# **Stress and Coping Theories**

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Available online 2002.

#### **Abstract**

This article first presents two theories representing distinct approaches to the field of stress research: Selye's theory of `systemic stress' based in physiology and psychobiology, and the `psychological stress' model developed by Lazarus. In the second part, the concept of coping is described. Coping theories may be classified according to two independent parameters: trait- oriented versus state-oriented, and microanalytic versus macroanalytic approaches. The multitude of theoretical conceptions is based on the macroanalytic, trait-oriented approach. Examples of this approach that are presented in this article are `repression—sensitization,' `monitoring- blunting,' and the `model of coping modes.' The article closes with a brief outline of future perspectives in stress and coping research.

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References

For the last five decades the term stress has enjoyed increasing popularity in the behavioral and health sciences. It first was used in physics in order to analyze the problem of how manmade structures must be designed to carry heavy loadsand resist deformation by external focus. In this analysis, stress referred to external pressure or force applied to a structure, while strain denoted the resulting internal distortion of the object (for the term's history, cf. Hinkle 1974, Mason 1975a, 1975c). In the transition from physics to the behavioral sciences, the

usage of the term stress changed. In most approaches it now designates bodily processes created by circumstances that place physical or psychological demands on an individual (Selye <u>1976</u>). The external forces that impinge on the body are called stressors (McGrath <u>1982</u>).

### 1. Theories of Stress

Theories that focus on the specific relationship between external demands (stressors) and bodily processes (stress) can be grouped in two different categories: approaches to `systemic stress' based in physiology and psychobiology (among others, Selye 1976) and approaches to `psychological stress' developed within the field of cognitive psychology (Lazarus 1966, 1991, Lazarus and Folkman 1984, McGrath 1982).

#### 1.1. Systemic Stress: Selye's Theory

The popularity of the stress concept in science and mass media stems largely from the work of the endocrinologist Hans Selye. In a series of animal studies he observed that a variety of stimulus events (e.g., heat, cold, toxic agents) applied intensely and long enough are capable of producing common effects, meaning not specific to either stimulus event. (Besides these nonspecific changes in the body, each stimulus produces, of course, its specific effect, heat, for example, produces vasodilatation, and cold vasoconstriction.) According to Selye, these nonspecifically caused changes constitute the stereotypical, i.e., specific, response pattern of systemic stress. Selye (1976, p. 64) defines this stress as `a state manifested by a syndrome which consists of all the nonspecifically induced changes in a biologic system.'

This stereotypical response pattern, called the `General Adaptation Syndrome' (GAS), proceeds in three stages. (a) The *alarm reaction* comprises an initial shock phase and a subsequent countershock phase. The shock phase exhibits autonomic excitability, an increased adrenaline discharge, and gastro-intestinal ulcerations. The countershock phase marks the initial operation of defensive processes and is characterized by increased adrenocortical activity. (b) If noxious stimulation continues, the organism enters the *stage of resistance*. In this stage, the symptoms of the alarm reaction disappear, which seemingly indicates the organism's adaptation to the stressor. However, while resistance to the noxious stimulation increases, resistance to other kinds of stressors decreases at the same time. (c) Ifthe aversive stimulation persists, resistance gives way to the *stage of exhaustion*. The organism's capability of adapting to the stressor is exhausted, the symptoms of stage (a) reappear, but resistance is no longer possible. Irreversible tissue damages appear, and, if the stimulation persists, the organism dies.

Although Selye's work influenced a whole generation of stress researchers, marked weaknesses in his theory soon became obvious. First of all, Selye's conception of stress as a reaction to a multitude of different events had the fatal consequence that the stress concept became the melting pot for all kinds of approaches. Thus, by becoming a synonym for diverse terms such as, for example, anxiety, threat, conflict, or emotional arousal, the concept of stress was in danger of losing its scientific value (cf. Engel 1985). Besides this general reservation, specific critical issues have been raised. One criticism was directed at the theory's core assumption of a nonspecific causation of the GAS. Mason (1971, 1975b) pointed out that the stressors observed as effective by Selye carried a common emotional meaning: they were novel, strange, and unfamiliar to the animal. Thus, the animal's state could be described in terms of helplessness, uncertainty, and lack of control. Consequently, the hormonal GAS responses followed the (specific) emotional impact of such influences rather than the

