with respect to the conservation of resources as the main human motive in the struggle with stressful encounters. Resources have also been an important ingredient in Lazarus's theory. The difference between the two theories lies mainly in the status of *objective and subjective resources*. Lazarus sees objective resources only as antecedents that may have an indirect effect, whereas subjective resources (resource appraisals) represent the direct precursors of the stress process. Actually, the simultaneous appraisal of demands and resources constitutes the beginning of a stress episode. In contrast, Hobfoll, considering both objective and subjective resources as components, lends more weight to the former than Lazarus does. Thus, the difference between the two theories, in this respect, is a matter of degree, not a matter of principle. Hobfoll tends to interpret Lazarus's approach as a highly subjective 'appraisal theory' and argues that objective resources are more important. This reinterpretation does not do justice to the comprehensive model of a stress episode that starts with objective antecedents, includes appraisal as well as coping, and ends with more or less adaptive outcomes, such as health, well-being, or social harmony. Viewed from a process perspective, Lazarus deals more with initial appraisal, whereas Hobfoll deals more with prior objective resource status and subsequent coping. Thus, his model could also be labeled 'resource-based coping theory.'

Resource loss is central to Hobfoll's theory. He distinguishes the categories (a) *resources threatened with loss*, (b) *resources actually lost*, and (c) *failure to gain resources*. This loss/gain dichotomy, and in particular the resource-based loss spirals and gain spirals, shed a new light on stress and coping. The *change* of resources (more so the loss than the gain) appears to be particularly stressful, whereas the mere lack of resources or their availability seems to be less influential.

Failure to gain resources following an investment is another unique feature. Hobfoll argues that burnout and ill health might be consequences of such a detrimental motivational state. In a similar vein, Siegrist (1996) has suggested that 'effort-reward imbalance' may compromise the health of employees. This is a highly attractive concept that enriches stress and coping research.

Extensions of the Coping Construct

In general, there is a trend to broaden stress and coping research by including *positive strivings* that were formerly domains of motivation and action theories. The notions of mastery, optimization (Baltes, 1997; Freund & Baltes, 2000), challenge and benefit (Lazarus,

1991), and resource gain (Hobfoll, 1998) are in line with proactive coping theories (e.g., Aspinwall & Taylor, 1997; Schwarzer, 2000). People strive for more resources, desire to maximize gains, and build up resistance factors either to ward off future crises or to grow and cultivate their capabilities for their own sake. This forward time perspective opens new research questions and helps to overcome traditional coping models that overemphasize the reactive nature of coping.

The broadening of stress and coping research has also included the search for *meaning* in stressful encounters (Folkman & Moskowitz, 2000; Janoff-Bulman, 1992; Schwarzer & Knoll, in press; Taylor, 1983; Tennen & Affleck, in press). Researchers have further subdivided the construct. Davis et al. (1998) suggest a two-dimensional construal of meaning as 'sense-making' and meaning as 'benefit-finding.' Sense-making relates to finding a reason for what happened, integrating it into existing schemata, such as religion, knowledge about health, or consequences of life stress. Benefit-finding, on the other hand, pertains to positive implications of a negative event or the pursuit of the silver lining of adversity.

Baumeister (1991) has proposed four needs for meaning: (a) purpose (objective goals and subjective fulfillment), (b) efficacy and control, (c) value and justification, and (d) self-worth. Each of these can be regarded as general goals of coping with life stress. Specific coping strategies in certain stress situations can be evaluated with respect to the degree that they serve such higher-order goals in life. Examples of psychological markers of 'efficacy and control' are: (a) perceiving a link between present behaviors and future outcomes, (b) maintaining 'illusions of control' over uncontrollable events, or (c) reporting success in overcoming difficult obstacles in one's past. This need, as Baumeister (1991) calls it, is in line with proactive coping (see Table 1).

