

# STRESS, COPING, AND HEALTH

## *A Conceptual Overview*

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**A**lthough the term *stress* as it relates to the human condition has been in the scientific literature since the 1930s and in the nursing literature since the late 1950s, the word did not become popular vernacular until the late 1970s and early 1980s. Today, the term is used in everyday vocabulary to capture a variety of human experiences that are disturbing or disruptive in some manner: “You wouldn’t believe how much stress I had today!” “I was really stressed out.”

Subjective sensations commonly experienced in conjunction with “feeling stressed” are headache, shortness of breath, light-headedness or dizziness, nausea, muscle tension, fatigue, gnawing in the gut, palpitations, loss of appetite or hunger, and problems with sleep. Behavioral manifestations of stress commonly reported are crying, smoking, excessive eating, drinking alcohol, fast talking, and trembling. It is also commonplace for people to complain that stress negatively affects their functioning. It impairs their mental concentration, problem solving, decision making, and the ability to get work done in an efficient and effective manner (Barling, Kelloway, & Frone, 2004; Goleman & Gurin, 1993; Ornstein & Sobel, 1988; Pelletier, 1992, 1995; Thompson, 2010).

The word *stress* began appearing in nursing journals in the 1950s. Stress, as a construct, was not widely recognized by nurse researchers until the 1970s (Lyon & Werner, 1987). It gained

recognition as a phenomenon of interest for nursing because anecdotal data from patients and empirical evidence from researchers suggested that stress and health were inextricably related concepts. Nursing, as a discipline, was not alone in recognizing the importance that stress played in health. Other health-related disciplines had already begun to contribute to both theory development and empirical testing of the phenomenon of stress and its connection with health.

Many different disciplines (e.g., psychology, social psychology, nursing, and medicine) have identified stress and coping as important variables affecting health. It has been linked to the onset of diseases, such as cardiovascular conditions (Benschop et al., 1998; Dimsdale, Ruberman, & Carleton, 1987; Ornish, 2007; Ornish, Scherwitz, & Doody, 1983; Pashkow, 1999), cancer (Cohen & Rabin, 1998; Siegel, 1986), breast cancer (Antonova & Mueller, 2008), and colds (Cohen et al., 1998; Cohen, Tyrrell, & Smith, 1991), as well as the exacerbation of symptoms such as asthma (Fitzgerald, 2009; Wright, Rodriguez, & Cohen, 1998), irritable bowel syndrome (Bennett, Tennant, Piesse, Badcock, & Kellow, 1998; Dancey, Taghavi, & Fox, 1998), ulcerative colitis (Whitehead & Schuster, 1985), arthritis (Crofford, Jacobson, & Young, 1999; Straub, Dhabhar, Bijlsma, & Cutolo, 2005), respiratory diseases (Nielson, Kristensen, Schnohr, & Gronbaeck, 2008), skin disorders (Lebwohl &

Tan, 1998), and diabetes (Fitzgerald, 2009; Inui et al., 1998; Surwit, Schneider, & Feinglos, 1992).

In addition, stress has been linked to symptomatic experiences such as headaches (Davis, Holm, Myers, & Suda, 1998; Fanciullacci, Alessandri, & Fanciullacci, 1998; Armstrong, Wittrock, Robinson, 2006; Bjorling, 2009), musculoskeletal pain (Dyrehag et al., 1998; Finestone, Alfeeli, and Fisher, 2008), gastrointestinal upset (Whitehead & Schuster, 1985), hyperventilation (Ringsberg & Akerlind, 1999), insomnia (Vgontzas et al., 1998), and fatigue (Maes, 2009). Also, coping behaviors have been identified as mediating the effect of stress on blood sugar (Cox & Gonder-Frederick, 1992; Fukunishi, Akimoto, Horikawa, Shirasaka, & Yamazaki, 1998; Sultan, Jebrane, & Heurtier-Hartemann, 2002), heart rate (Fontana & McLaughlin, 1998; Suarez & Williams, 1989), and blood pressure (Rozanski & Kubzansky, 2005; Schnall, Schwartz, Landsbergis, Warren, & Pickering, 1998).

