Chapter 3.
Theory

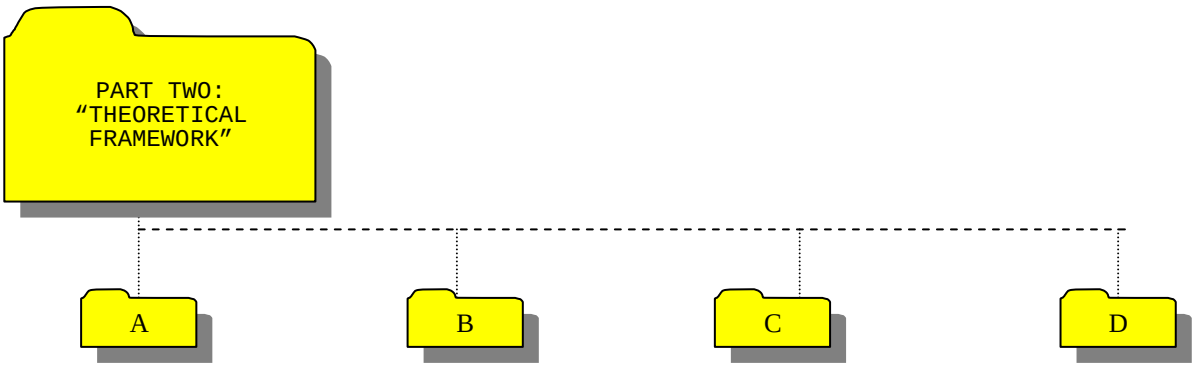
3.1 Foreword

In the former chapter, an overview of work stress and coping research was given by presenting, most influential theoretical models, a literature search that covered around three decades of efforts and advances, the controversy between coping styles vs. coping behavior research, unsolved dilemmas at the level of theory and instrument development, recent research contributions in the field of personal and social resources, health status, quality of life, and concrete applications of work stress research through stress management strategies.

In Chapter 3, the subject turns into the exposition of relevant theories considered to be the basis from which research hypotheses will be developed. The point of departure (section 3.2) is the Transactional Theory of Stress (Lazarus & Folkman, 1984), which provides *meta-theoretical principles* to understand the work stress process in terms of antecedents, mediating processes, and outcomes. In section 3.2, the integrative conceptual framework of Moos & Schaefer (1993) is considered, which might be understood as an attempt to combine environmental and personal variables into a unified schema. In doing so, coping based models of adaptive functioning are described, by emphasizing the role played by personal resources (and social resources) in coping and health/illness status. After that, selected theoretical concepts in the field of emotions and human adaptation that are relevant to coping process, and that take origin from the Cognitive-Motivational-Relational Theory of Lazarus (1991b), are presented. In closing section 3.2, a recent polemic, which has to do with the critique conducted by Hobfoll (2001) to the transactional approach in the context of his Conservation of Resources Theory (COR), is briefly portrayed.

The second part of Chapter 3, which is less general, describes the role played by *self-regulation* in human functioning, as it is conceived by two remarkable self-oriented theories, namely the self-efficacy theory of Bandura (1997), and the self-regulatory behavioral theory of Carver and Scheier (1998). The former theory emphasizes the idea that self-efficacy perceptions affect how people think, behave, as well as how people emotionally react. The self-regulatory behavioral theory, on its side, offers a dynamic framework that will be of help in discussing two relevant (mal) adaptive processes: goal disengagement (that is, avoidance-oriented coping), and engagement with goal oriented paths (that is, proactive coping). In closing Chapter 3, the most recent advances in the field of the proactive coping theory, which

are significant to hypothesis testing process of this work, are presented. Basically, I include the contributions of Aspinwall and Taylor (1997), on the one hand, and the work of Ralf Schwarzer and his collaborators, on the other (Schwarzer & Taubert, 2002). Table 3 synthesizes most important concepts of relevant theories in terms of antecedents, mediating processes, and outcomes.



COGNITIVE-MOTIVATIONAL-RELATIONAL THEORY (Lazarus, 1991b).	SELF-REGULATORY BEHAVIORAL THEORY (Carver & Scheier, 1998)	SELF-EFFICACY THEORY (Bandura, 1997)	PROACTIVE COPING THEORY (Aspinwall & Taylor, 1997; Schwarzer, 2000)
Constructs/Variables	Constructs/Variables	Constructs/Variables	Constructs/Variables
Causal antecedents: Personality Variables ➢ Values ➢ Commitments ➢ Beliefs Environmental Variables ➢ Situational demands ➢ Constrains ➢ Resources ➢ Ambiguity of harm ➢ Imminence of harm *Mediating Processes:* ➢ Primary Appraisal ➢ Secondary Appraisal ➢ Coping (problem-, emotion focused, seeking support) *Immediate Effects:* ➢ Physiological changes ➢ Positive or negative feelings ➢ Quality of encounter outcome *Long-Term Effects*: ➢ Somatic Health/illness ➢ Morale (well-being) ➢ Social functioning	*Causal antecedents:* Personality Variables ➢ Dispositional Optimism ➢ Self-regulatory processes *Mediating Processes:* ➢ Coping ➢ Feedback control procedures *Immediate Effects:* ➢ Goal-setting ➢ Discrepancy Reduction *Long-Term Effects*: ➢ Goals Re-definition	*Causal antecedents:* Individual Self-Efficacy Collective Self-Efficacy Sources of Self-Efficacy ➢ Enactive Mastery Experience ➢ Vicarious Experience ➢ Verbal Persuasion ➢ Physiological and Affective States ➢ Integration of Efficacy Information *Mediating Processes:* ➢ Cognitive Processes ➢ Motivational Processes ➢ Affective Processes ➢ Selection Processes *Functioning (Effects):* ➢ Cognitive Functioning ➢ Health Functioning ➢ Organizational Functioning	*Causal antecedents:* General Self-Efficacy Specific Self-Efficacy Coping Self-Efficacy Action Self-Efficacy *Mediating Processes:* ➢ Primary Appraisal ➢ Proactive Coping ➢ Reactive Coping ➢ Anticipatory Coping ➢ Preventive Coping *Outcomes:* ➢ Health Outcomes ➢ Individual Functioning ➢ Organizational Functioning

Table 3. Theoretical Framework, main constructs and variables in terms of antecedents, mediating processes, and outcomes.

3.2 From Transactional Theory of Stress (TTS) to Cognitive-Motivational-Relational Theory (CMRT)

In *Passion and Reason* (Lazarus & Lazarus, 1994) and especially in *Emotion and Adaptation* (Lazarus, 1991b), R. Lazarus has aimed at expanding the *transactional theory of stress*, which was portrayed in the book *Stress, Appraisal and Coping* (Lazarus & Folkman, 1984). This section assesses the theoretical transition from the early *transactional theory of stress* (TTS) to the *cognitive-motivational-relational theory* of emotions (CMRT) as well as a recent critique to both models realized by Hobfoll (2001) in his Conservation of Resources Theory (COR).

On the whole, it can be said that the TTS and CMRT were structured on the same theoretical interplay between: 1) *antecedent variables* (*environmental variables* such as demands, resources and constrains with which a person must deal, and *personality variables* such as acquired motives and beliefs about the self and the world); 2) *mediating processes* (*appraisal and appraisal patterns or core relational themes* that have to do with diverse forms of *harm loss, threat or benefit, action tendencies, and coping processes*, for example emotion-focused, problem-focused, appraisal-focused); and 3) *outcomes* (*short-term outcomes* or the immediate response components of emotions, and *long-term outcomes* such as *chronic emotional patterns* or *social functioning*, subjective *well-being*, and *somatic health*).

3.2.1 Transactional Theory of Stress (TTS) and Coping-based models of adaptive functioning

TTS traces back to the late 1960s and was originally developed by Richard Lazarus (Lazarus, 1966). Since that decade, the TTS has been further developed and refined, and several authors currently conceive it as a standard to conduct research from a cognitive-relational viewpoint (i.e., Schwarzer, 2001). Basically, the TTS is based on the interplay between meta-theoretical principles that fall into three categories, namely antecedent variables, mediating processes, and outcomes (see also Table 3).

In the context of antecedents, two personality resources are conceived to be of great relevance as antecedents of coping, namely *commitments* and *beliefs.* Commitments represent motivational aspects of personality, which influence the meaning, the perceived relevance of a situation, and the coping strategy individuals use over time. Jerusalem (1990) mentions two

examples, namely the Type A and the Type B personality as two contrasting profiles in terms of motivational structure of the personality. The other dimension concerns the *beliefs* individuals have regarding their own capabilities, in concrete, Lazarus refers to the self-efficacy concept developed by Bandura (1997).

Given its process oriented approach, the TTS model conceptualizes stress in terms of a relation between the person and its environment by considering the nature of the stressful transaction (Parkes, 1986). The TTS conceives a reciprocal, bi-directional relation between the person and the environment which jointed together, form new meanings through appraisal processes. Cognitive appraisal is the evaluation of the significance of what is happening in the person-environment relationship. It pertains to mediating processes and is divided into primary appraisal (whether what is happening is personally relevant), secondary appraisal (the one's available coping options for dealing with demands at hand), and reappraisal.

A situation can be appraised as irrelevant, benign-positive, or stressful, as the result of primary appraisal, while in terms of the stake a person has in a stressful encounter, the situation can be appraised as challenging, threatening, or as a harm/loss. The latter is defined as a damage that has already occurred, as in the death of a friend or an accidental injury. Threat also refers to damage, but an anticipated one and it may or may not be inevitable. Challenge, on the other hand, differs from threat in the generally positive tone, nevertheless, demanding exceptional efforts from the individual. Both, threat and challenge can be chronic, whereas losses tend to be acute stressors (McCrae, 1984). In secondary appraisal, the person evaluates whether he or she has the competences, the social support, and any other kind or resources to deal with stressors and to re-establish equilibrium between person and environment (Schwarzer, 2001).

Coping, on its side, consists of cognitive and behavioral efforts to manage external or internal demands (and conflicts between them) that are appraised as taxing or exceeding the resources of the person (Lazarus & Folkman, 1984). The TTS separates coping into two broad functions, namely problem-focused coping and emotion-focused coping (also known as cognitive coping). While the former aims at changing the nature of the problem by taking direct actions to control the situation, the latter involves mainly thinking rather than acting to change the person-environment relationship. In general terms, coping efforts aim at ameliorating the source of stress (or the related emotions and appraisals) and distress, but it may sometimes provoke more stress and distress, depending on the pertinence of the strategy used by the person to face demands. The coping dichotomy mentioned above is reflected in the well known "Ways of Coping Questionnaire" (WCQ), which was used as the "*via regia*" -

by the TTS researchers- to evaluate its most important hypotheses. Nevertheless, given that research findings typically yielded the presence of several factors rather than just two, and that both problem-focused and emotion-focused involved a diversity of responses, the coping dichotomy was later expanded by investigators reporting more than two dimensions (i.e., Carver, Scheier, & Weintraub, 1989; Greenglass et al.; 1999, Holahan, Moos, & Schaefer, 1996). For a more detailed discussion about coping measures, please go back to Chapter 2.

Irrespective of the discussion on the bidimensionality or multidimensionality of coping, researchers have considered that *problem-focused coping* (e.g., active) can moderate the adverse influence of both negative life events and enduring role stressors on psychological functioning (i.e., Billings & Moos, 1981; Pearlin & Schooler, 1978). In addition, *problem-focused coping* has been associated with reduced depression and the reduction in concurrent distress (Menaghan, 1982; Mitchell, Cronkite, & Moos, 1983). On the contrary, emotionally-focused coping, which often entails *avoidance-oriented coping* (e.g., denial) has been generally associated with general distress, more depression, and the amplification of future problems.