Table 1 Four Needs for Meaning and their Psychological Markers (Baumeister, 1991)

Need	Psychological Markers
Purpose: Objective goals and subjective fulfillment	Forming new goals when old goals are reached; linking negative events to future, positive fulfillment states – such as greater appreciation for life; reflecting on one's accomplishments
Efficacy and control	Perceiving a link between present behaviors and future outcomes; maintaining 'illusions of control' over uncontrollable events; reporting success in overcoming difficult obstacles in one's past
Value and justification	Downplaying the consequences of, or externalizing responsibility for, immoral or hurtful actions; reporting good and admirable intentions; claiming the victim status
Self-worth	Comparing the self with less fortunate others; reiterating one's appeal to others; relegating personal failures to the past; assuming credit for success but not failures; asserting superiority over others

A different approach at this general level of meaning in life has been taken by Wong (1998), who proposes five dimensions that reflect meaning, namely cognitive, motivational, affective, relational, and personal. The motivational dimension includes coping characteristics, such as 'pursues worthwhile goals,' 'seeks to actualize one's potential,' and 'strives toward personal growth.' Again, these represent proactive coping (see Table 2).

Table 2 Dimensions of the Conceptualization of a Meaningful Life (Wong, 1998)

Cognitive	believes that there is an ultimate purpose in life believes in moral laws believes in an afterlife
Motivational	pursues worthwhile goals seeks to actualize ones potential strives toward personal growth
Affective	feels content with who one is and what one is doing feels fulfilled about what one has accomplished feels satisfied with life
Relational	is sincere and honest with others has a number of good friends brings happiness to others
Personal	likes challenge accepts ones limitations has a healthy self-concept

The recent broadening of coping theory might be a reaction to earlier conceptualizations of coping that neglected goals, purpose, and meaning. As these become more salient and explicit in the current thinking, it is appropriate to redesign coping theory in order to extend it into volition and action theory. The present approach makes a systematic distinction between proactive coping and three other kinds of coping that might shed more light on some previously neglected aspects.

Proactive Coping Theory

This section provides a further perspective that stems from a time-related classification of coping modes and proposes a distinction between reactive coping, anticipatory coping, preventive coping, and proactive coping.

Stressful demands can either reflect a distressing loss in early life or an ongoing harmful encounter. They can also exist in the near or distant future, creating a threat to someone who feels incapable of matching the upcoming tasks with the coping resources at hand. In light of the complexity of stressful episodes in social contexts, human coping cannot be reduced to primitive forms, such as fight-and-flight responses or relaxation. Besides other factors, coping depends on the time perspective of the demands and the subjective certainty of the events.

The temporal aspect of coping has often been neglected. One can cope before a stressful event takes place, while it is happening (e.g., during the progress of a disease), or afterwards. Beehr and McGrath (1996) distinguish five situations that create a particular temporal context: (a) *preventive coping*, long before a stressful event occurs or might occur (e.g., a smoker might quit well in time to avoid the risk of lung cancer); (b) *anticipatory coping*, when the event is expected soon (e.g., someone might take a tranquillizer while waiting for surgery); (c) *dynamic coping*, while it is ongoing (e.g., diverting attention to reduce chronic pain); (d) *reactive coping*, after it has happened (for example, changing one's life after a limb has been amputated); and (e) *residual coping*, long afterwards, by contending with long-term effects (e.g., controlling one's intrusive thoughts years after a traumatic accident has happened).