The experience of stress, particularly chronic stress, takes a significant toll on the well-being of individuals in terms of emotional and physical discomforts as well as functional ability. Health care utilization research has repeatedly demonstrated that from 30% to 80% of all physician office visits are for illness experiences that are nondisease based with stress as the common contributor (Cummings & Vandenbos, 1981; Sobel, 1995). As early as 1982, the United States Clearing House for Mental Health Information reported that industry had lost \$17 billion in production capacity due primarily to stress-related problems. In addition, it was estimated in the late 1980s that \$60 billion was lost annually by businesses because of stress-related physical illness (Matteson & Ivancevich, 1987). It has been estimated by the National Institute for Occupational Safety and Health that businesses lose up to \$300 billion per year due to stress-related absenteeism, lost productivity, retraining, and stress-related health care costs (National Institute for Occupational Safety and Health, 2010).

Although it is commonly accepted that stress affects health, all of the psychobiological connections are not understood. For example, why does a person who has had an unpleasant interaction with his or her supervisor develop a tension headache? Or why does a woman who is struggling to balance the demands of work and home develop stomach pains every Monday morning? Theoretical developments in the areas of stress,

coping, and health have been hampered by confusion regarding each of these concepts.

The purpose of this chapter is to present an overview of the theoretical approaches to explaining the concepts of stress, coping, and health and their interrelationships with some historical perspectives. Problems and issues regarding the conceptualizations will be identified. Attention will be paid to reconciling some of the diverse views of stress, coping, and health for nursing.

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## THEORETICAL APPROACHES TO DEFINING STRESS, COPING, AND HEALTH

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In this section, I present an overview of the conceptualizations of the stress and health connection. The content regarding coping will appear, as appropriate, in the presentation of each of the major theoretical orientations to stress. Discussion of each construct includes identification of conceptual and theoretical problems and measurement challenges. The theoretical orientations to explaining stress have been categorized into three types: response based, stimulus based, and transactional based.

### Stress as a Response

The response-based orientation was initially developed and examined by Hans Selye and summarized in *The Stress of Life* (1956). He was a pioneer in the development and testing of theory pertinent to stress from a physiological and medical perspective. As a physician, he was intrigued by the common inflammatory responses he observed in patients regardless of their particular disease or exposure to medical problems and procedures. Many of Selye's main concepts stemmed historically from Cannon's (1932) notion that sympatho-adrenal changes are "emergency functions."

Selye viewed stress as a response to noxious stimuli or environmental stressors and defined it as the "*nonspecific response of the body to noxious stimuli*" (Selye, 1956, p. 12). Thus, he defined stress as a response, and it became the dependent variable in stress research. His work focused on describing and explaining a physiological response pattern known as the general adaptation syndrome (GAS) that was focused on retaining or

attaining *homeostasis*, which refers to the stability of physiological systems that maintain life (e.g., body temperature, heart rate, glucose levels). The following are the basic premises of his theory: (a) The stress response (GAS) is a defensive response that does not depend upon the nature of the stressor; (b) the GAS, as a defense reaction, progressed in three well-defined stages (alarm, resistance, and exhaustion); and (c) if the GAS is severe enough and/or prolonged, disease states could result in death or the so-called diseases of adaptation.

In his early work, Selye (1956) proposed that cognitive variables such as *perception* played no role in contributing to the initiation or moderation of the GAS. In his 1983 edition of *The Stress Concept: Past, Present, and Future*, he extended his thinking to include both negatively and positively toned (eustress) experiences that could be contributed to and moderated by cognitive factors. It is important to note, however, that Selye's basic theoretical premise that stress was a physiological phenomenon was not altered. In the absence of a modification of his theory, it was not possible to explain *psychological stress*. This could not be done in the context of a theory that was strictly limited to physiology and neglected cognitive-perceptual factors. In fact, problems inherent in a normative or generalized response theory were demonstrated when Mason (1971, 1975a, 1975b) disconfirmed the *non-specificity* of physiological responses to noxious stimuli in rats and monkeys.