Lazarus's TTS has been further refined by contemporary theorists such as Holahan et al. (1996), who offer a general conceptual framework of the coping process (see Figure 6), and a series of examples in which *approach coping* (or problem-focused) and *avoidance coping* (a form of emotion-oriented coping) may contribute to adaptive functioning.

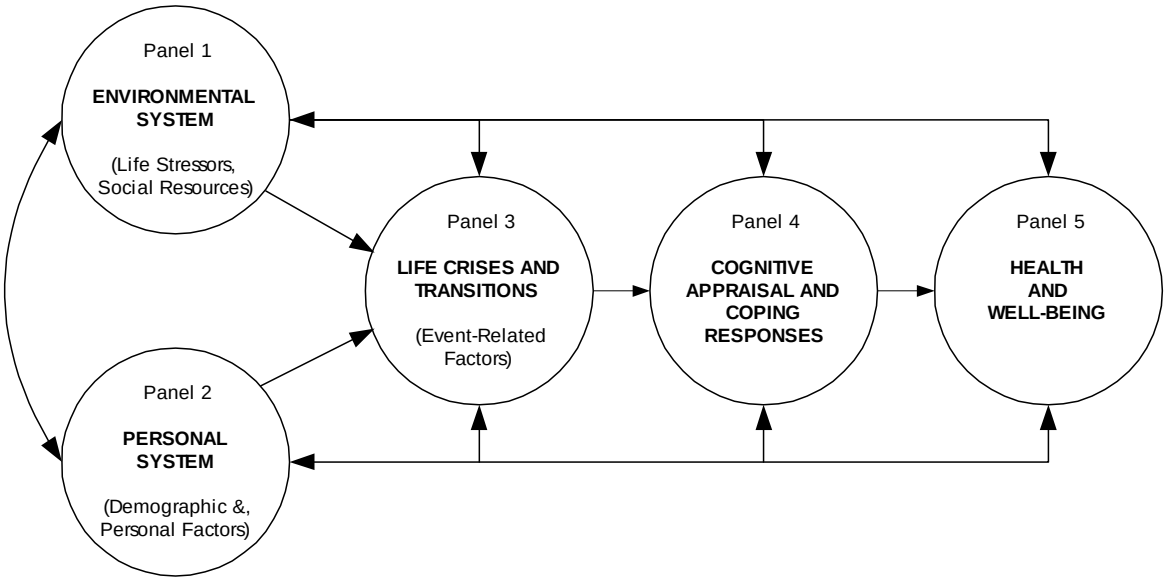


Figure 6. A general conceptual framework of the coping process (Moos & Schaefer, 1993). Source: Holahan, Moos, and Schaefer (1996). Coping, Stress Resistance, and Growth: Conceptualizing Adaptive Functioning. In M. Zeidner & N. S. Endler (Eds.), The Handbook of Coping. Theory, Research, Applications (pp. 25-43). New York: Wiley.

As can be seen in Figure 6, these authors translate Lazarus' meta-theoretical principles into five panels systems as follows: Panel 1 (environmental system) is composed by life ongoing *life stressors*, like work stress, and *social coping resources*, such as received advice from family members, friends, the partner, or groups and organizations. Panel 2 (the personal system) involves sociodemographic characteristics and *personal coping resources*, such as self-confidence, self-efficacy beliefs and other trait-related dimensions. Environmental and personal system influence the life crisis or transition that individuals experience (Panel 3), and the combined influence of personal and environmental factors determine health and well being (Panel 5), both directly and indirectly through cognitive appraisal and coping (Panel 4). In addition, there are bidirectional paths, indicating that feedback loops can occur at each stage of the process.

With regard to research examples provided by Holahan et al. (1996, p. 29-30), for the adaptive function of approach vs. avoidance oriented coping in human adaptation, they cite empirical evidence that clinical depression was related to the use of avoidance-oriented coping, such as emotional discharge, self-consolation, and distraction. In the context of physical illness, avoidant forms of coping, such as denial, have been found to be detrimental in the longer term after a health crisis. Among patients recovering from cardiac surgery, approach oriented coping was positively related to subsequent quality of life, whereas avoidance coping was found to be negatively associated (see also Billings & Moos, 1985; Mayou & Bryant, 1987; Suls & Fletcher, 1985; Swindle, Cronkite, & Moos, 1989; Scheier et al., 1989). More recent research examples were given based on my own literature search in Chapter 2, in concrete, regarding the effectiveness of coping in work settings.

3.2.1.1 Coping-based Models of Adaptive Functioning

Two general coping models can be found in the stress and coping literature, namely the *Coping and Stress Resistance Model*, and the *Coping and Crisis Growth Model* (see Holahan et al., 1996). While both postures conceive coping as a *mediator* of the influence of personal system and environmental system on health, there is still insufficient evidence of the mediating function of approach vs. avoidance coping in the context of coping with work stressors. The majority of studies aiming at corroborating *coping mediation* take origin from investigations concerning surgical interventions (e.g., Knoll, 2002; Schroeder, 1997a), and when work stress has been considered, researchers have frequently failed to prove the hypothesized mediating effect (e.g., Rush, Schoel & Barnard, 1995).

Whether coping mediates the effects of relevant personal resources is still a topic under scrutiny. Carver, Pozo, Harris, Noriega, Scheier, Robinson, Ketcham, Moffat, & Clark (1993) found that acceptance, denial, and behavioral disengagement did mediate the effects of optimism on distress in a sample of women with breast cancer; however, it was unclear what would be the concrete applications of these findings. Schroeder (1997a), on its side, argues that the mediator hypothesis is relevant since coping behaviors are more accessible to therapeutic change than personality, hence, by changing maladaptive coping behaviors the person may experience stress reduction and mastery. In any case, the point is that personal resources may promote adaptive coping behaviors, which in turn, result in better emotional states, health outcomes, and quality of life. Moreover, personal resources may promote the use of more adaptive ways of coping, but this does not imply that coping would mediate the effects of resources on well-being. On the whole, it has been found, that indirect effects tend to be weaker than direct effects, and patterns of mediation have been difficult to identify with few exceptions (see Schroeder, 1997a; Knoll, 2002).

Coping and Stress resistance Models put emphasis on the role played by personal and social resources in coping with a variety of stressors, and on the consequences of coping in health outcomes, which are normally assessed by using indicators of depression, anxiety, somatization, and physical illness. This is the *pathogenic* approach of stress resistance, which aims at explaining the paths through which individuals may become sick. The other approach emphasizes *salutogenic* by arguing that we must study health instead of disease (Antonovsky, 1990). Research examples of the salutogenic model in work settings -specifically about Sense of Coherence- were provided in Chapter 2.

In terms of *personal coping resources*, the mechanism through which personality factors act in favor of health/illness outcomes is still in the centre of interest, at least in the field of work stress and coping research. Personal resources include relatively stable personality characteristics and cognitive characteristics that shape the appraisal and coping process (Holahan et al., 1996). Lazarus and Folkman (1984) associate resources with “what an individual draws in order to cope”, by emphasizing the fact that resources (including social support) are antecedent factors that influence coping.

The way in which personal resources and social resources might influence coping and –consequently- health outcomes has to do with *direct effects* as well as with *mediation*. In the model offered by Lazarus & Folkman (1984) and Holahan and Moos (1990), personal and social resources may relate to subsequent health outcomes both directly and indirectly through coping responses, and the level of strength of the predictive association may vary as function

of the level of stress. Coping is conceived to be strongly influenced by perceived self-efficacy (Bandura, 1997), which motivates more dynamic and determined efforts to master unknown tasks or stressors.

Whereas low self-efficacious individuals tend to be less active and have a propensity to avoid challenges, high self-efficacious individuals tend to react proactively to challenges by being more active and persistent over the time. Several theoretical-related constructs are included into the list of relevant coping resources, such as dispositional optimism (Scheier et al., 1986), hardiness (Kobasa, 1982b), sense of coherence (Antonovsky, 1987), internal locus of control (Lefcourt, 1992), and two relatively new constructs developed by the Berlin School of Stress and Coping Research, namely self-regulation competence (Schroeder, 1997a) and proactive attitude (Schmitz & Schwarzer, 1999). The latter has been developed in line with self-regulative models in the context of health behavior and the proactive coping theory of Schwarzer (2000).

The other facet of coping and stress resistance models is the role played by social resources. Research on social support has been included into Chapter 2, and it is recommended to complement that section with the current. In principle, social resources may strengthen coping efforts by providing emotional support and informational guide that may reinforce feelings of self-confidence or self-esteem, or that may function as a guiding information source in planning more effective coping strategies (Holahan et al., 1991. Hobfoll, 1998). Another way through which support may act on coping concerns its relation with personal resources. Social support may help to optimize the effects of personal resources on coping and vice versa (Schroeder, 1997a). However, there are recent examples in the literature in which support and coping did not influence each other (Frazier, Tix, Klein, & Arikian, 2000).

Coping and Crisis Growth Models are related to what Folkman and Moskowitz (2000) have called "*the other side of coping"*. The critique derived from such models is that coping theory and research need to consider positive outcomes as well. These authors argue that, while there is agreement that: coping has multiple functions (including distress regulation), that coping is influenced by appraisal and context characteristics; there are personality characteristics that predict coping (i.e., optimism, neuroticism); coping is influenced by social resources; psychologists have made less progress in answering the fundamental question whether coping produces positive outcomes (i.e., positive affect). Previous arguments are with no doubt in the terrain of TTS and positive psychology (Seligman & Csikszentmihalyi, 2000).

In Lazarus' viewpoint (see Lazarus, 2000), perhaps the most remarkable theoretical assumption states that coping processes may generate and sustain positive affect in the context of chronic stress. From a more broad perspective, three questions are considered to be relevant for the coping and crisis growth models: First, whether individuals come out from a crisis with novel coping competences, closer relations with relatives and stronger social links, improved priorities, and a wealthier judgment of existence. Second, whether acquired (or used) coping skills do promote positive outcomes in terms of emotional experience, health, and quality of life. Third, whether personal and social resources become "stronger" after confronting a personal crisis or chronic stressors. I will let these questions open, to pay attention to the Cognitive-Motivational-Relational Theory.

3.2.2 Cognitive-Motivational-Relational Theory (CMRT): An Upgrade?

While TTS is centered on **psychological stress**, which is defined as a particular relationship between the person and the environment that is appraised as taxing or exceeding his or her resources and endangering his or her well-being (Lazarus & Folkman, 1984), the CMRT is focused on **emotion**, which is defined and classified as follows:

> Emotions are discrete states when considered at the level of actual response readiness –at the level of particular action tendencies. They are states varying along a set of continuous dimensions, however, when considered at the level of response to the event's valence and urgency. They are in other words, states defined by a restricted set of dimensions when considered at a higher level in the hierarchy of action instigation and action control processes. The dimensional and the categorical view are both valid because they apply to different levels of the emotion process, corresponding to different sets of phenomena. (Fridja, 1986, p. 259; in Lazarus, 1991b, p. 64)

Lazarus' working classification of emotions consists of:

> 1. Emotion families resulting from a primary appraisal of *goal relevance* and *incongruence*, the classically negative emotions, which refers to diverse forms of threat, delay, or thwarting of a goal or a conflict between goals. These include anger, fright-anxiety, guilt-shame, sadness, envy-jealousy, and disgust. I regard contempt as a variant of anger, combined with an attempt to denigrate. 2. Emotion families resulting from a primary appraisal of *goal relevance* and *congruence*, the classically positive emotions, which refer to diverse forms of goal attainments or the movement toward it. 3. *Borderline emotions*, whose status in each case is somewhat equivocal. These include hope, compassion (for empathy/sympathy), and aesthetic emotions. […] 4. *Nonemotions*, which are treated as emotions but I believe shouldn't be, as I elaborate below. (Lazarus, 1991b, p. 82).