To introduce an alternative perspective, we distinguish between reactive, anticipatory, preventive, and proactive coping. Reactive coping refers to harm or loss experienced in the past, whereas anticipatory coping pertains to imminent threat in the near future. Preventive coping refers to an uncertain threat potential in the distant future, whereas proactive coping involves upcoming challenges that are seen as potentially self-promoting (see Figure 1).
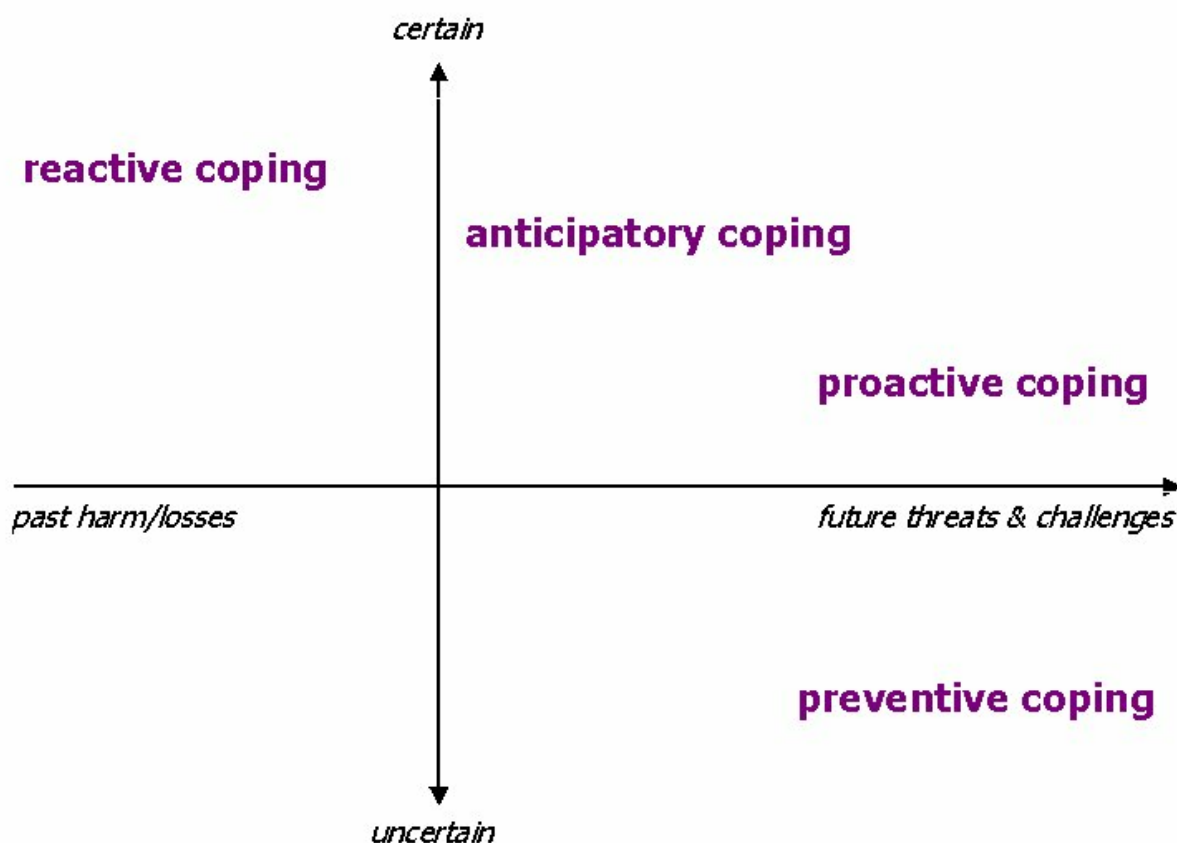

Figure 1. Outline of Proactive Coping Theory.

Reactive coping can be defined as an effort to deal with a past or present stressful encounter or to compensate for or accept harm or loss. Examples of harm or loss are marital dissolution, being criticized by parents or friends, having an accident, doing poorly at a job interview, being demoted, or losing one's job. All of these events happened in the past with absolute certainty. Thus, the individual has to either compensate for the loss or alleviate harm. Another option is to readjust goals, find benefit, or search for meaning to reconceptualize one's life. Reactive coping may be problem-focused, emotion-focused, or social-relation-focused. For coping with loss or harm, people need to be resilient. Because they aim at compensation or recovery, they need 'recovery self-efficacy,' a particular optimistic belief in their capability to overcome setbacks (Schwarzer, 1999).

Anticipatory coping is fundamentally different because the critical event has not yet occurred. It can be regarded as an effort to deal with impending threat. In anticipatory coping, individuals face a critical event that is certain or fairly certain to occur in the near future.

Examples are speaking in public, a dentist appointment, adapting to parenthood, an exam, a job interview, increased workload, promotion, company downsizing, retirement, etc. There is a risk that the upcoming event may cause harm or loss later on, thus the person has to manage this perceived risk. The situation is appraised as either threatening or challenging, or is associated with benefiting, or some of each. The function of coping may lie in solving the actual problem at hand, such as increasing effort, enlisting help, or investing other resources. Another function may lie in feeling good in spite of the risk, for example by redefining the situation as less threatening, by distraction, or by gaining reassurance from others. Thus, anticipatory coping can be understood as the management of known risks, which includes investing one's resources to prevent or combat the stressor or to maximize an anticipated benefit. One of the personal resource factors is situation-specific 'coping self-efficacy' (Schwarzer & Renner, 2000), an optimistic self-belief of being able to cope successfully with the particular situation at hand.