Although Selye did not specifically address the concept of coping in his work, his notions of *defense* and *adaptation* are conceptually similar to that of coping. The alarm reaction phase of the GAS is triggered when there is a noxious stimulus. This reaction is characterized by sympathetic nervous system stimulation. In the second phase, or stage of resistance, physiologic forces are mobilized to resist damage from the noxious stimulus. Often, the stage of resistance leads to adaptation or homeostasis or the disappearance of symptoms and does not progress to the third stage of exhaustion. The stage of resistance can also lead to diseases of adaptation, such as hypertension, arthritis, and cancer. Exhaustion can occur when the stressor is prolonged or sufficiently severe to use up all of the adaptive energy. It is important to note that Selye conceptualized adaptive energy as being limited by an individual's genetics. That is, each

individual is proposed to have a certain amount of adaptive energy, similar to a bank account, from which he or she can withdraw, but cannot deposit. When adaptive energy is depleted, death ensues (Selye, 1983).

Much of the early stress response-based research tested Selye's theoretical propositions using animal models with the intent of extrapolating the results to humans. Since the late 1970s, there have been many attempts to measure the stress response in humans using such indices as heart rate, blood pressure, plasma and urinary cortisols, and antibody production. As Lindsey (1993) correctly noted, however, it is not possible to capture the proposed *stress response* and the magnitude of the response by such variables alone.

There are several theoretical, measurement, and practice-related problems with defining stress as a *nonspecific response to noxious stimuli* or, as Selye (1983) stated, to any stress-inducing demand or stressor. First, the generality of the definition as the sum of all nonspecific reactions of the body obscures the more specific response patterns of psycho-physiological responses. As early as 1957, Schachter demonstrated differential autonomic responses for anger and anxiety.

In 1967, Arnold summarized the empirical evidence of how the physiological correlates of anger and fear differed. Fear demonstrates primarily an adrenergic effect, whereas anger demonstrates primarily a cholinergic effect. By the mid-1970s, there was evidence that a single emotion such as anxiety could trigger different physiological responses depending on how a person coped with it (Schalling, 1976).

Second, Selye uses the term *stressor* to refer to the *noxious* condition that triggers the response and the term *stress* to refer to both the initial impact of the stressor (alarm reaction) on tissues and the adaptive mechanisms that are a reaction to the stressor. In addition, conceptual confusion about the meaning of the term *stress* was heightened because Selye sometimes defined stress as the wear and tear, damage, or disease consequences of prolonged GAS responses. Third, the absence of cognitive factors such as appraisal and meaning short-changed what occurs in psychological stress and fourth, the normative nature of the nonspecific physiological response pattern or GAS does not allow for individual differences in perception of

a stimulus situation or how a person uniquely copes with a threatening situation.

In a classic study, Ursin, Baade, and Levine (1978) demonstrated that effective coping behavior produced a significant reduction in physiological activation. Their study of parachutist trainees found that general ability level, defense mechanisms, motivation, and role identification explained “considerable portions” of the variance in the stress response. Increased activation of the hypothalamic-pituitary-adrenocortical (HPA) axis was positively correlated only with defense mechanisms and low performance, whereas cortisol levels returned to baseline as coping processes were established. In general, the Ursin et al. study supported the idea that an individual’s perception of a threatening situation and his or her coping behavior are the primary determinants of the neuroendocrine response pattern.

The Allostatic Load framework developed by McEwen and Stellar (1993) is a more holistic view of the factors affecting the physiological correlates of stress and coping responses. Fifth, the measurement of stress as a dependent variable must be operationalized by physiological variables. It has long been known that there is a disassociation between subjective experiences and objective signs of both the central and the autonomic nervous systems (Lacey, 1967). Sixth, in terms of adoption of the theory to guide nursing practice, the assumptions underlying the theory are not compatible with nursing’s philosophical presuppositions, rendering its application to nursing practice awkward at best. Specifically, the presupposition that each individual is unique and that perception or meaning is central to one’s personal experiences is not compatible with Selye’s tenants.

In their critical review of nursing research on stress, Lyon and Werner (1987) noted that from 1974 to 1984 approximately 24% of the studies used a response framework to study stress. As noted earlier, the use of the response framework necessitated that stress be the dependent variable, that is, the disruption caused by a noxious stimulus or stressor. Commonly, stress has been defined in nursing research by both psychological and physiological measures. Physiological measures were typically vital signs (Guzzetta & Forsyth, 1979), urinary Na:K ratio and 17-ketosteroids (Far, Keene, Samson, & Michael, 1984), cardiovascular complaints (Schwartz & Brenner, 1979), anxiety (Guzzetta & Forsyth, 1979), or all these.