Moreover, there are three proposed ways to speak of cognitive activity in the CMTR, namely 1) the *functional and temporal role of cognition in emotion*, in which cognitive activity causally precedes an emotion in the flow of psychological events; 2) the *contents* in the emotion process (that entails *knowledge* regarding an encounter and *appraisal* of the

significance of the person-environment relationship for personal well-being), as well as *the formal qualities of the cognition* (that consists of *cognitive styles* and *functional manifestations at different states of development*); and 3) *how the meaning is achieved* (that is, two modes of appraisal: one automatic and unconscious; the other deliberate and conscious).

Another aspect that seems to be novel in the CMTR, is its emphasis on three forms of *primary appraisal* and three of *secondary appraisal.* The three *primary appraisal components* are: *goal relevance* (the extent to which an encounter touches on personal goals), *goal congruence or incongruence* (the extent to which a transaction is consistent or inconsistent with what the person wants), *and type of ego involvement* (diverse aspects of ego-identity or personal commitments). The new three forms of *secondary appraisal* are*: blame or credit* (knowing who is accountable or responsible for frustration); *coping potential* (whether and how the person can manage the demands); and *future expectations* (whether for any reason, things are likely to change becoming more or less goal congruent).

Conversely, in the early TTS *primary appraisal* determines whether an encounter is perceived either as *irrelevant* (if there are no implications for a person's well-being); or *benign-positive* (if the outcome of an encounter is construed as positive for a person's well-being); or *stressful* (if an interaction is construed either as a *harm/loss*, or as a *threat*, or as a *challenge*). In addition, *secondary appraisal* is related to the fact that something might or must be done to manage the situation. Traditionally, secondary appraisal has been evaluated by asking respondents whether the interaction is one: a) that you could change or do something about?; b) that must be *accepted* or gotten used to?; c) that needed to *know more* about before you could act?; and d) in which you had to *hold yourself back* from doing what you wanted to do?

A further concept introduced by Lazarus in his CMRT is the idea of *emotion as a process*, and what he has called *the core relational themes*. An *Emotion* is generated in the course of four *stages*: 1) *anticipation*; 2) *provocation;* 3) *the unfolding* and 4) *the outcome*. *Anticipation* deals with warnings of an upcoming harm or benefit that are conceived to be related to both anticipatory emotions such as *anxiety* and *anticipatory coping*, which are powerful adaptational tools in humans. *Provocation* implies any occurrence that is perceived as having changed the person-environment relationship in the direction of harm or benefit. *The unfolding* is an immediate stage after the start of an emotional reaction in a person, which delimitates the beginning of its unfolding or flow. This process also depends on other's emotional and coping reactions that provide feedback to the unfolding process. *The outcome*

stage of an emotion is an *emotional state* that takes origin from the *cognitive appraisal* of a situation in terms of our well-being.

Besides, the question of how coping relates to emotions is answered by Lazarus as follows:

> First, *coping* consists of cognitive and behavioral efforts to manage specific external or internal demands (and conflicts between them) that are appraised as taxing or exceeding the resources of the person […]. Though it may flow from emotion and be aimed at changing the condition of the emotion or the emotion itself, coping also directly and indirectly affects subsequent appraisals (reappraisals), and it is therefore also a causal antecedent of the emotion that follows […]. (Lazarus, 1991b, p. 112).

Here, the CMRT contemplates that *problem-focused coping* (action-centered forms of coping) and *emotion-focused coping* (thinking rather than acting to change the person-environment relationship) are the two main coping functions through which *emotions* are affected. Research evidence and further discussion regarding this coping dichotomy has been already provided in Chapter 2.

With reference to *the core relational themes,* the CMRT postulates that, "for each emotion, there are at most six appraisal-related decisions to make, sometimes less, creating a rich and diverse cognitive pattern with which to describe the relational meanings which distinguish any emotion from each of the others." (Lazarus, 1991b, p. 216). In sum, there are three groups of emotions: 1) *goal incongruent* or *negative emotions* such as anger, fright-anxiety, guilt-shame, sadness, envy-jealousy, disgust; *2) goal congruent* or *positive emotions* such as happiness/joy, pride, love/affection, relief, and 3) *problematic emotions* such as hope, compassion, and aesthetic emotions. Anger, for example, is considered one of the most powerful emotions, since it has profound impacts on social relationships. The *core relational theme* for anger is a "*demeaning offense against me and mine"* which is a provocation to adult human anger. In terms of *appraisal pattern,* we have -in the case of *primary appraisal components*- the following decision tree:

Appraisal for Anger***

Primary Appraisal Components

1. If there is goal relevance, then any emotion is possible, including anger. If not, no emotion.
2. If there is goal incongruence, then only negative emotions are possible, including anger.
3. If the type of ego-involvement engaged is to preserve or enhance the self- or social-esteem aspect of one's ego-identity, then the emotion possibilities include anger anxiety, anxiety and pride.

Secondary Appraisal Components

4. If there is blame, which derives from the knowledge that someone is accountable for the harmful actions, and they could have been controlled, then anger occurs. If the blame is to another, the anger is directed externally; if to oneself, the anger is directed internally.

5. If coping potential favors attack as viable, then anger is facilitated.
6. If future expectancy is positive about the environmental response to attack, then anger is facilitated.

***Appraisal components sufficient and necessary for anger are 1 through 4. Source: R. Lazarus (1991b). *Emotion and Adaptation* (p. 226). New York.: Oxford University Press.

In terms of *action tendencies*, it is assumed that *attack* is the innate action tendency corresponding to *anger*, which is normally inhibited rather than exhibited, especially when the person toward whom one feels anger is powerful and might retaliate. Only few studies have analyzed the relationships between coping and emotions in work settings. Scheck and Kinicki (2000), for example, conducted a cross-sectional study in which primary appraisal, as defined in the TTS, was related to *anger* and *sadness*, as defined in the MCRT, in the context of how individuals cope with an organizational acquisition. Main findings of their structural model revealed that, perceived control and coping self-efficacy negatively influenced primary appraisal of stress, whereas environmental conditions predicted an increase. In addition, negative emotions mediated the primary appraisal-coping interaction as follows: First, primary appraisal has negatively, directly and indirectly (through anger and sadness) influenced confrontive coping and planful problem-solving coping. Second, emphasizing the positive and tension-reduction/self-isolation were positively and indirectly influenced by primary appraisal through negative emotions, which appeared to increase emotion-focused forms of coping. Finally, social support was found to be a significant moderator for both emotion- and problem-focused coping. This research example might be considered as a

typical mixture of both the early TTS and the new CMRT, and it is still too premature to say whether this combined strategy is theoretically or methodologically valid. More recently, the transactional model of Lazarus has been challenged by the Conservation of Resources Theory (COR), which sustains that stress experience derives from the threat to the loss of resources, and not from appraisal process (Hobfoll, 2001). In section 3.2.3 I will briefly describe this polemic.

3.2.3 The Conservation of Resources Theory (COR): A challenge to TTS?

The most striking –and recent- critique to Lazarus' approach derives from the work of Hobfoll (2001), who has received a diversity of commentaries for his work, varying from the applause to the most vigorous censure (Freund & Riediger, 2001; Lazarus, 2001; Quick & Gavin, 2001; Schwarzer, 2001; Thompson & Cooper, 2001). On the whole, the COR conceives that *resource loss* is the principal ingredient in stress process instead of *cognitive appraisal*. Hobfoll (2001) remarks that, an obstacle of Lazarus' approach is that the vast majority of work following his theory is the directed attention to the appraisal aspects of the model in which appraisal is only one component.

Alternatively, Hobfoll considers that stress occurs: 1. when individuals' resources are threatened with loss; 2. when individuals' resources are actually lost; or 3. when individuals fail to gain sufficient resources following significant resource investment. Moreover, this author assures that although cognitive appraisals are one avenue to assess resource loss, most resources are objectively determined and observable. Two main principles accompany Hobfoll's theory, namely the primacy of resource loss, and resource investment. The former implies that given equal amounts of loss and gain, loss will have significantly greater impact in health outcomes, emotional experience, and stress reactions such as Burnout. The latter has to do with what people do invest to protect them against resource loss, recover from losses, and gain resources. Stress may also be, in consequence, related to resource loss and resource gain spirals. Resource loss can lead to further loss in resources, condition that should cause higher vulnerability. On the other hand, resources gains could beget further gains, so that people might tend to be less vulnerable. Chronic and acute losses are conceived to be the cause of unsuccessful adaptation, and consequently of secondary losses that function as a feedback loop leading to an increase in former chronic and acute losses. Conversely, resource

investment should moderate successful adaptation by increasing the possibility of secondary gains, and consequently reducing the prevalence in chronic and acute losses.

Freund and Riediger (2001) argue –however- that the COR's notion of resources loss may not be applied to those resources that can be used simultaneously for a variety of purposes or activities and that are not depleted after usage. Among these resources we can find self-efficacy beliefs, self-esteem, and personality factors, which are not depleted through usage as commodities, such as money does. These authors remark the "distinction between naturally finite resources ['commodities', in terms of Navon, 1984] and characteristics ['alterants', in terms of Navon, 1984] that influence the efficiency of use those finite resources to be very useful, as it helps to more clearly address the question whether it is the *availability* of resources, the way of *using* these resources, or the interaction of both that impacts how successfully individuals manage their lives." (Freund & Riediger, 2001, p. 374).

With regard to coping process, Hobfoll argues that current contributions of the proactive coping theory (Aspinwall & Taylor, 1997; Greenglass et al., 1999) are more coincident with the COR. While these theories will be described in forthcoming sections, I consider here the most relevant aspects of proactive coping that Hobfoll takes into account. In terms of resource investment, the proactive coping theory is conceived of relevance by the COR, since it proposes that stress process it is not circumscribed to the reactive response to resource losses or threats, but to efforts oriented towards acquiring and maintaining resource reservoirs, acting early when first warning signs of some impeding problem are evidence, and positioning ourselves in circumstances that fit our resources or otherwise place ourselves and the families at an advantage. While proactive coping aims at investing efforts towards personal growth and goal attainment, it is obvious that the COR does not recognize the role attributed to appraisal (i.e., challenge appraisal) by the proactive coping theories that are mentioned to be coincident with it.

In Ralf Schwarzer's viewpoint the differences between the two theories (the COR and the TTS) is a matter of degree not a matter of principle:

> Hobfoll tends to reduce Lazarus' approach to a highly subjective "appraisal theory" and argues that objective resources are more important. Although cognitive appraisal is the key feature there [in the TTS], this term does not do justice to the comprehensive model of a stress episode that starts with objective antecedents, includes appraisal and coping, and ends with more or less adaptive outcomes such as health, well-being, or social harmony. (Schwarzer, 2001, p. 403).

The current research matches Schwarzer's perspective in the sense that, the TSS and the CMRT may offer a comprehensive model enabling us to evaluate relevant hypotheses on the relationship between antecedent variables, mediating process, and health-related outcomes

in order to further explain human functioning. In my case, relevant antecedent variables are work stress, on the one hand, and personal resources (self-efficacy beliefs and proactive attitude) on the other. In terms of mediating processes, I concentrate my efforts on two basic ways of coping considered vital for human functioning, namely avoidance-oriented coping (denial, avoidance, and behavioral disengagement), and a more positive facet of coping concerning proactive efforts to deal with stress at work (in concrete, proactive coping). With regard to outcomes, I will not only approach the negative facet of outcomes by studying the possible causes of depression, somatization, and physical illness, but also the paths through which people may get positive outcomes (let's say positive affect and quality of life) as the result –between other things- of the use of proactive efforts to deal with work-related demands.