Preventive coping can be seen as an effort to prepare for uncertainty in the long run. This is contrary to anticipatory coping, which is a short-term engagement with high-certainty events. The aim is to build up general resistance resources that result in less strain in the future by minimizing the severity of the impact, with less severe consequences of stress, should it occur, or a less likely onset of stressful events in the first place. In preventive coping, individuals consider a critical event that may or may not occur in the distant future. Examples of such events are job loss, forced retirement, crime, illness, physical disability, disaster, or poverty. When people carry a spare key, lock their doors twice, have good health insurance, save money, or maintain social bonds, they cope in a preventive way and build up protection without knowing whether they will ever need it. The perception of ambiguity need not be limited to single events. There can be a vague wariness that 'something might happen,' which motivates one to prepare for 'everything.' The individual anticipates the nonnormative life events that are appraised as more or less threatening. Coping here is a kind of risk management because one has to manage various unknown risks in the distant future. The perceived ambiguity stimulates a broad range of coping behaviors. Because all kinds of harm or loss could materialize one day, the individual builds up general resistance resources by accentuating their psychological strengths and accumulating wealth, social bonds, and skills - 'just in case.' Skill development, for example, is a coping process that may help to prevent possible trouble. Preventive coping is not born out of an acute stress situation. It is not sparked by state anxiety, rather by some level of trait worry, or at least some reasonable concern about the dangers of life. General 'coping self-efficacy' seems to be a good personal prerequisite to plan and initiate successfully multifarious preventive actions that help build up resilience against threatening nonnormative life events in the distant future.

Proactive coping is not preceded by negative appraisals, such as harm, loss, or threat. Proactive coping can be considered as an effort to build up general resources that facilitate promotion toward challenging goals and personal growth. In proactive coping, people have a vision. They see risks, demands, and opportunities in the far future, but they do not appraise them as a threat, harm, or loss. Rather, they perceive demanding situations as personal challenges. Coping becomes goal management instead of risk management. Individuals are not reactive, but proactive in the sense that they initiate a constructive path of action and create opportunities for growth. The proactive individual strives for life improvement and builds up resources that assure progress and quality of functioning. Proactively creating better living conditions and higher performance levels is experienced as an opportunity to render life meaningful or to find purpose in life. Stress is interpreted as 'eustress,' that is, productive arousal and vital energy.

Preventive and proactive coping are partly manifested in the same kinds of overt behaviors, such as skill development, resource accumulation, and long-term planning. However, motivation can emanate either from threat appraisal or from challenge appraisal, which makes a difference. Worry levels are higher in the former and lower in the latter. Proactive individuals are motivated to meet challenges, and they commit themselves to personal quality standards.

Self-regulatory goal management includes ambitious goal setting and tenacious goal pursuit. The latter requires 'action self-efficacy,' an optimistic belief that one is capable of initiating and maintaining difficult courses of action. The role of beliefs in self-regulatory goal attainment has been spelled out in more detail in a different theory that was designed to explain health behavior change, the Health Action Process Approach (HAPA; Schwarzer, 1992, 1999; Schwarzer & Renner, 2000). Further amplification of the terms involved is given below, in the context of assessment procedures.

The distinction between these four perspectives of coping is advantageous because it moves the focus away from mere responses to negative events toward a broader range of risk and goal management that includes the active creation of opportunities and the positive experience of stress. Aspinwall and Taylor (1997) have described a proactive coping theory that is similar, but not identical, to the present one. What they call proactive coping is mainly covered by the term preventive coping in the current approach (see also Greenglass et al., 1999).