Most of the research studies critically reviewed by Lyon and Werner used independent variables such as relaxation (Tamez, Moore, & Brown, 1978) or information (Toth, 1980) that were purported to mediate between the stressor (commonly assumed to be hospitalization, a threatening medical procedure, or a unit transfer) and the stress response. Use of such mediating variables is inconsistent with Selye’s theoretical propositions.

A recent OVID Nursing Data Base search of the funded research literature from 2000 to 2010 using the key words “stress response and physiological stress” generated two articles. Neither of the studies was grounded in Selye’s theory. Additionally, none of the literature searches using the key words “stress and Selye,” “coping and Selye,” and “stress physiology and Selye” generated funded-research studies during the 2000–2010 decade.

Contrary to Selye’s GAS theory, studies of stress using the response-based orientation to stress in humans indicate that stress is stimulus- or situation-specific and subject to individual response. Although there is limited empirical support for the “nonspecific and uniform response” to noxious stimuli in humans, there is abundant evidence that a person’s perception of an event and his or her coping behaviors do vary as physiological correlates (Eriksen & Ursin, 2006).

### Stress as a Stimulus

In the 1960s, psychologists became interested in applying the concept of stress to psychological experiences. Masuda and Holmes (1967) and Holmes and Rahe (1967), stimulated by their interest in what happens when a person experiences *changes* in life circumstances, proposed a stimulus-based theory of stress. This approach treated life changes or *life events* as the stressor to which a person responds. Therefore, unlike the response-based model, stress is the independent variable in this formulation.

The work of the aforementioned researchers resulted in the development of tools known as the Social Readjustment Rating Scale (SRRS) and Schedule of Recent Experiences (Holmes & Rahe, 1967), both of which were purported to measure *stress* defined and measured as *the adjustment or adaptation required by selected major life changes or events*. The central proposition of this model is that too many life

changes in a relatively short period of time increase one's vulnerability to illness. The SRRS consisted of 42 life events (e.g., marriage, loss of a loved one, pregnancy, vacation, divorce, retirement, and change in residence) that were assigned *a priori* weights derived from the estimated amount of adjustment the events would require (Holmes & Rahe, 1967). In their early research with Navy recruits, the researchers demonstrated a small but significant relationship between the adaptation scores (assigned to different events) and illness experiences during the subsequent year.

The stimulus-based model was built on assumptions that are inherently problematic in explaining human phenomena. The primary theoretical proposition was based on the premise that (a) life changes are normative and that each life change results in the same readjustment demands for all persons, (b) change is stressful regardless of the desirability of the event to the person, and (c) there is a common threshold of readjustment or adaptation demands beyond which illness will result. During their early work, Holmes and Rahe viewed the person as a passive recipient of stress. Furthermore, stress was conceptualized as an additive phenomenon that was measurable by researcher-selected life events that had pre-assigned normative weights. Later in their work, however, the researchers incorporated consideration of a person's interpretation of the life event as a negative or positive experience (Rahe, 1978).

During the 1970s, hundreds of studies were conducted on the ability of life event scores to predict illness. Illness was typically assessed as morbidity or disease states. Collectively, these studies have consistently accounted for not more than 4% to 6% of the incidence of illness with low correlations of .20 to .30 (Johnson & Sarason, 1979a). One important explanation for why the low correlations reached statistical significance is that sample sizes in these studies were typically very large. The low correlations may also simply reflect the fact that people commonly experience stress that is not necessarily related to major life changes.

Sarason, Johnson, and Siegel (1979) developed a different measure, the Life Experiences Survey (LES), that not only incorporated the person's view of whether the life event was desirable or undesirable, but also incorporated the degree of impact the event had on the individual's life. This

57-item self-report measure has been widely used in life stress studies. Despite the fact that development of the LES represented a theoretically useful step forward in the assessment of life stress, researcher-selected events do not have a uniform effect on individuals and many other factors influencing the stress-health outcome relationship were found (Johnson & Sarason, 1979b; Lazarus & Folkman, 1984). Despite the fact that LES correlations with illness (operationalized as disease) were higher than those achieved by the SRRS, they were still very low. It is plausible that these low correlations were contributed to by researchers neglecting to assess other factors such as social support, hardiness, and perceived control.