influences as such. In accordance with this assumption, Mason (1975b) demonstrated that in experiments where uncertainty had been eliminated no GAS was observed. This criticism lead to a second, more profound argument: unlike the physiological stress investigated by Selye, the stress experienced by humans is almost always the result of a cognitive mediation (cf. Arnold 1960, Janis 1958, Lazarus 1966, 1974). Selye, however, fails to specify those mechanisms that may explain the *cognitive transformation* of `objective' noxious events into the subjective experience of being distressed. In addition, Selye does not take into account *coping mechanisms* as important mediators of the stress–outcome relationship. Both topics are central to psychological stress theories as, for example, elaborated by the Lazarus group.

A derivative of the systemic approach is the research on *critical life events*. An example is the influential hypothesis of Holmes and Rahe (1967), based on Selye's work, that changes in habits, rather than the threat or meaning of critical events, is involved in the genesis of disease. The authors assumed that critical life events, regardless of their specific (e.g., positive or negative) quality, stimulate change that produces challenge to the organism. Most of this research, however, has not been theoretically driven and exhibited little empirical support for this hypothesis (for a critical evaluation, see Thoits 1983).

## 1.2. Psychological Stress: The Lazarus Theory

Two concepts are central to any psychological stress theory: *appraisal*, i.e., individuals' evaluation of the significance of what is happening for their well-being, and *coping*, i.e., individuals' efforts in thought and action to manage specific demands (cf. Lazarus 1993).

Since its first presentation as a comprehensive theory (Lazarus 1966), the Lazarus stress theory has undergone several essential revisions (cf. Lazarus 1991, Lazarus and Folkman 1984, Lazarus and Launier 1978). In the latest version (see Lazarus 1991), stress is regarded as a *relational* concept, i.e., stress is not defined as a specific kind of external stimulation nor a specific pattern of physiological, behavioral, or subjective reactions. Instead, stress is viewed as a relationship ('transaction') between individuals and their environment.

'Psychological stress refers to a relationship with the environment that the person appraises as significant for his or her well being and in which the demands tax or exceed available coping resources' (Lazarus and Folkman 1986, p. 63). This definition points to two processes as central mediators within the person–environment transaction: *cognitive appraisal* and *coping*.

The concept of *appraisal*, introduced into emotion research by Arnold (1960) and elaborated with respect to stress processes by Lazarus (1966, Lazarus and Launier 1978), is a key factor for understanding stress-relevant transactions. This concept is based on the idea that emotional processes (including stress) are dependent on actual expectancies that persons manifest with regard to the significance and outcome of a specific encounter. This concept is necessary to explain individual differences in quality, intensity, and duration of an elicited emotion in environments that are objectively equal for different individuals. It is generally assumed that the resulting state is generated, maintained, and eventually altered by a specific pattern of appraisals. These appraisals, in turn, are determined by a number of personal and situational factors. The most important factors on the personal side are motivational dispositions, goals, values, and generalized expectancies. Relevant situational parameters are predictability, controllability, and imminence of a potentially stressful event.

In his monograph on emotion and adaptation, Lazarus (<u>1991</u>) developed a comprehensive emotion theory that also includes a stress theory (cf. Lazarus <u>1993</u>). This theory distinguishes two basic forms of appraisal, primary and secondary appraisal (see also Lazarus <u>1966</u>). These

forms rely on different sources of information. Primary appraisal concerns whether something of relevance to the individual's well being occurs, whereas secondary appraisal concerns coping options.

Within *primary appraisal*, three components are distinguished: *goal relevance* describes the extent to which an encounter refers to issues about which the person cares. *Goal congruence* defines the extent to whichan episode proceeds in accordance with personal goals. *Type of ego-involvement* designates aspects of personal commitment such as self-esteem, moral values, ego-ideal, or ego-identity. Likewise, three *secondary appraisal* components are distinguished: *blame or credit* results from an individual's appraisal of who is responsible for a certain event. By *coping potential* Lazarus means a person's evaluation of the prospects for generating certain behavioral or cognitive operations that will positively influence a personally relevant encounter. *Future expectations* refer to the appraisal of the further course of an encounter with respect to goal congruence or incongruence.