Considering previous remarks, I will proceed now to describe two self-oriented theories, namely the self-regulatory behavioral theory of Carver & Scheier (1998) and the Self-efficacy theory of Bandura (1997), which are related to what Navon (1984) has called the "alterants" resources, that is, personal attributes that are not depleted through usage, and that are conceived to be causal antecedents into the TTS meta-theoretical principles.

3.3 Self-Regulatory Behavioral Theory (SRBT)

Before clarifying selected concepts of Carvers and Scheiers' SRBT, I would like first to define the concept of self-regulation. A self-regulatory process has to do with what Bandura (1997) calls self-regulatory mechanism of behavior, as opposed to the external rewards and punishments conditioning approach proposed by the radical behaviorist school. In the theoretical framework of Bandura, there is a generalized disagreement with the understanding of behavior solely as the product of external rewards and punishments, since this is a truncated vision that ignores that "people possess self-directive capabilities that enable them to exercise some control over their thoughts, feelings, and actions by the consequences they produce for themselves." (Bandura, 1986, p. 335).

From the previous assumption derives the notion that psychological functioning is, consequently, regulated by the interplay between self-generated and external sources of influence. In the exercise of self-directiveness, people set or select standards of behavior for themselves and respond to their own actions self-evaluatively. In other words, due to their capability to symbolize the world and the self-reactive capabilities, the persons are not totally

controlled by external environmental forces that tell them how to behave. Self-regulation of behavior, however, does not function as a supra power, but through a set of sub-functions that people must mobilize for self-directed change. Self-regulation is implemented by self-observation, self-monitoring, self-diagnostic devices, as well as self-motivating devices. These processes give rise to self-reactions through a judgmental function involving the development of internal standards enabling personal standards (i.e., challenges), referential of performance (i.e., personal comparison), the valuation of the activity (i.e., highly, devaluated or neutral), and the performance attribution (i.e., internal locus, or external locus). Self reactions, on its side, involve positive vs. negative self-evaluations as well as tangible self-rewards or self-punishments, and even no self-reactions (Bandura, 1986).

In sum, the self system entails the notion that people can exercise some influence over their thoughts, feelings, and actions. This idea is central to this work in the extent that self-regulatory processes -implemented through self-efficacy beliefs or proactive attitude- may act in favor of the promotion of better suited coping strategies (actions) to deal with work stress, and consequently to get benefits in terms of health, emotional experience (feelings), and quality of life over the time. Given that work life offers the chance to be proactive instead of reactive in coping with work stress, the mechanisms by which people remain engaged in goal-oriented actions (let's say proactive coping) vs. the anti-goal oriented ones (let's say by using avoidance coping) are of relevance. In my view, Carver and Scheier's (1998) approach may offer some inputs to further understand how people tend to get negative vs. positive outcomes in their interaction with working demands over the time. Let's look then at their basic ideas.

Carver and Scheier (1998, p. 247) sustain:

> People need to have goals to adopt, and they need to be able to stay engaged with them. Adopting a goal and staying engaged depend both on two variables. One is the goal's value. We don't take up goals that don't matter to us, and if we did we wouldn't persist at pursuing them when things got difficult. The other variable is sensed attainability. If the goal seems unattainable before we start, we don't try at all. If we continually fail to progress toward goals we've committed ourselves to, our lives lose meaning and the unattainable goals become like dust in our mouth. In contrast, hope is the holding onto valued goals, the remaining engaged in the feedback process, the attempt to move forward.

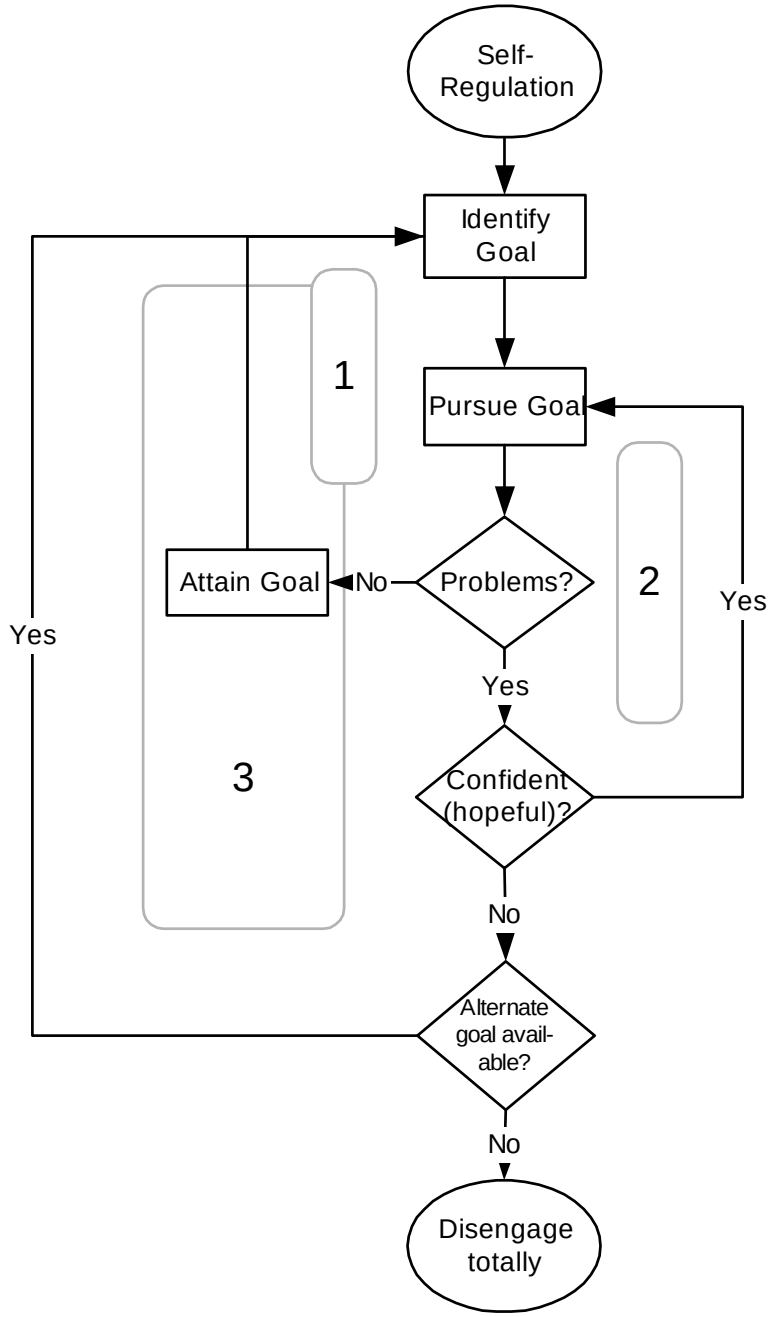


Figure 7. Goal Engagement-Disengagement Flowchart. Source: In C.S. Carver and M. F. Scheier (1998). On the Self-regulation of Behavior (p. 349). USA.: Cambridge University Press.

Goals (e.g., work-related goals) are embedded into a hierarchical organization of feedback loops underlying the self-regulation of behavior. The hierarchical structure (see Figure 7) consists of a feedback system with superordinate loops or high-order systems (that resets reference values at the next lower level of abstraction) and subordinate loops or low-order systems (that regulate lower-level goals). In other words, a “Be-goal” (e.g., be a creative employee) specifies a more-concrete goal at the next lower level or “Do-Goal” (e.g., develop

an innovative project), which also specifies an even more concrete goal at the next lower level or "Motor control goals" (e.g., photocopying and distributing a project-related document). In this context, Scheier and Carver (1978, p. 70-73) add:

> How do you act to minimize discrepancies between these highly abstract values and your behavior? How do you "be" your ideal self? Powers (1973a, 1973b) suggested that the output of this high level system consists in providing goals to the next lower level, which he terms the level of *principle* control. To put it more concretely, you "be" who you want to be by using guiding principles implied by the idealized self to which you aspire. […] You don't go out and "do" honesty, or responsibility or thrift, or expedience. Rather, you manifest such qualities in behavior by doing specific activities. These activities, in which behavioral output finally becomes recognizable, are *programs* [that] are the sort of activities that people take for granted as 'behavior'. This hierarchy assumes the existence of both goals where the point is to "be" a particular way and goals where the point is to "do" certain things (and at lower levels, goals where the point is creation of physical movement). […] the process of carrying out a high-level act *consists of* carrying out low-level acts […] whenever some level of control is engaged as functionally superordinate, so are all levels bellow that one, to permit the carrying out of the action.

In other words, discrepancies between "Be-goals" and "Do-goals" are regulated by a drift *downward process* in response to difficulties, which conduces an individual to *drop downward* to more concrete goal-identification procedures. Thus, a lower "Be-goal" might help to cope better with whatever condition is producing the difficulty. In terms of emotions and affect, discrepancy might be controlled either by *discrepancy-reducing loops* (e.g., a discrepancy *reducing* meta system yields affective qualities of sadness or depression when progress is below standard, and happiness or elation when progress is above standard) or *discrepancy-enlarging loops* (e.g., a discrepancy enlarging system yields anxiety when progress is below standard and relief or contentment when progress is above the standard). In this case, Carver and Scheier talk about bipolar dimensions of affect and their self-discrepancy regulation procedures. Figure 8 illustrates goal-related hierarchies, which may also apply to work-related domains.

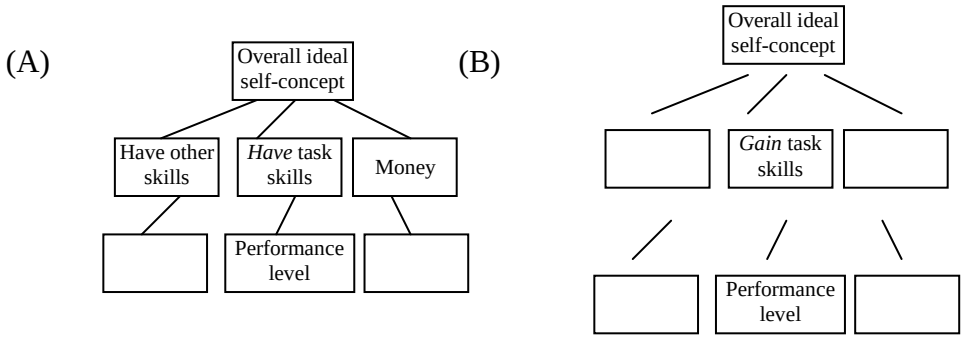


Figure 8. Three level goal hierarchies of (A) a child [or an old employee] who holds a performance goal and (B) a child [or a new employee] who holds a learning goal. For the child [or the old employee] with the performance goal, performing creates the sense of having a high level of the ability that's relevant to the task, which contributes to the overall sense of self-esteem. For the child [or the new employee] with the learning goal, performing well (eventually, though not necessarily right away) provides evidence of gaining the ability, which contributes to the overall sense of self-esteem. Other qualities, of course, also contribute to self-esteem in both cases. Adapted from Carver and Scheier (1998, p. 80). On the Self-regulation of Behavior. UK. Cambridge University Press.

Working people identify short-term and long-term goals and move toward them, but they also identify anti-goals and stay away of them. *Goal engagement* involves an initial adoption process, whereas *goal continuance* is the subsequent pursuit of a goal. The extent to which a person maintains a goal over time depends on the goal's value and goal's attainability. If a person continually fails to progress toward a determined goal, the goal-related motivation declines and the person may disengage either temporarily of permanently. On the contrary, positive signals in the pursuit of a goal may imply remaining engaged in the feedback process as well in the attempt to move forward (see Figure 7). These principles are coherent with Lazarus ideas regarding *goal relevance, goal congruence* or *incongruence*, in the sense that only *goal relevant transactions* mobilize either positive or negative emotions that stimulate the process of coping and consequent emotional adaptation (or dysfunction).