An important study, disconfirming the central postulate of the stimulus-based approach, was conducted by Kobasa in 1979. She introduced the notion of *hardiness* as an important moderator variable. Initially, hardiness was described as (a) a strong commitment to self, (b) a vigorous attitude toward the environment, (c) a sense of meaningfulness, and (d) an internal locus of control. Kobasa assessed these elements by using several different extant surveys, including the Internal-External Locus of Control Scale, the Alienation Test, and the Achievement Scale of the Personality Research Form. In a study of 837 middle- and upper-level executives, the findings showed that those with higher levels of hardiness had lower illness scores despite scoring higher on significant life events (SRRS). Executives who had higher SRRS scores and low hardiness scores, however, had significantly more illness. Kobasa demonstrated that hardiness was a powerful moderator of stress as measured by SRRS and illness.

Although Kobasa (1979) found a mediating effect for hardiness on the relationship between life events and health outcomes, there have been inconsistent findings in other studies. Manning, Williams, and Wolfe (1988) found hardiness, rather than acting as a mediator between stress and health outcomes, to have direct effects on emotional and psychological factors thought to be related to well-being and work performance. These included a higher quality of life, more positive effect, and fewer somatic complaints.

A construct closely related to hardiness but different enough to be a more powerful mediator between life event stress and illness is *sense of coherence* (Antonovsky, 1987). Sense of coherence (SOC)

is characterized by (a) comprehensibility—the degree to which a situation is predictable and explicable, (b) manageability—the availability of sufficient resources (internal and external) to meet the demands of the situation, and (c) meaningfulness—the degree to which life’s demands are worthy of the investment of energy. Persons with a high SOC have a tendency to view the world as ordered, predictable, and manageable. Importantly, Antonovsky (1987) argued that we often ask the wrong question—that is, “Why do some people become ill?”—when, perhaps we should be asking, “Why do people stay healthy despite life stress?”

Notwithstanding the dominance of the stimulus approach to studying the relationship between life event stress and illness (disease) in the 1970s and early 1980s, the value of this paradigm in explaining the relationship between stress and illness was not confirmed. In an attempt to come to grips with the issues regarding the *a priori* weighted measures of major life events, Kanner, Coyne, Schaefer, and Lazarus (1981) proposed a measure of chronic daily hassles and uplifts—the Hassles Scale consisting of 117 items and the Uplifts Scale containing 135 items. Hassles were defined as “relatively minor” daily experiences and demands that are appraised as threatening or harmful, and uplifts are favorable experiences and events. On the Hassles Scale, respondents indicated whether or not an occurrence of any of the experiences “hassled or bothered” them within the past week or month and, if so, whether the hassle was “somewhat,” “moderately,” or “extremely” severe. Similarly, on the Uplifts Scale, respondents indicated if they experienced an event as an uplift, a positive event, and, if so, to what extent was it positive (“somewhat,” “moderate,” or “extremely”). Using the Hassles Scale and a life events questionnaire, DeLongis, Coyne, Dakof, Folkman, and Lazarus (1982) were able to demonstrate, through a multiple regression analysis, that the hassle scores were more strongly associated with somatic health than were life event scores. Interestingly, the uplift scores made very little contribution to health that was independent of hassles. Despite the stronger performance of hassles in predicting illness, the authors concluded that the experiences of daily hassles or uplifts were insufficient in predicting health outcomes.

In 1987, Lyon and Werner noted that approximately 30% of the nursing research on stress

from 1974 to 1984 used a stimulus-based or life event approach. In fact, Volicer and Bohannon (1975) adapted the SRRS to stressful events of hospitalization and developed the Hospital Stress Rating Scale (HSRS). Consistent with findings from other disciplines, the correlations between life event as HSRS scores and physical and mental disruptions were small in magnitude ( $r = .20-.28$ ). By the late 1980s, the stimulus-based approach to defining and measuring stress without appraisal had fallen out of favor in nursing.