Specific patterns of primary and secondary appraisal lead to different kinds of stress. Three types are distinguished: harm, threat, and challenge (Lazarus and Folkman 1984). *Harm* refers to the (psychological) damage or loss that has already happened. *Threat* is the anticipation of harm that may be imminent. *Challenge* results from demands that a person feels confident about mastering. These different kinds of psychological stress are embedded in specific types of emotional reactions, thus illustrating the close conjunction of the fields of stress and emotions.

Lazarus (1991) distinguishes 15 basic emotions. Nine of these are negative (anger, fright, anxiety, guilt, shame, sadness, envy, jealousy, and disgust), whereas four are positive (happiness, pride, relief, and love). (Two more emotions, hope and compassion, have a mixed valence.) At a molecular level of analysis, the anxiety reaction, for example, is based on the following pattern of primary and secondary appraisals: there must be some goal relevance to the encounter. Furthermore, goal incongruence is high, i.e., personal goals are thwarted. Finally, ego- involvement concentrates on the protection of personal meaning or ego- identity against existential threats. At a more molar level, specific appraisal patterns related to stress or distinct emotional reactions are described as *core relational themes*. The theme of anxiety, for example, is the confrontation with uncertainty and existential threat. The core relational theme of relief, however, is `a distressing goal-incongruent condition that has changed for the better or gone away' (Lazarus 1991).

*Coping* is intimately related to the concept of cognitive appraisal and, hence, to the stress-relevant person-environment transactions. Most approaches in coping research follow Folkman and Lazarus (1980, p. 223), who define coping as `the cognitive and behavioral efforts made to master, tolerate, or reduce external and internal demands and conflicts among them.'

This definition contains the following implications. (a) Coping actions are not classified according to their effects (e.g., as reality-distorting), but according to certain characteristics of the coping process. (b) This process encompasses behavioral as well as cognitive reactions in the individual. (c) In most cases, coping consists of different single acts andis organized sequentially, forming a coping *episode*. In this sense, coping is often characterized by the simultaneous occurrence of different action sequences and, hence, an interconnection of coping episodes. (d) Coping actions can be distinguished by their focus on different elements of a stressful encounter (cf. Lazarus and Folkman 1984). They can attempt to change the person–environment realities behind negative emotions or stress (*problem-focused coping*).

They can also relate to internal elements and try to reduce a negative emotional state, or change the appraisal of the demanding situation ( *emotion-focused coping*).

## 1.3. Resource Theories of Stress: A Bridge between Systemic and Cognitive Viewpoints

Unlike approaches discussed so far, resource theories of stress are not primarily concerned with factors that create stress, but with resources that preserve well being in the face of stressful encounters. Several social and personal constructs have been proposed, such as *social support* (Schwarzer and Leppin 1991), *sense of coherence* (Antonovsky 1979), *hardiness* (Kobasa 1979), *self-efficacy* (Bandura 1977), or *optimism* (Scheier and Carver 1992). Whereas self-efficacy and optimism are single protective factors, hardiness and sense of coherence represent tripartite approaches. Hardiness is an amalgam of three components: internal control, commitment, and a sense of challenge as opposed to threat. Similarly, sense of coherence consists of believing that the world is meaningful, predictable, and basically benevolent. Within the social support field, several types have been investigated, such as instrumental, informational, appraisal, and emotional support.

The recently offered conservation of resources (COR) theory (Hobfoll 1989, Hobfoll et al. 1996) assumes that stress occurs in any of three contexts: when people experience loss of resources, when resources are threatened, or when people invest their resources without subsequent gain. Four categories of resources are proposed: object resources (i.e., physical objects such as home, clothing, or access to transportation), condition resources (e.g., employment, personal relationships), personal resources (e.g., skills or self-efficacy), and energy resources (means that facilitate the attainment of other resources, for example, money, credit, or knowledge).

Hobfoll and co-workers outlined a number of testable hypotheses (called principles) derived from basic assumptions of COR (cf. Hobfoll et al. 1996).