Proactive Coping: Assessment and Findings

Coping has usually been measured by questionnaires, for instance checklists or psychometric scales. In a review chapter, Schwarzer and Schwarzer (1996) describe 13 conventional inventories that were designed to assess numerous aspects of coping. These measures include various subscales that cover a broad area of coping behaviors, such as problem-solving, avoidance, seeking social support or information, denial, reappraisal, and others. One conclusion is that it will continue to be difficult to measure coping in a satisfactory manner because it is highly idiosyncratic and determined jointly by situational and personality factors. Nevertheless, theory-based psychometric scales can assess an important part of the coping process if repeatedly administered. Approaches that try to tap innovative aspects of positive coping are, for example, the mastery of future threats and challenges, as reflected by preventive or proactive coping.

Preventive coping aims at dealing with uncertain threatening events that will occur mainly in the distant future. People accumulate resources and take general precautions to protect themselves against a variety of critical events. A preventive coping subscale is included in the Proactive Coping Inventory (PCI; Greenglass et al., 1999). Typical items are, 'I plan for future eventualities,' and 'I prepare for adverse events.' Encouraging empirical evidence is available for the PCI (Greenglass, this volume).

Proactive coping aims at uncertain challenging goals. People accumulate resources and develop skills and strategies in their pursuit. The PCI includes the Proactive Coping subscale (see Greenglass, this volume) that has been tested in various samples and that is available in several languages. In the Proactive Coping subscale, there are 14 homogeneous items that form a unidimensional scale. It has satisfactory psychometric properties, and there is growing evidence of its validity. Several studies in Canada, Poland, and Germany have found that proactive coping is positively correlated with perceived self-efficacy and negatively with job burnout in different professions (Schwarzer & Taubert, 1999; Taubert, unpublished thesis, 1999; see Greenglass, this volume). In the study by Taubert (unpublished

thesis, 1999), based on data provided by Greenglass, a Canadian sample and a Polish-Canadian sample were examined with a large battery of psychometric scales, including the PCI. The Proactive Coping subscale correlated with general self-efficacy, *r* = .70 and .65, respectively. It was negatively associated with depression, *r* = -.49 and -.41, and also with self-blame, *r* = -.47 and -.47, in these two samples. Moreover, it was positively correlated with some of the Brief Cope (Carver, 1997, 1999) subscales, such as Active Coping .52 and .50, and Planning, .42 und .45. With Behavioral Disengagement it was negatively correlated, -.42 and -.54. This attests to the fact that the PCI subscale on Proactive Coping yields the desired pattern of associations with other variables (see also Greenglass, this volume).

A more recent study was conducted with 316 German teachers (Schwarzer, unpublished data). The internal consistency was alpha = .86. Correlations with proactive coping were *r* = .61 with perceived self-efficacy, *r* = .50 with self-regulation, and *r* = -.40 with procrastination. Job burnout was defined three-dimensionally in terms of emotional exhaustion, depersonalization, and lack of accomplishment (Maslach et al., 1996). Burnout is a relevant construct for the validation because it should not be compatible with proactive coping. To illustrate the relationships, the sample was subdivided into low, medium, and high proactive teachers who were plotted against the three dimensions of burnout. Figure 2 displays a significant pattern of decreasing burnout with increasing levels of proactive coping. Proactive teachers report less emotional exhaustion, less cynicism, and more personal accomplishments than their reactive counterparts.
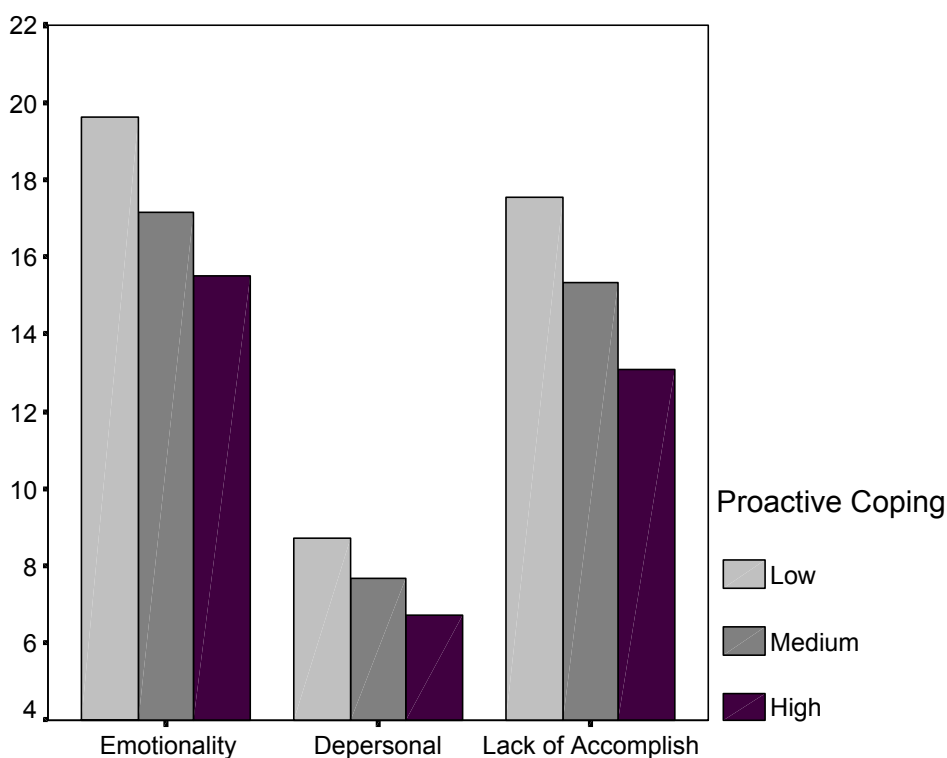