A recent search of the OVID Nursing Data Base for research literature from 2000 to 2010 using the key words “stress and life events,” “coping and life events,” and “stress, illness, and life events” generated 628 funded research reports. In all of these studies the focus was on discrete life events such as divorce, environmental disasters, or traumatic experiences such as rape, incest, and unexpected hospitalization in an intensive care unit. None of the studies used tools developed to measure life events consistent with the assumptions underlying the “stress as a stimulus” conceptualization posed by Holmes and Rahe (1967).

In 1993, Werner significantly modified and extended the notion that stress and health-related responses were triggered from events. She proposed a framework to examine trigger events or stimuli that resulted in the experience of stress or significant physical or psychosocial reaction. Werner labeled the trigger event a *stressor* and proposed that there are four types of stressors: event, situation, conditions, and cues. An *event* is something noteworthy that happens. A *situation* is composed of a combination of circumstances at any given moment. A *condition* is a state of being, and a *cue* is a feature indicating the nature of something perceived (see Table 1.1).

In addition to identifying types of stressors, Werner identified ways to categorize them with respect to locus (internal or external), duration, and temporality (acute, time limited; chronic, intermittent; and chronic), forecasting (predictable or unpredictable), tone (positive or negative), and impact (normative or catastrophic). Integrating these elements, she proposed an organizing schema for stressor research in nursing. Although it is unlikely that specific responses to stressors in any of the categories proposed by Werner would be the same across individuals, it might be possible to identify common themes within specified categories in similar cultures.

**Table 1.1** Organizing Schema for Stressor Research in Nursing

<i>Stressor category</i>	<i>Working definition</i>
Life-Related Normative (L-RN)	Events, situations, conditions, or cues which are usually expected, which most experience, and which require adjustment or adaptation
Health/Illness-Related Normative (HI-RN)	Events, situations, conditions, or cues which are related to health or to illness, and/or treatment for these, and which are usually expected, which most experience, and which require adjustment or adaptation
Life-Related Catastrophic (L-RC)	Events, situations, conditions, or cues which are generally unpredictable, usually infrequent, and commonly result in dire consequences in addition to requiring adjustment or adaptation
Health/Illness-Related Catastrophic (HI-RC)	Events, situations, conditions, or cues which are related to health or to illness, and/or treatment for these, and which are generally unpredictable, usually infrequent, and commonly result in dire consequences in addition to requiring adjustment or adaptation

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### Stress as a Transaction

As a social-personality psychologist, Richard Lazarus became interested in explaining the dynamics of troublesome experiences. He developed and tested a transactional theory of stress and coping (TTSC) (Lazarus, 1966; Lazarus & Folkman, 1984). He believed that stress as a concept had heuristic value, but in and of itself was not measurable as a single factor. Lazarus (1966) contended that stress did not exist in the *event* but rather is a result of a transaction between a person and his or her environment. As such, stress encompasses a set of cognitive, affective, and coping factors.

Precursor models to Lazarus's TTSC theory included those proposed by Basowitz, Persky, Korchin, and Grinker (1955); Mechanic (1962); and Janis (1954). Each of these models, although different in many ways, shared some commonalities. Basowitz et al. defined stress as feelings that typically occur when an organism is threatened. In Mechanic's (1962) model of stress, it is defined as "discomforting responses of persons in particular situations" (p. 7). The factors proposed to influence whether or not a situation is experienced as discomforting include the abilities or capacities of the person, skills and constraints produced by group practices and traditions, resources available to the person in the environment, and norms that

define where and how the individual could be comfortable in using the means available. Behavior that a person uses to respond to demands is termed *coping behavior*. Janis (1954) proposed a model of disaster that included three major phases of stress: (a) the threat phase, in which persons perceive objective signs of danger; (b) the danger impact phase, in which the danger is proximal and the chance of the person escaping injury is dependent on the speed and efficiency of their protective actions; and (c) the danger-of-victimization phase, which occurs immediately after the impact of the danger has terminated or subsided. In addition to these early models of stress that introduced the importance of *assigned meaning* and *coping options* to understanding the origin of discomforts, there were psychosomatic stress models that incorporated personal perception as a determinant of organic processes (Alexander, 1950; Dunbar, 1947; Grinker & Spiegel, 1945; H. G. Wolf, 1950; C. T. Wolf, Friedman, Hofer, & Mason, 1964).