Moreover, in the stress and coping research arena, Carver and Scheier (1998, p. 214) conceived coping as "the various ways in which people respond to the perception of adversity", namely the appraisals of threat and harm/loss. However, in the case of challenge, they give to it a less stressful character, since it involves the possibility of gain or self-promotion. Stress process, on its side, is assumed to be embedded in the structure of self-regulatory processes, because it is a condition that interferes with the movement towards desired goals (or away from anti-goals).

Concerning problem-focused coping behaviors, they reflect a continued engagement with goals in which the stressor has been appraised as a threat (thus, they require taking steps to keep the goals alive and active). Conversely, emotion focused coping aims at reducing stress only. In the case of avoidance coping, Carver and Scheier find a great deal in common with disengagement responses (or disengagement processes from goals). Nevertheless, they argue that avoidance coping strategies can be also a functional aspect of behavior when they occur in the right circumstances, whereby disengagement would operate as an adaptive instead of a maladaptive mechanism (see Figure 7 and 8).

The following text gives us a final idea on Carver and Scheier's approach on stress and coping:

> The view on stress and coping that we're proposing has a number of implications. Most broadly, it implies that when you think about stress and coping in particular context, you should also think about the relevance of principles of self-regulation. Two aspects of these principles seem worth exploring. First, given a severe enough stressor, one can expect to use a dichotomy among responses to it, based on confidence versus doubt. Some people will struggle to overcome the obstacle (c.f. Roth & Cohen, 1986); some will be overwhelmed and will experience a tendency to give up what's threatened (see also Aldwin, 1994; Aldwin & Stokols, 1988). Second, when a person is doubtful enough to want to give up something that cannot be given up, that person can be expected to display deep distress. (Carver & Scheier, 1998, p. 215).

Let's look now at Bandura's Self-efficacy construct, which is central to this investigation.

3.4 Self-Efficacy Theory

Bandura's Social Cognitive Theory and its central self-efficacy construct traces back to the 1970s, and it has received an important amount of attention since that period. My own PsycInfo literature search under the keyword “self-efficacy” yielded a total of 6302 records from 1967 to 2001, and there is also a great deal of work on self-efficacy that has been published in other scientific media (see also PSYNDEXplus).

- Self-Efficacy: A Definition

In the theoretical framework developed by Albert Bandura, the concept of ***perceived self-efficacy*** occupies a central place. Bandura conceives self-efficacy beliefs (SEB) as another important *facet of the self-system* which is circumscribed to self-referent thoughts that determine psychological functioning. Self-referent thoughts are translated into appropriate courses of action required for accomplished performance; and self-perceptions of efficacy and how people judge their capabilities determine both their motivation and behavior. In Bandura’s view, there is a marked difference between the skills a person possess, the beliefs about the possessing subskills and being able to use them well under diverse circumstances. For example, two persons with similar skills, let’s say, two manufacturing employees, may perform poorly, adequately, or extraordinary, depending on their self-referent thoughts on their cognitive, social, and behavioral subskills that they must organize into courses of action to reach their work-related goals. Competent functioning –for example at work- requires both skills and self beliefs of efficacy to use the own skills in a competent manner. Initiation and regulation of transactions with work environment are, subsequently, in part governed by what employees think they can do to cope with work-related demands.

Let’s provide a definition:

> Perceived self-efficacy is defined as people’s judgments about their capabilities to organize and execute courses of action required to attain designated types of performance. It is concerned not with the skills one has but with judgments of what one can do with whatever skills one possesses. Judgments of personal self-efficacy are distinguished from response-outcome expectations. Perceived self-efficacy is a judgment of one’s capability to accomplish a certain level of performance, whereas outcome expectation is a judgment of the likely consequence such behavior will produce. […] Efficacy and outcomes judgments are differentiated because individuals can believe that a particular course of action will produce certain outcomes, but they do not act on that outcome belief because they question whether they can actually execute the necessary activities. Bandura (1986, p. 391-392).

Previous definition has striking theoretical implications in terms of the concept of human accomplishments and well-being. While a strong sense of efficacy may improve human accomplishment and personal well-being in many ways, a weak sense of efficacy could promote a mediocre accomplishment as well as a less fortunate physical and psychological quality of life and well-being. High self-efficacious individuals tend to approach difficult tasks as a challenge to be mastered rather than a threat that must be avoided. On the contrary, those who easily disengage from difficult tasks, which are normally perceived as a threat, have a low sense of self-efficacy and serious self-doubts about their potential.

High SEB promote a deeper involvement in activities conducing to goal attainment, whereas low SEB downgrade the level of aspirations and compromise with the goals that have been selected to pursue. In the face of difficulties, that is, when dealing with highly demanding transactions, high self-efficacious individuals reinforce and maintain their efforts longer, and they quickly recover their sense of efficacy after having experienced setbacks or breakdowns. On the whole, high self-efficacious subjects attribute their own failures to a lack of effort, insufficient information, or deficient skills that are acquirable. In coping with threatening situations, they select direct ways of action instead of evasive strategies, in order to exercise control over the situation. As a result of an efficacious outlook of transactions and interactions with the environment, they get personal accomplishments, and consequently they reduce stress and diminish vulnerability to develop depressive symptoms.

Conversely, individuals who have serious doubts about their own capabilities used to concentrate on their personal deficits, on the difficulties they will encounter and on the adversity they have to face, instead of executing plans of action with the aim of performing successfully; in other words, they seem to be worse copers when hard times arise. In the face of difficulties low self-efficacious individuals give up quickly and are low to recover their sense of self-efficacy after the experience of failure or setbacks. These persons lose promptly the faith in their capabilities, since they attribute their own insufficient performance to a lack of aptitude in executing the tasks, instead of a lack of effort or information. Bandura sustains that low self-efficacious individuals are easy the victim of stress and its consequences such as depression (Bandura, 1994).

- Sources of Self-Efficacy

Basically, Bandura (1997, p. 36) sustains that "efficacy beliefs are concerned not only with the exercise of control over action but also with the self-regulation of thought processes, motivation and affective and physiological states". Four principal sources of information constitute SEB, namely *enactive mastery experience or performance accomplishment* (participant modeling, performance desensitization, performance exposure, self-instructed performance); *vicarious experience* (live modeling, symbolic modeling); *verbal persuasion* that one possesses certain capabilities (suggestion, exhortation, self-instruction, interpretive treatments); and *psychological and affective states or emotional arousal* (attribution, relaxation, biofeedback, symbolic desensitization, symbolic exposure) that gives information to people in order to judge their capableness, strength, and vulnerability to dysfunction.

The most effective way to develop a strong sense of efficacy is through *mastery experience and performance accomplishment*, given that success helps to build a strong belief in the own capabilities, whereas systematic failures undermine them, especially when the adult has already developed a firm sense of effectiveness. The development of a strong sense of self-efficacy requires the experience of overcoming obstacles through a sustained attitude of effort and endeavor. This is a key ingredient to emerge stronger from adversity.

Social models provide another source of information that shape SEB through *vicarious experience*. Observing others' success may raise observers' beliefs that they are also capable, when seeing people similar to them succeeding by sustained effort. Conversely, if despite of high efforts the social model fails, then the own perceived efficacy may be undermined, since the impact of modeling is strongly influenced by similarity of the model. Hence, the model's influence is stronger when the assumed similarity is higher, whereas if social models are highly dissimilar to the person, then the impact of vicarious experience is rather weak or null.

The third way to increase the sense of self-efficacy is through *verbal persuasion*. When problems arise, those who are verbally persuaded that they can cope with adversity are likely to invest more sustained efforts to deal with the situation, in comparison with the ones who dwell on personal deficiencies. Verbal persuasion has a double impact on efficacy beliefs. The unrealistic facet of SEB is quickly disconfirmed by negative outputs derived from one's efforts to solve concrete problems. Moreover, people that are *verbally persuaded* that they lack the potential to face difficult tasks may tend to avoid challenging activities and could give up promptly when difficulties arise. Improvement in SEB through verbal persuasion requires not only the promotion of self positive appraisals, but also structuring

situations in which the person may visualize success and avoid the confrontation with scenarios that might prematurely induce systematic failures. In verbal persuasion, self-improvement should be then evaluated in terms of the own success across difficult tasks and not by the comparative triumph over others.

Somatic and emotional states are also influential aspects on SEB. The appraisal of vulnerability to poor performance may also take origin from the lecture individuals make of their own stress reactions and tension. Therefore, another way to modify SEB is to reduce the level of stress reactions and modify negative emotional tendencies and misinterpretations of physical states. People who have high self-efficacy are likely to see their emotional reactions as facilitators of performance, whereas those who have self doubts tend to evaluate their arousal as debilitator. From this principle derives the logic idea that a high sense of self-efficacy should promote a more positive affective arousal. This is basically important in those activities requiring strength and resistance such as health functioning, athletic performance or other physical activities.

- The Effects of Self-Efficacy on Human Functioning

From a broad perspective, the social cognitive theory considers that SEB determine how people feel, think, motivate themselves and behave. Such beliefs produce diverse effects on human functioning through four major processes. They include *cognitive, motivational, affective and selection processes.*

With regard to *cognitive processes*, Bandura (1992) underlines that SEB can enhance or undermine performance, whereby the higher the SEB, the higher the goals people set for themselves and the firmer their commitment to them. On the contrary, those who judge themselves as inefficacious are more inclined to visualize failure scenarios which undermine performance.

Figure 9 shows a path analysis on causal relationships between performance, self-efficacy, personal goals and analytic strategies.

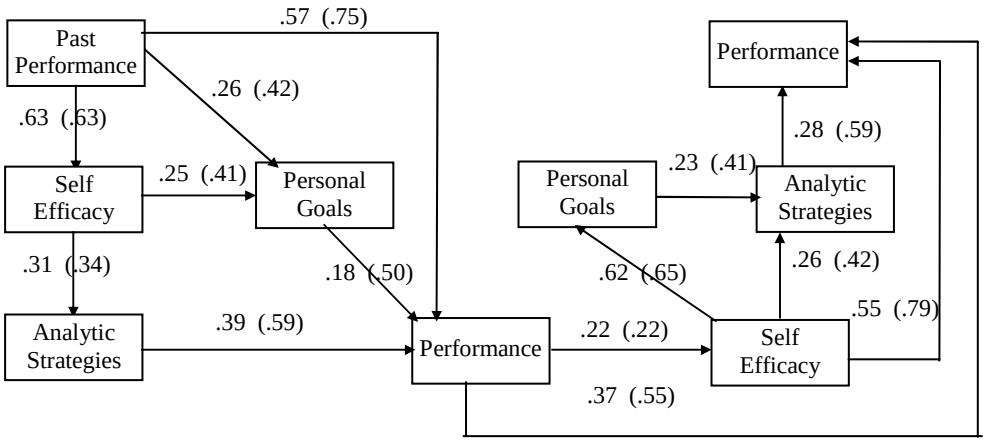


Figure 9. Path analysis of causal structures. The initial numbers on the paths of influence are the significant standardized path coefficients; the numbers in parentheses are the first-order correlations. The network of relations on the left half of the figure are the initial managerial efforts, and those on the right half are for later managerial efforts (Wood & Bandura, 1989). Adapted from Bandura (1992). Exercise of Personal Agency Through the Self-efficacy Mechanism. In R. Schwarzer (Ed.), Self Efficacy: Though Control of Action (3-38). Washington, DC: Hemisphere.