- 1. Loss of resources is the primary source of stress. This principle contradicts the fundamental assumption of approaches on critical life events (cf. Holmes and Rahe 1967) that stress occurs whenever individuals are forced to readjust themselves to situational circumstances, may these circumstances be positive (e.g., marriage) or negative (e.g., loss of a beloved person). In an empirical test of this basic principle, Hobfoll and Lilly (1993) found that only loss of resources was related to distress.
- 2. Resources act to preserve and protect other resources. Self-esteem is an important resource that may be beneficial for other resources. Hobfoll and Leiberman (1987), for example, observed that women who were high in self-esteem made good use of social support when confronted with stress, whereas those who lacked self-esteem interpreted social support as an indication of personal inadequacy and, consequently, misused support.
- 3. Following stressful circumstances, individuals have an increasingly depleted resource pool to combat further stress. This depletion impairs individuals' capability of coping with further stress, thus resulting in a loss spiral. This process view of resource investment requires to focus on how the interplay between resources and situational demands changes over time as stressor sequences unfold. In addition, this principle shows that it is important to investigate not only the effect of resources on outcome, but also of outcome on resources.

## 2. Coping Theories

#### 2.1. Classification of Approaches

The Lazarus model outlined above represents a specific type of coping theory. These theories may be classified according to two independent parameters: (a) trait-oriented versus stateoriented, and (b) microanalytic versus macroanalytic approaches (cf. Krohne 1996). Traitoriented and state-oriented research strategies have different objectives: The trait-oriented (or dispositional) strategy aims at early identification of individuals whose coping resources and tendencies are inadequate for the demands of a specific stressful encounter. An early identification of these persons will offer the opportunity for establishing a selection (or placement) procedure or a successful primary prevention program. Research that is stateoriented, i.e., which centers around actual coping, has a more general objective. This research investigates the relationships between coping strategies employed by an individual and outcome variables such as self-reported or objectively registered coping efficiency, emotional reactions accompanying and following certain coping efforts, or variables of adaptational outcome (e.g., health status or test performance). This research strategy intends to lay the foundation for a general modificatory program to improve coping efficacy. *Microanalytic* approaches focus on a large number of specific coping strategies, whereas macroanalytic analysis operates at a higher level of abstraction, thus concentrating on more fundamental constructs.

S. Freud's (1926) `classic' defense mechanisms conception is an example of a *state-oriented*, *macroanalytic* approach. Although Freud distinguished a multitude of defense mechanisms, in the end, he related these mechanisms to two basic forms: repression and intellectualization (see also A. Freud 1936). The *trait-oriented* correspondence of these basic defenses is the personality dimension repression–sensitization (Byrne 1964, Eriksen 1966). The distinction of the two basic functions of emotion-focused and problem- focused coping proposed by Lazarus and Folkman (1984) represents another macroanalytic state approach. In its actual research strategy, however, the Lazarus group extended this macroanalytic approach to a *microanalytic* strategy. In their `Ways of Coping Questionnaire' (WOCQ; cf. Folkman and Lazarus 1988, Lazarus 1991), Lazarus and co-workers distinguish eight groups of coping strategies: confrontative coping, distancing, self-controlling, seeking social support, accepting responsibility, escape-avoidance, planful problem- solving, and positive reappraisal. The problem with this conception and, as a consequence, the measurement of coping is that these categories are only loosely related to the two basic coping functions.

Unlike the *macroanalytic, trait-oriented* approach that generated a multitude of theoretical conceptions, the *microanalytic, trait-oriented* strategy is mostly concerned with constructing multidimensional inventories (overviews in Schwarzer and Schwarzer 1996). Almost all of these measurement approaches, however, lack a solid theoretical foundation (cf. Krohne 1996).

## 2.2. Macroanalytic, Trait-Oriented Coping Theories

Research on the processes by which individuals cope with stressful situations has grown substantially over the past three decades (cf. Lazarus 1991, Zeidner and Endler 1996). Many trait-oriented approaches in this field have established two constructs central to an understanding of cognitive responses to stress: *vigilance*, that is, the orientation toward stressful aspects of an encounter, and *cognitive avoidance*, that is, averting attention from stress-related information (cf. Janis 1983, Krohne 1978, 1993, Roth and Cohen 1986). Approaches corresponding to these conceptions are repression—sensitization (Byrne 1964), monitoring-blunting (Miller 1980, 1987), or attention-rejection (Mullen and Suls 1982). With

regard to the relationship between these two constructs, Byrne's approach specifies a unidimensional, bipolar structure, while Miller as well as Mullen and Suls leave this question open. Krohne, however, explicitly postulates an independent functioning of the dimensions vigilance and cognitive avoidance.