Figure 2. Pattern of decreasing burnout with increasing levels of proactive coping.

The study also included brief scales to assess the three stress appraisal dimensions of challenge, threat, and loss (Jerusalem & Schwarzer, 1992). High proactive coping should be associated with high challenge appraisals, whereas low proactive coping should be linked to

higher threat and loss appraisals. Figure 3 confirms this assumption. Proactive teachers perceive their stress as more challenging, and less threatening and loss-based, than their reactive counterparts.
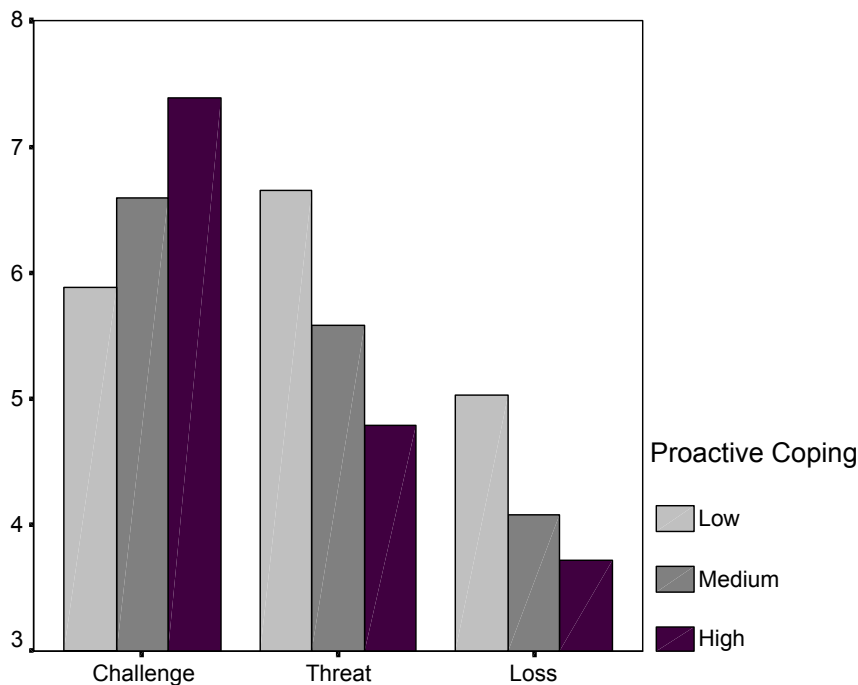
Figure 3. Proactive teachers perceive their stress as more challenging, and less threatening and loss-based, than their reactive counterparts.