Personal goals and analytic strategies are two cognitive processes that are strongly influenced by SEB. The stronger the perceived self-efficacy, the higher the goal challenges people set for themselves and the firmer is their commitment to them. High self-efficacious individuals tend to use good analytic thinking that positively influences on performance. Hence, SEB act directly on performance as well as indirectly through cognitive processes such as goal setting and analytic strategies. Low self-efficacious individuals are conceived to be more inconsistent in their cognitive perception of demands, are more erratic in their analytic thinking, and the quality of performance deteriorates. When people are coping with difficult environmental demands under taxing circumstances, those who are highly self-efficacious tend to remain task oriented even in the face of pressing situational demands, failures and setbacks that have significant repercussions.

With reference to *motivational processes*, people form beliefs about what they can do, they anticipate likely outcomes of prospective actions, they set goals for themselves and plan courses of action designed to realize valued futures. In other words, the extent to which the persons perceive themselves as capable to maintain and sustain a specific course of action is also a prerequisite for the intention to engage in those behaviors conducting to a selected goal (e.g., giving an innovative speech at work). SEB play a fundamental role in self-regulation of motivation, since most human motivation is cognitively generated. People have beliefs about what they can do and anticipate outcomes based on the expectancy of results.

Bandura (1991; 1997; 1994) sustains that, in the terrain of cognitive theories of motivation, there are three forms of motivators that are conceived to be influenced by SEB,

namely causal attributions (attribution theory), outcomes expectancies (expectancy-value theory), and cognized goals (goal theory). Causal attributions are influenced by SEB, in the sense that those who perceived themselves as inefficacious tend to attribute their failures to low ability, whereas the ones who attribute their lack of success to insufficient effort are those who report higher perceived self-efficacy. In Bandura's theory it is argued that, affective reactions, motivation and performance are influenced by causal attributions depending on the level of SEB.

On the other hand, the expectation that a specified course of behavior will create certain outcomes and the value of those outcomes is what the expectancy-value theory conceived as key ingredients for human motivation. For example, the expectation of loosing weight and improving health by reducing the consumption of fast-food may motivate people to reduce the consumption of hamburgers and fries. Bandura sustains –however- that the beliefs, about what the person can do, influence both the actions as well as the beliefs about the likely outcomes of performance. In this sense, SEB are conceived to partially govern the effect of outcomes expectancies on motivation. In terms of our example, while a person may expect concrete health-related benefits as a result of reducing the consumption of fast-food, he/she might not feel motivated to take that course of action because of his/here perceived inabilities to sustain and accomplish that goal.

Challenging goals are conceived to enhance and sustain human motivation. The social cognitive theory assures that SEB contribute to motivation in several ways:

- They determine the goals people set for themselves; how much effort they expend; how long they persevere in the face of difficulties; and their resilience to failures.
- When faced with obstacles and failures people who harbor self-doubts about their capabilities slacken their efforts or give up quickly.
- Those who have a strong belief in their capabilities exert greater effort when they fail to master the challenge. Strong perseverance contributes to performance accomplishments. (Bandura, 1994, vol. 4. p. 71-81).

With regard to *affectivity*, SEB plays an important role in the self-regulation of affective processes. In this context, perceived coping capabilities play a leading role in the explanation of how emotions take origin from self-referent cognitive processes. For example, persons with high levels of anxiety arousal are more likely to believe they cannot manage potential threats, whereas those who believe that can exercise control over potential threats are not perturbed by apprehensive cognitions. In this sense, Bandura adds:

> Anxiety arousal in situations involving some risk is affected not only by perceived coping efficacy, but also by perceived coping efficacy to control distressing cognitions. The exercise of control over one's own consciousness is summed up by well in the proverb: 'You cannot prevent the birds of worry and care from flying over your head. But you can stop them from building a nest in your head.' Perceived self-efficacy in thought control is a key factor in the regulation of cognitively-generated arousal. It is not the sheer frequency of disturbing cognitions, but the perceived inability to turn them off is the major source of distress. (Bandura, 1997, p. 26).

Bandura sustains that the level of stress and depression that people experience, when facing threatening or difficult situations, is affected by their *beliefs in their coping capabilities*. Due to perceived self-inefficacy, people develop the idea that they cannot manage difficulties and they dwell on their coping deficiencies. Low self-efficacious individuals magnify the severity of possible threats; they distress themselves, experience higher anxiety arousal, and prejudice their level of performance. Avoidance coping behaviors as well as anxiety arousal are regulated by perceived coping self-efficacy. People with higher sense of self-efficacy are prone to take taxing and threatening activities. In other words, Bandura suggests that, perceived coping self-efficacy demotes the use of avoidance coping and promotes the use of active or approach-oriented coping, and consequently reduces anxiety arousal and improves performance.

Depression as well as anxiety is produced by a low sense of self-efficacy to exercise control over problematic situations. A guarantied route to depression is through a low sense of self efficacy; low self-efficacy increases vulnerability to depression, which is mostly cognitively generated by ruminative thoughts of unhappiness, disappointment, or sadness. The occurrence, duration, and recurrence of depressive episodes are also affected by a low sense of self-efficacy to exercise control over the ruminative thoughts.

Another aspect that is highly relevant concerns the impact of coping self-efficacy on biological systems that affect health functioning. The perceived ability to manage stress, that is, coping self-efficacy beliefs are determinant regarding stress effects. The higher the perceived ability to control and manage stressors, the lower the impact of stress exposure on the immune system, and the lower the susceptibility to infections that may contribute to development of physical disorders that accelerate the progression of disease. In other words, coping self-efficacy beliefs function as a protective factor in the relation between stress and health functioning. (Bandura, 1991; 1994; 1997).

The following textual cite offers a more detailed description of the mechanism through which coping self-efficacy beliefs may act on health outcomes:

> Biological systems are highly interdependent. A weak sense of efficacy to exercise control over stressors activates autonomic reactions, catecholamine secretion and release of endogenous opioids. These biological systems are involved in the regulation of the immune system. Stress activated in the process of acquiring coping capabilities may have different effects than stress experienced in aversive situations with no prospect in sight of ever gaining any self-protective efficacy. There are substantial evolutionary benefits to experiencing enhanced immune function during development of coping capabilities vital for effective adaptation. It would not be evolutionarily advantageous if acute stressors invariably impaired immune function, because of their prevalence in everyday life. If this were the case, people would experience high vulnerability to infective agents that would quickly do them in. There is some evidence that providing people with effective means for managing stressors may have a positive effect on immune function. Moreover, stress aroused while gaining coping mastery over stressors can enhance different components of the immune system. (Bandura, 1994, vol. 4. p. 71-81).

Self-efficacy beliefs may function, consequently, as a protective factor of the effects of stress on negative health outcomes such as depression, somatization, and the occurrence of somatic disorders such as viral respiratory infections, skin disorders, gastrointestinal disorders, and musculoskeletal pain. These disorders should increase and facilitate the development of specific diseases pertaining to the specific biological system that they affect. The question is whether the effects of self-efficacy beliefs on health functioning are immediate, or whether these effects remain over the time.

Turning to the effects on *selection processes*, SEB enable people to select and exercise control over the environments they create, that is, people tend to avoid those activities and situations that exceed their capabilities, but they also make choices about social environments they judge themselves capable of handling. Choices of associates and activities, and affiliation patterns are also affected by beliefs on personal capabilities. Gender differences are relevant here. For example, women are likely to limit their interests and range of career options, because of their self-beliefs that they do not have sufficient capabilities for occupations traditionally dominated by men (Bandura, 1997).

- Dimensions of Self-Efficacy Beliefs: Level, Generality and Strength

Self-efficacy beliefs vary on three dimensions that are important for their implications in analyzing human functioning or performance, namely *level, generality, and strength.* The ***level*** dimension refers to self-judgments or perceived self-efficacy with regard task's difficulty level, which may vary from simple tasks, extended to moderately ones, or even to the most taxing performance into a specific area or domain of functioning. The ***generality*** dimension concerns the fact that people may judge themselves to be efficacious only in certain domains of functioning or across a wide range of activities and situations. The other dimension is the ***strength***, which determines whether a person will persevere in his/her coping

efforts despite mounting difficulties. The stronger the perceived self-efficacy, the more likely are persons to select challenging tasks, the longer they persist at them, and the more likely they are to perform them successfully (Bandura, 1986).

There is empirical evidence suggesting that SEB are a strong predictor of reemployment following job loss (Bandura, 1997), and that employees high in job-related SEB are prone to be versatile, resilient and effective in the context of changing demands accompanying job displacements, economic recessions. A reemployment program conducted by van Ryn and Vinokour (1992) has provided evidence suggesting that, the stronger the SEB regarding doing things that get employment, the more vigorous and effective the job search was, which in turn has greatly increased the likelihood of reemployment (Eden & Aviram, 1993). While unemployment is not the core of this dissertation research, the mechanism through which SEB influence cognitions, affects, motivation and selection procedures are also applicable to the comprehension of how employees engage in, sustain and maintain *proactive* vs. *reactive* trajectories to deal with work stress.

In the current research, both domain-specific self-efficacy beliefs as well as a generalized sense of efficacy are considered to be key ingredients in coping with work stressors, and in staying healthy instead of becoming sick. In the context of manufacturing companies, it is expected that work-specific and generalized self-efficacy beliefs should demote the use of anti-goal behaviors (i.e., avoidance coping), and promote the use of goal-oriented actions (i.e., proactive coping) when confronting difficulties at work.

While work-specific self-efficacy may be conceptualized as the perceived capabilities to successfully cope with typical or novel work-related stress and work-related demands/difficulties over the time; a generalized sense of self-efficacy is conceived to be a global confidence in one's coping ability across a wide range of demanding or novel situations, irrespective of the context and the specific situation that people may confront (Schwarzer, 1992b). Both dimensions, however, should be highly correlated, given that work life might configure and shape the global sense that a person may have in coping with a broad range of stressors across life span.

Recent evidence has been provided by cross-cultural research suggesting the universality and uni-dimensionality of a sense of generalized self-efficacy. Scholz, Gutiérrez-Doña, Sud, and Schwarzer (2002) found that there is an optimistic sense of personal competence that exhibits variations in *strength* depending on the country and gender. This study -which demonstrated the uni-dimensionality of the construct across 25 countries around the world-, showed that a sample of Costa Rican students were the ones who reported the

highest rate in perceived general self-efficacy, whereas a sample of Japanese were the ones who perceived themselves as less efficacious. A more detailed description of statistics boundaries of the two self-efficacy beliefs scales used in the present dissertation can be found into Chapter 4.

3.5 Proactive Coping Theories

In the stress and coping literature, *coping* has been traditionally conceived as those activities undertaken to master, tolerate, reduce, or minimize environmental or intrapsychic demands perceived as a potential *threat,* existing *harm or losses.* More recently, two interrelated theoretical approaches on coping were developed, namely, *The Proactive Coping Theory* of Schwarzer (2000; 2000), and the *Proactive Coping Theory* of Aspinwall and Taylor (1997). While both postures recognize the significance of *reactive* coping, *preventive* coping, and *anticipatory* coping for human adaptation, they introduce a new coping conception, which has to do with a more positive dimension of human functioning: Proactive Coping.

- The Proactive Coping Framework of Ralf Schwarzer and Collaborators

Schwarzer (2001) assures that several positive concepts pertaining to existing theories are in line with his proactive approach on coping, namely the notions of mastery, optimization (Baltes, 1997), challenge and benefit (Lazarus, 1991b), and resources gain (Hobfoll, 2001). In general terms, this framework (see Figure 10) is based on the idea that coping is not only a *time-dependent* but also a *certainty-dependent* construct involving four main strategies, namely *reactive coping* (efforts to deal with or to compensate *harm or loss*), *anticipatory coping* (efforts to deal with imminent *threats*), *preventive coping* (efforts to build *general resistance resources* to cope with an event that *may or may not occur* in the distant future), and *proactive coping* (efforts to build up *general resources* aiming at confronting *challenging goals* and promoting *personal growth*).