Due in part to the early works of all the aforementioned researchers, by the 1960s stress had become a popular construct in psychological, psychosomatic, and nursing research. Including his own research findings, Lazarus's 1966 book, *Psychological Stress and the Coping Process*, represents an elegant theoretical integration of all the research findings on stress and

its interrelationship with health through the early 1960s. The theoretical framework that Lazarus posed to explain the complex phenomenon of stress was a major impetus for the field of cognitive psychology because his framework consistently emphasized the important role that *appraisal* or self-evaluation plays in how a person reacts, feels, and behaves.

Lazarus (1966) and Lazarus and Folkman (1984) asserted that the primary mediator of person–environment transactions was appraisal. Three types of appraisal were identified: primary, secondary, and reappraisal. *Primary appraisal* is a judgment about what the person perceives a situation holds in store for him or her. Specifically, a person assesses the possible effects of demands and resources on well-being. If the demands of a situation outweigh available resources, then the individual may determine that the situation represents (a) a potential for harm or loss (threat) or that (b) actual harm has already occurred (harm) or (c) the situation has potential for some type of gain or benefit (challenge). It is important to note, however, that the perception of challenge in the absence of perceived potential for harm was not considered a stress appraisal.

The perception of threat triggers *secondary appraisal*, which is the process of determining what coping options or behaviors are available to deal with a threat and how effective they might be. Often, primary and secondary appraisals occur simultaneously and interact with one another, which makes measurement very difficult (Lazarus & Folkman, 1984).

*Reappraisal* is the process of continually evaluating, changing, or relabeling earlier primary or secondary appraisals as the situation evolves. What was initially perceived as threatening may now be viewed as a challenge or as benign or irrelevant. Often, reappraisal results in the cognitive elimination of perceived threat.

There are many situational factors that influence appraisals of threat, including their number and complexity; person's values, commitments, and goals; availability of resources; novelty of the situation; self-esteem; social support; coping skills; situational constraints; degree of uncertainty and ambiguity; proximity (time and space), intensity, and duration of the threat; and the controllability of the threat. What occurs during appraisal processes determines emotions and coping behaviors (Lazarus, 1966; Lazarus & Folkman, 1984).

Other important concepts in Lazarus's transactional framework for stress include coping and stress emotions. Unlike the response-based or stimulus-based orientation to stress discussed earlier, the transactional model explicitly includes coping efforts. Coping is defined as "*constantly changing cognitive and behavioral efforts to manage specific external and/or internal demands that are appraised as taxing or exceeding the resources of the person*" (Lazarus & Folkman, 1984, p. 141). This definition clearly deems coping as a process-oriented phenomenon, not a trait or an outcome, and makes it clear that such effort is different from automatic adaptive behavior that has been learned. Furthermore, coping involves *managing* the stressful situation; therefore, it does not necessarily mean *mastery*. Managing may include efforts to minimize, avoid, tolerate, change, or accept a stressful situation as a person attempts to master or handle his or her environment.

Lazarus and Folkman (1984) warned against "stage"-type models of coping because they tend to create situations in which a person's behavior is judged to be inside or outside the norm by the way they deal with a stressful situation over time. A common example of a stage model is that proposed by Kubler-Ross (1969) for death and dying. It is not uncommon for health care providers to inappropriately judge a person's grief response because of the expectation that a person must experience all the predicted stages of grief and only cycle through them one time. Although there may be commonalities or patterns in certain situations that are similar in terms of both the nature of the situation and the cultural ways of responding, there is probably not a dominant pattern of coping.

In 1966, Lazarus identified two forms of coping: direct action and palliative. In 1984, Lazarus and Folkman changed the names of these two forms to problem-focused and emotion-focused, respectively. *Problem-focused coping* strategies are similar to problem-solving tactics. These strategies encompass efforts to define the problem, generate alternative solutions, weigh the costs and benefits of various actions, take actions to change what is changeable, and, if necessary, learn new skills. Problem-focused efforts can be directed outward to alter some aspect of the environment or inward to alter some aspect of self. Many of the efforts directed

at self fall into the category of reappraisals—for example, changing the meaning of the situation or event, reducing ego involvement, or recognizing the existence of personal resources or strengths.