#### 2.2.1. Repression–sensitization.

The repression–sensitization construct (cf. Byrne 1964, Eriksen 1966) relates different forms of dispositional coping to one bipolar dimension. When confronted with a stressful encounter, persons located at one pole of this dimension (repressers) tend to deny or minimize the existence of stress, fail to verbalize feelings of distress, and avoid thinking about possible negative consequences of this encounter. Persons at the opposite pole (sensitizers) react to stress-related cues by way of enhanced information search, rumination, and obsessive worrying. The concept of repression–sensitization is theoretically founded in research on perceptual defense (Bruner and Postman 1947), an approach that combined psychodynamic ideas with the functionalistic behavior analysis of Brunswik (1947).

#### 2.2.2. Monitoring and blunting.

The conception of monitoring and blunting (Miller 1980, 1987) originated from the same basic assumptions formulated earlier by Eriksen (1966) for the repression–sensitization construct. Miller conceived both constructs as cognitive informational styles and proposed that individuals who encounter a stressful situation react with arousal according to the amount of attention they direct to the stressor. Conversely, the arousal level can be lowered, if the person succeeds in reducing the impact of aversive cues by employing avoidant cognitive strategies such as distraction, denial, or reinterpretation. However, these coping strategies, called blunting, should only be adaptive if the aversive event is uncontrollable. Examples of uncontrollable events are impending surgery or an aversive medical examination (Miller and Mangan 1983). If control is available, strategies called monitoring, i.e., seeking information about the stressor, are the more adaptive forms of coping. Although initially these strategies are associated with increased stress reactions, they enable the individual to gain control over the stressor in the long run, thus reducing the impact of the stressful situation. An example of a more controllable stressor is preparing for an academic exam.

The general relationship between a stressor's degree of controllability and the employment of monitoring or blunting strategies can be moderated by situative and personal influences. With regard to situation, the noxious stimulation may be so intense that blunting strategies, such as attentional diversion, are ineffective with respect to reducing stress-related arousal. Concerning personality, there are relatively stable individual differences in the inclination to employ blunting or monitoring coping when encountering a stressor.

#### 2.2.3. The model of coping modes.

Similar to Miller's monitoring-blunting conception, the model of coping modes (MCM) deals with individual differences in attention orientation and emotional- behavioral regulation under stressful conditions (Krohne 1993). The MCM extends the (largely descriptive) monitoring-blunting conception (as well as the repression—sensitization approach) in that it relates the dimensions vigilance and cognitive avoidance to an explicative cognitive-motivational basis. It assumes that most stressful, especially anxiety evoking, situations are characterized by two central features: the presence of *aversive stimulation* and a high degree of *ambiguity*. The experiential counterparts of these situational features are *emotional arousal* (as being primarily related to aversive stimulation) and *uncertainty* (related to ambiguity). Arousal, in

turn, should stimulate the tendency to cognitively avoid (or inhibit) the further processing of cues related to the aversive encounter, whereas uncertainty activates vigilant tendencies.

These two coping processes are conceptually linked to personality by the hypothesis that the habitual preference for avoidant or vigilant coping strategies reflects individual differences in the susceptibility to emotional arousal or uncertainty. Individuals who are especially susceptible to states of stress-induced emotional arousal are supposed to habitually employ cognitive avoidance. The employment of avoidant strategies primarily aims at shielding the person from an increase in arousal (*arousal-motivated coping behavior*). Individuals who are especially affected by the uncertainty experienced in most stressful situations are supposed to habitually employ vigilant coping. Thus, the employment of vigilant strategies follows a plan that is aimed at minimizing the probability of unanticipated occurrence of aversive events (*uncertainty-motivated coping behavior*).