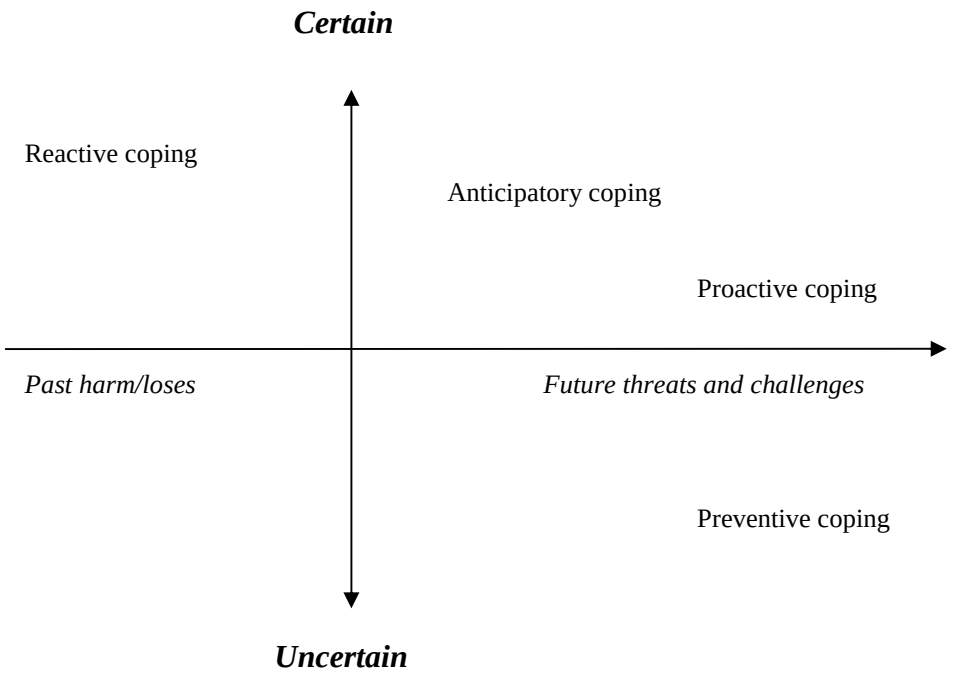


Figure 10. The Proactive Coping Model. Source: Schwarzer, R. (2000). In E. Locke (Ed.). The Handbook of Principles of Organizational Behavior (pp.342-355). USA: Blackwell.

Reactive coping are those activities oriented to manage a past or a present stressful encounter, or to compensate for or accept harm/loss. Harm/loss experiences at work that can motivate reactive coping are, for example, being demoted at work, having a work-related accident that implies the loss of any faculty, failing in goal-oriented work accomplishment or even losing job status. A prerequisite to reactive coping is certainty, that is, the person has the absolute certainty that the event has occurred or is happening. In terms of adaptive consequences, harm experiences can be compensated, and loss experience can be alleviated through goal readjustment, through the look for a new meaning and benefits, and even by redefining the own life. Reactive coping can be implemented by using problem-focused, emotion-focused, or support seeking related strategies. Given that the experiences of harm/loss require self-resilience, the optimistic belief in the own capabilities to triumph over harm/losses is of relevance. Such optimistic beliefs are denominated “recovery self-efficacy”.

While reactive coping concerns efforts to deal with the consequences of events that are already in the past, anticipatory, proactive and preventive coping aim at dealing with situations that are mostly in the future, and can vary in its level of uncertainty. *Anticipatory Coping* aims at dealing with a *critical event* that is certain or fairly certain to occur in the near future. In the context of work stressors, anticipatory coping may be an anticipated response to

increased workload, job promotion, company downsizing, or retirement. Rather than being the result of an experience of harm/loss, in this case, the person may appraise the situation as threatening, challenging, and benefiting or a combination of them. Anticipatory coping may be implemented via problem-focused strategies, if the person takes concrete actions to solve the problem at hand, such as increasing current efforts, procuring help, or investing other resources such as money. Avoidance-oriented strategies such as distraction, and support-oriented coping such as gaining reassurance from others, may be also used to manage the risks that are visualized in the short term. In anticipatory coping, people invest one's resources to prevent or combat the stressor at hand, with the aim of maximizing an anticipated benefit. Work-specific self-efficacy may be considered as a personal resource factor that promotes an optimistic self-belief of being able to cope effectively with job-related demands.

Preventive Coping, on its side, is a long-term engagement with high uncertainty events. Preventive coping is mobilized by events that may or may not occur in the *distant future*. The efforts are then concentrated in building up general resistance resources by the accentuation of personal strengths, and accumulating social wealth, and skills, "just in case" (Schwarzer & Taubert, 2002). Preventive coping is assumed to be more responsive to personality traits than to chronic or acute stressors. The person has a sense of concern regarding the natural dangers of life, and he/she uses that sense to act preventively with the purpose of managing the uncertain risks that may or may not arise in the future. Given the unspecific nature of the situation that the person is coping with, generalized coping self-efficacy beliefs are considered to be a good resource for preventive coping.

Proactive Coping, which gives the name to the theoretical framework that is being described, is conceived as an *effort to build up general resources that facilitate promotion toward challenging goal situations and personal growth*. Given that proactive coping is *not preceded* by negative appraisals, such as harm, loss or threat, the person has a more positive outlook of life demands.

> 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. (Schwarzer & Taubert, 2002, p. 27).

In terms of self-regulatory processes governing proactive coping, these authors refer to "action self-efficacy" as a key ingredient, since it consists of optimistic self-beliefs of being capable to initiate and maintain difficult courses of action, which may include ambitious goal settings and tenacious goal pursuit. The role played by self-regulatory processes in thought, affect, and conduct has been largely described into the self-efficacy theory of Bandura (1997), and it has been further expanded into the self-regulatory behavioral theory of Carver and Scheier (1998).

Proactive coping may also be influenced by *proactive attitude*, which is a recent personality construct developed by Schmitz and Schwarzer (1999) in the context of occupational settings. Proactive attitude is a personality characteristic that has important implications for motivation and action, that is, for coping intentions and the implementation of coping processes. Proactive individuals believe in the rich potential of change conducing to the improvement of environmental conditions. This attribute of the self-system (proactive attitude) may conduce to proactive coping, since it has been conceived to be a key factor in the pre-intentional or pre-actional phase of goal oriented actions (Schmitz & Schwarzer, 1999).

Another characteristic of proactive individuals is their belief in the existence of sufficient resources (goods, services, human) that can be influenced to support goal attainment. Proactive individuals take responsibility for the own problems and for those that have been caused by others, and concentrate on the solutions instead of on the obstacles. Proactive attitude is also associated with value-oriented courses of action. In the context of working organizations, the Total Quality Norm (TQN) is consistent with the concept of proactive attitude. Proactive individuals as well as proactive organizations base their actions around the concept of continuous improvement. Hence, proactive attitude may also be a resource that enhances individual and organizational quality of life standards. Self-improvement, resource accumulation, prevention of resource depletion, and force mobilization are values that shape proactive coping actions (Schmitz & Schwarzer, 1999).

In analyzing proactive coping vs. avoidance-oriented coping as contrasting mechanism through which people may become sick or stay well, it is also important to think about coping in terms of motivation and action. Schwarzer (1992a) sustains that the likelihood that a valued health behavior or change in detrimental habit may depend on three cognitions, namely outcomes expectancies, self-efficacy expectancies, and the perception of risks. In his social-cognitive "health action process approach" (HAPA), this author introduces the time perspective into a conceptual model that divides human functioning (in concrete health

behaviors) into motivation phase and the action phase. In the motivation phase, individuals form an intention to either adopt a precaution measure or change risk behaviors in favor of other behaviors, whereas in the action phase (or volitional process) people transform their intentions into actions through particular behaviors oriented to a concrete goal. Figure 11 offers a representation of the HAPA model.

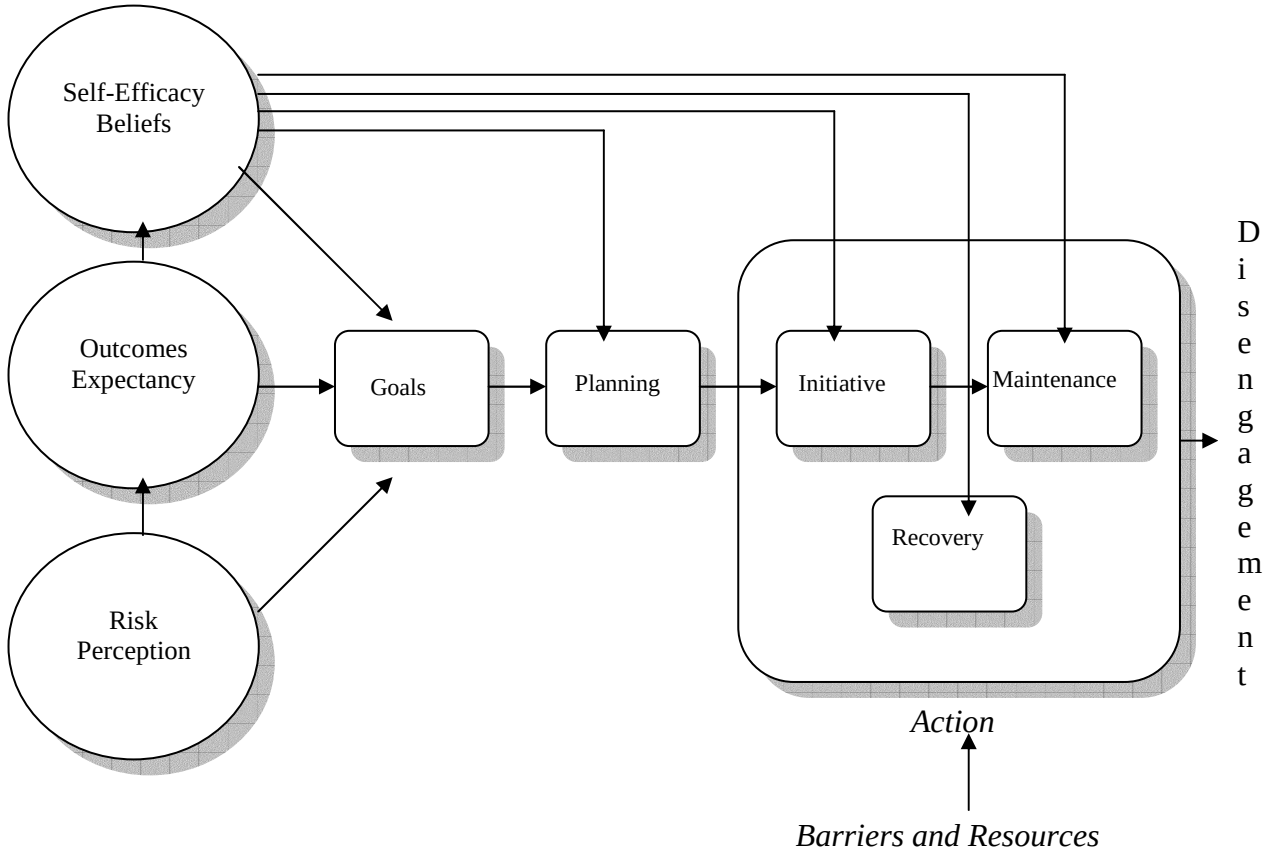


Figure 11. Health Action Process Approach Model. Adapted from Schwarzer (1992a). In R. Schwarzer (Ed.), Self-Efficacy. Thought Control of Action (pp. 217-243). USA: Taylor & Francis.