It is also of note that highly proactive teachers spent an average of about four extra hours per week with their students, whereas the other two groups reported only three unpaid hours. This attests to the professional engagement of proactive teachers. Figure 4 shows three dependent variables: extra hours, individual reference norm, and idealism. The latter two were measured by psychometric self-report scales. Individual reference norm pertains to a preference of teachers to judge their students' accomplishments longitudinally with a focus on intraindividual changes, as opposed to social comparison. As can be seen in Figure 4, proactive teachers base their judgments more on intraindividual changes than their reactive counterparts, and they report themselves as being more idealistic. To summarize, proactive teachers in this study experience less job burnout, perceive more challenges and less threat and loss, and display more professional engagement than their reactive counterparts. These and further data (see Greenglass, this volume) corroborate the usefulness of the construct and the validity of the proactive coping measure.
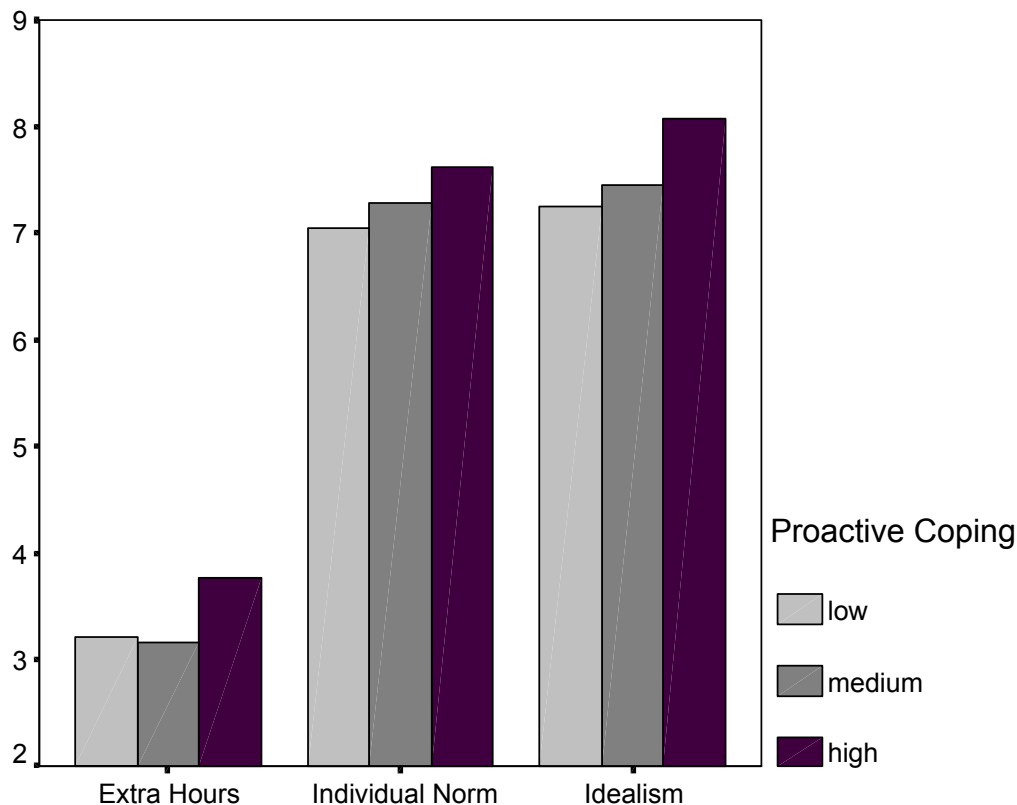
Figure 4. Extra hours, individual reference norm, and idealism, as expressed by proactive versus reactive teachers.