The MCM conceives the habitual coping tendencies of vigilance and cognitive avoidance as independent personality dimensions. That means, aggregated across a multitude of stressful encounters, the employment of vigilant strategies and of avoidant ones does not preclude each other. Thus, four coping modes can be defined. (a) Persons who score high on vigilance and low on cognitive avoidance are called sensitizers. These persons are primarily concerned with reducing uncertainty by directing their attention towards stress- relevant information. (b) Individuals with the opposite pattern are designated as *repressers*. These persons minimize the experience of arousal by avoiding aversive information. (c) Nondefensives have low scores on both dimensions. These persons are supposed to flexibly adapt to the demands of a stressful encounter. Instead of frequently employing vigilant or avoidant coping strategies, they prefer to act instrumentally in most situations. (d) Individuals who exhibit high scores on both dimensions are called *high anxious*. In employing vigilant as well as avoidant coping strategies, these persons try to reduce both the subjective uncertainty and the emotional arousal induced by stressful encounters. Because the two goals are incompatible in most situations, high-anxious persons are assumed to show fluctuating and therefore less-efficient coping behavior. Approaches to assess individual differences in vigilance and cognitive avoidance are described in Krohne et al. (2000). Empirical results related to predictions derived from the MCM are presented in Krohne (1993, 1996), and Krohne et al. (1992).

## 3. Future Perspectives

Although the fields of stress and coping research represent largely explored territory, there are still fertile perspectives to be pursued in future research. Among the promising lines of research, two perspectives will be mentioned here.

1. Compared to the simplistic stimulus-response conception of stress inherent in early approaches on stress, the `psychological' (i.e., cognitive transformation) approach of the Lazarus group clearly represents progress. However, in advocating a completely `subjective' orientation in conceptualizing stress, Lazarus overstated the `cognitive turn' in stress research. In stating that `we might do better by describing relevant environments and their psychological meanings through the lenses of individuals' (Lazarus 1990, p. 8) he took a stand that is at variance with the multivariate, systems- theory perspective proposed in his recent publications on stress and emotions (Lazarus 1990, 1991).

First, the stress process contains variables to be assessed both subjectively and objectively, such as constraints, temporal aspects, or social support networks, as well as responses to be measured at different levels (cf. Lazarus 1990, Table 1). Second, the fact that most objective

features relevant to stress-related outcomes exert their influence via a process of cognitive transformation (Mischel and Shoda 1995) does not mean that objective features can be neglected. It is of great practical and theoretical importance to know which aspects of the 'objective' environment an individual selects for transformation, and how these characteristics are subjectively represented. Third, as far as response levels are concerned, it is obvious that stressors do not only create subjective (cognitive) responses but also reactions at the somatic and the behavioral- expressive level. In fact, many individuals (especially those high in cognitive avoidance) are characterized by a *dissociation* of subjective and objective stress responses (cf. Kohlmann 1997; for an early discussion of the psychological meaning of this dissociation see Lazarus 1966). These individuals may manifest, for example, relatively low levels of subjective distress but at the same time considerable elevations in autonomic arousal. In recent years, the concept of subjective-autonomic response dissociation has become increasingly important in clarifying the origin and course of physical diseases and affective disorders.

1. It is important to define central person-specific *goals* (or reference values) in coping, such as reducing uncertainty, inhibiting emotional arousal, or trying to change the causes of a stressful encounter. These goals are not only central to understanding the stress and coping process, they are, in fact, 'the core of personality' (Karoly 1999). Goals define the transsituational and trans-temporal relevance of certain stressors, serve as links to other constructs such as self-concept or expectancies, influence regulatory processes such as coping, and define the efficiency of these processes (cf. Karoly 1999, Lazarus 1991, Mischel and Shoda 1995). Instead of applying global and relatively content-free trait concepts in stress and coping research such as anxiety, depression, or optimism, a more fertile perspective would be to study personality in this field by paying attention to what people are trying to do instead of only observing how they actually respond to stressful events.

#### **Cross References**

Coping across the Lifespan

Coping Assessment

Health: Self-regulation

Self-regulation in Adulthood

Self-regulation in Childhood

Stress: Measurement by Self-report and Interview

Stress, Neural Basis of

**Stress: Psychological Perspectives** 

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