While the HAPA model was originally developed to comprehend the adoption and maintenance of health behaviors, it also helps us in understanding self-regulatory processes that govern goal-oriented actions, such as preventive and proactive coping. In the language of work stress and coping research, the perception of risks can be comparable to the perception of potential threats, challenges, and harm/loss, which shape the motivation to engage/disengage in specific courses of action aiming at controlling/evading the situation or the emotions derived from the situation. In the preliminary phase of proactive coping, for example, the persons perceive risks but they do not appraise them as a threat, harm or loss.

This positive perception is directly influenced by self optimistic beliefs that encourage the person to implement goal oriented tasks. In coping proactively, people may face further difficulties and highly demanding transactions that require personal resilience to be engaged into long term proactive course of action.

The HAPA model suggests that optimistic self-efficacy beliefs may reinforce and promote sustained efforts even after having experienced setbacks or breakdowns. Hence, it is expected that self-efficacy beliefs may function as a coping resource in proactive efforts to build up resources for personal growth over time. Conversely, self-efficacy beliefs may demote the use of disengagement coping, which is a form of avoidance oriented coping. Preventive and proactive coping may be, then, considered to be function of the combined action of three key cognitions, namely self-efficacy, outcomes expectancies, and the perception of the risks that are involved in the specific goal that is being approached by the person. It is important to note that self-efficacy beliefs influence both motivation and volition phase by increasing person's perceived capabilities to engage and maintain long term courses of action. In a more recent work developed by Schmitz and Schwarzer (1999), they include the role played by proactive attitude, as a key ingredient in the process of motivation of goal-oriented actions.

It seems to be, that proactive attitude may function as a resource factor at the beginning of the self-regulatory process of behavior, in which goal setting and planning are configured. Proactive attitude influences the type and the level of difficulty of goal settings, it configures the intentions, and it indirectly influences the initiative and the maintenance of goal oriented actions. In other words, proactive attitude may also demote the use of avoidance oriented coping in the face of difficulties, and it may contribute to the use of proactive-oriented strategies. What about health outcomes? While the influence of proactive attitude seems to be focalized to the motivation phase of coping, Schmitz and Schwarzer (1999) provide evidence that proactive attitude presented a consistent pattern of negative correlations with three dimensions of Burnout. This finding suggests that proactive attitude may function as a protective factor in the stress-health relation.

- The Proactive Coping Framework of Lisa Aspinwall and Shelley Taylor

The second approach on proactive coping is represented by the work of Aspinwall and Taylor (1997). These authors define proactive coping as *efforts undertaken in advance of a*

potentially stressful event to prevent it or to modify its form before it occurs. They make a distinction between coping, anticipatory coping, and proactive coping as follows:

While *coping* is the result of threats, harm, or loss experiences, and it aims at mastering, tolerating, reducing, or minimizing environmental or intrapsychic demands resulting from them; *anticipatory coping* involves the preparation for the stressful consequences of an upcoming event whose occurrence is likely or certain. (Aspinwall & Taylor, 1997). *Proactive coping*, on its side, is temporally prior to coping and anticipatory coping, and it involves the *accumulation of resources and the acquisition of skills that are not designated to face any particular stressor*. Given that proactive coping is virtually always active, and that it doesn't face any particular stressor, it requires different skills compared to those that are used in the face of extant stressors, that is, in coping or anticipatory coping.

Aspinwall and Taylor's framework classifies Proactive Coping into five consecutive stages through which individuals must pass:

1. *Resource accumulation*, in which the person builds resources and skills in advance of any specific anticipated stress. Typical behaviors indicating proactive coping are mustering time, money, planning and organizational skills, social support, and the management of chronic burden; 2. The *recognition of potential stressors*, in which environmental dangers and arising threats are screened. This step depends on the own capability to monitor environmental dangers and internal signals that suggest the presence of potential threats; 3. *Initial appraisal* or preliminary assessments procedures, through which a person identifies potential stressful arising interactions (that is, what is this? what is likely to become? should I be worry about this? is this something I should keep an eye on?). The appraisal of the situation may increase attention and may motivate initial coping efforts; 4. *Initial coping efforts* that involve cognitive/behavioral activities such as planning, seeking information, and taking preliminary actions; and 5. *Elicitation and use of feedback* about the development of the stressful event itself. The person evaluates whether previous efforts were successful and the extent to which additional coping efforts are required. Figure 12 shows the five stages of Proactive Coping.

A comparative analysis between *stress process models* and Aspinwall and Taylor's proactive coping approach has allowed me to derive the following remarks:

1. It seems to be construed on the basis of a situation-dependent approach on coping rather than on a trait-dependent coping viewpoint. For example, the conceptualization of stressful events in terms of appraisal of threat, harm/loss, challenge, uncertainty, changeability, controllability, temporality, and the definition of events as episodes (starting

condition, processes, and result) speak in favor of a situation-dependent conception (see Aspinwall & Taylor, 1997, p. 419-429).

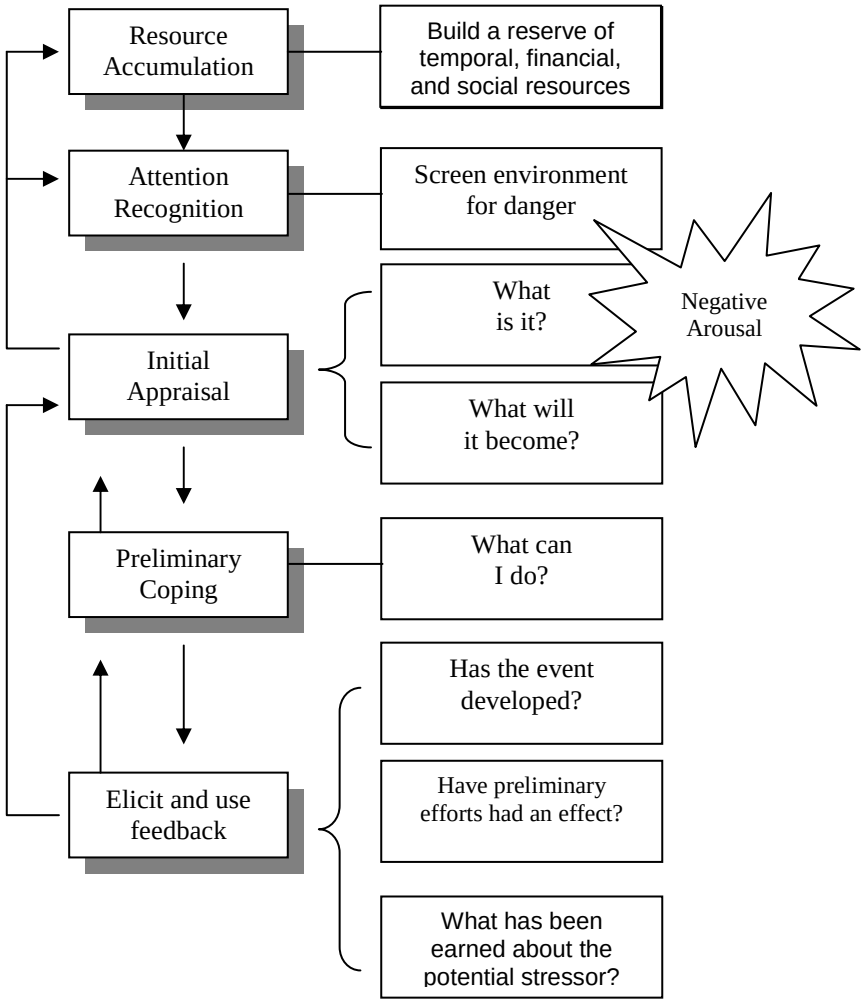


Figure 12. Five stages of Proactive Coping. Source: L.G. Aspinwall and S.E. Taylor (1997). Psychological Bulletin, 121, 3, 417-136.

2. It gives special importance to the role played in the stress-outcomes interaction by personal resources, social resources and situational factors. For example, Aspinwall and Taylor argue that an important first step in effective proactive coping is the preservation and accumulation of resources such as time, acquisition of proactive coping skills, the establishment of a social network and social support. At the recognition stage, several trait-related characteristics, such as vigilance, sensitization, monitoring, repression, blunting, dispositional optimism, and hypervigilance are relevant in the detection of potential stressors. Social networks are also influential in terms of the detection of warning signs, either to reduce or to increase perceived risks. With reference to the initial appraisal stage of proactive coping, both personality factors (e.g., optimism, self-efficacy, hardiness, trait anxiety, self esteem,

constructive thinking) and situational conditions (e.g., perceived controllability) are conceived to be key ingredients. From initial appraisal to preliminary coping efforts, situational determinants such as perceived manageability of the situation, perceived changeability, perceived controllability, as well as perceived coping-potential are defined to be conductive factors to coping actions. At the final stage of proactive coping (elicitation and use of feedback), both personality traits and situational factors are assumed to facilitate or impede the use of feedback. For example, people with extremely favorable beliefs in their abilities do not recognize their personal limits, and confront situations for which they are unprepared, whereby fail rather than success is raised. In terms of situational factors, several studies on adaptation to chronic stressors suggest that people hold different perceptions of control over different aspects of the interaction (e.g., a chronic illness), depending on how advanced the illness is (Aspinwall & Taylor, 1997). With regard to social support networks, significant others are very important regarding the provision and the interpretation of feedback (e.g., when asking others about How did I do? or Did I overreact?).

> The analysis of proactive coping also highlights the important role that individual and social resources play in effective self-regulation. In many stress and coping models, resources are regarded as moderators such that less stress is experienced by people with more time, money, and friends. Insofar as resource accumulation precedes the recognition of any particular stressor and proactive coping is virtually impossible in the absence of resources, our analysis gives resources a more central and temporally prior status than is assumed within traditional stress and coping frameworks (c.f. Hobfoll, 1989). It suggests that, rather than playing a moderating role, resources play a critical role in whiter one experience a stressor at all, what form it will take, and how fully developed it is at the time one must deal with it. People who have few resources, such as those on the lower end of the socioeconomic scale, may experience more difficult and more severe stressors. For these reasons, the degree to which reactive rather than proactive coping strategies must be used in the management of stress become evident. (Aspinwall & Taylor, 1997, p. 429).

3.6 Summary and Outlook

While there are still unsolved issues both at the theoretical and methodological levels in the work stress and coping research domain (see also Chapter 2 for more details), the following areas are potential fruitful field of future research and must be seriously considered:

First, early models on work stress and coping have been expanded to the study of the role played by *emotions* in human functioning. Thus, research tendencies seem to point at the microanalysis of affect (either negative or positive) and its mediating influence on health status and quality of life over time. The question whether coping conduces to positive/negative emotions or whether emotions conduce to illness/health is then open.

Second, given the complexity of coping process, which is more than a dichotomy between problem-focused and emotion-focused strategies, current cognitive self-regulatory models also aim to micro-analyze the specific stages through which courses of action are taken in order to deal with stressful transactions, namely the adoption, initiation, and maintenance of health behaviors.

Third, in terms of self-regulatory processes, self-efficacy beliefs, outcomes expectancies, proactive attitude, and risk perception, are key ingredients in the engagement and maintenance of goal-relevant courses of action. Thus, feedback self-regulatory systems function in virtue of the cognitive representation of the self and the world rather than the simple behavioral reactions to environmental strains or stimulus.

Fourth, proactive theories on coping, which are compatible with self-regulatory models of action and process oriented approach on stress, have opened a new facet in the research of human stress, which focuses on positive coping instead on reactive coping. The limits of proactive coping may arise, however, when people have few financial resources, lack of supporting networks, little time, or little opportunities to learn proactive coping skills (Aspinwall & Taylor, 1997). This opens also the question whether proactive coping or reactive coping help people to enhance their human functioning depending on their personal life situation and availability of resources.