Conclusions

The field of coping is becoming broader and now includes positive striving and emotions, goals, benefit finding, and search for meaning. As one example of such a differentiation of concepts, we have chosen proactive coping theory (Schwarzer, 2000; Taubert, unpublished thesis, 1999). This theory builds upon Lazarus's (1991) cognitive appraisal approach and adds a temporal and other dimensions to earlier work. Moreover, it bridges the gap between coping theories on the one hand and action and volition theories on the other. Extending coping to tenacious goal pursuit and personal growth offers a more comprehensive picture of humans' struggle with life. Under the assumption that life in itself is necessarily stressful, coping becomes an appropriate label for many human behaviors over and above simple routines and habits. When Selye (1956) coined the term 'eustress' and Lazarus (1966) introduced 'challenge' as one of the major cognitive stress appraisals, the stage was set for a positive understanding of stress and coping. Not until later did Lazarus (1991) add 'benefit' to his appraisal categories, which has now become one of the key arenas in coping research. Proactive coping (Aspinwall & Taylor, 1997; Greenglass et al., 1999; Schwarzer, 2000; Schwarzer & Taubert, 1999) is the latest addition to this positive trend and constitutes goal-oriented, long-term behaviors that take place before an actual stress episode occurs. There is not necessarily a concrete 'stressor.' Self-imposed goals and visions may trigger the creation of opportunities and risks, and the struggle for rewards and growth may have its stressful ups and downs, some of them unanticipated. Building a career or a house, writing a book, leading others to success, etc., represent continuous stress situations.

This description of proactive coping is reminiscent of *leadership characteristics*, which will be discussed here in the context of coping. Proactive leadership is a personality characteristic that has implications for motivation and action. It is a belief in the rich potential of changes that can be made to improve oneself and one's environment. This includes various aspects, such as resourcefulness, responsibility, values, and vision.

The proactive leader believes in the existence of sufficient resources, either external or internal. Goods, services, and people can be influenced to support goal attainment. Intelligence, courage, and strength, for example, reside within and allow goal setting and persistence.

The proactive leader takes responsibility for his or her own growth. A life course is not fully determined by external forces, but, rather, it can be chosen. Neither good nor bad events are attributed mindlessly to external causes. Instead, the proactive leader faces reality and adopts a balanced view of self-blame and other-blame in the case of negative events. Two kinds of responsibilities are distinguished: those for past events and those for making things happen. The latter is crucial here. The proactive leader focuses on solutions for problems, no matter who has caused them.

The proactive leader is driven by values. The behavior of others might be determined by social environment, whereas proactive persons are mindful of their values and choose their path of action accordingly.

A proactive leader has a vision and creates meaning in life by striving for ambitious goals. He or she imagines what could be and sets goals in line with this vision. Total Quality Management (TQM), for example, is a principle of continuous improvement within companies. The same idea can be transferred to a leader who constantly strives for self-improvement, accumulates resources, prevents resource depletion, and mobilizes forces with a long-term aim in mind, following a self-imposed mission.

We cannot supply empirical research on proactive leadership. However, the above findings on German teachers point in this direction. Among the teachers who were studied, evidence was found for the beneficial effects of proactive coping, which can be understood as a form of leadership when individuals are in charge of other persons.

In conclusion, a few words on the future of *coping measurement* are in order. The measurement of proactive behaviors, personal growth, positive reappraisals, and positive emotions in the context of stress adaptation should not remain at the level of psychometric scales, but should include dynamic data that account for changes within a particular coping episode. Contrary to the cross-sectional design that characterizes much coping research, theoretical considerations necessitate the examination of coping from a process perspective, where changes can be studied over time. Rather than remaining static, coping responses change in relation to the variations in the situational configuration as well as in response to varying resources. Coping can be understood best when it is regarded as a transactional process (Lazarus, 1991), which implies a longitudinal measurement approach. However, it is not sufficient to simply select several points in time because the researcher cannot be certain about the optimal time frame when significant changes take place. Therefore, a more continuous measurement is recommended. The closest to this suggestion is the daily process approach to coping, commonly referred to as Experience Sampling Method (ESM; Tennen et al., 2000), where participants respond at least once a day when prompted by an ambulatory device. The main disadvantage of this method, of course, is its reactivity, which means that coping responses are artificially constructed, due to the demands of the particular study design. But the overall approach appears to be promising. Perrez (in press) describes data sources, such as self-report, systematic self-observation, external recording of psychological

features with respect to coping behavior, and the direct recording of psychophysiological and biochemical parameters. In the future, we can expect advances in the computerized simultaneous assessment of such data sources under real-life conditions. In contrast, cross-sectional studies that often rely on hypothetical scenarios or that require the recall of single or multiple past events will lose their importance.

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