*Emotion-focused coping* strategies are directed toward decreasing emotional distress. These tactics include such efforts as distancing, avoiding, selective attention, blaming, minimizing, wishful thinking, venting emotions, seeking social support, exercising, and meditating. Similar to the cognitive strategies identified in problem-focused coping efforts, changing how an encounter is construed without changing the objective situation is equivalent to reappraisal. The following are common examples: “I decided that something a lot worse could have happened” or “I just decided there are more important things in life.” Unlike problem-focused strategies, emotion-focused strategies do not change the meaning of a situation directly. For example, doing vigorous exercise or meditating may help an individual reappraise the meaning of a situation, but the activity does not directly change the meaning. Emotion-focused coping is the more common form of coping used when events are not changeable (Lazarus & Folkman, 1984).

Lazarus (1966) and Lazarus and Folkman (1984) summarize a large body of empirical evidence supporting the distinction between emotion (palliative) and problem-focused (direct-action) coping. In addition, the evidence indicates that everyone uses both types of strategies to deal with stressful encounters or troublesome external or internal demands. Folkman (1997), based on her work in studying AIDS-related caregiving, proposed an extension of the model regarding the theoretical understanding of coping. Her study involved measurement of multiple variables of psychological state (depressive symptomatology, positive states, and positive and negative affect), coping, and religious or spiritual beliefs and activities. Each caregiver participant was interviewed twice. Although participants reported a high level of negative psychological states as expected, they also reported high levels of positive affect. Interestingly, the interview data, when examined along with quantitative analyses, revealed that the coping strategies associated with positive psychological states had a common theme, “. . . searching for and finding positive meaning. Positive reappraisal,

problem-focused coping, spiritual beliefs and practices, and infusing ordinary events with positive meaning all involve the activation of beliefs, values, or goals that help define the positive significance of events” (p. 1215). Folkman cites many studies that support her conclusion that finding positive meaning in a stressful situation is linked to the experience of well-being.

Another important construct in Lazarus’s (1966, 1991) transactional model is emotion—specifically emotions that are considered to be stress emotions. These include, but are not limited to, anxiety, fear, anger, guilt, and sadness (Lazarus, 1966, 1991; Lazarus & Folkman, 1984). Lazarus (2000) presents cogent arguments for the explanatory power of the cognitive theory of emotion. Although thoughts precede emotions, (that is, emotions are shaped by thought processes) emotions can in turn affect thoughts. The primary appraisal of threat and the specific meaning of the situation to the person triggers a particular stress emotion consistent with its meaning. He presents his evolution of a model of stress, coping, and discrete emotions in the earlier edition of this text (pp. 195–222). It is reproduced as Chapter 9 here.

Lazarus (1966) and Lazarus and Folkman (1984) link stress-related variables to health-related outcomes. All of the constructs in their transactional model, when taken together, affect adaptational outcomes. The theorists propose three types of adaptational outcomes: (a) functioning in work and social living, (b) morale or life satisfaction, and (c) somatic health. They view the concept of health broadly to encompass physical (somatic conditions, including illness and physical functioning), psychological (cognitive functional ability and morale—including positive and negative effects regarding how people feel about themselves and their life, including life satisfaction), and social (social functioning). Table 1.2 presents a comparison of the response-based, stimulus-based, and transactional-based conceptualizations of stress, coping, and health outcomes. (See Table 1.2.)

A recent search of the OVID Nursing Data Base for funded research reports from 2000–2010 using the key words “stress and Lazarus” and “coping and Lazarus” generated 48 articles and 34 articles, respectively, totaling 82 studies. It is clear that the transactional or TTSC theory orientation to stress continues to inform nursing research.

**Table 1.2** Stress, Coping, and Health Outcomes as Defined in Stress Theories

<i>Scientific view</i>	<i>Conceptualization of stress</i>	<i>Conceptualization of coping</i>	<i>Health outcomes</i>
Response based (Selye, 1956, 1983)	Stress is the nonspecific response to any noxious stimulus. The physiological response is always the same regardless of stimulus—the general adaptation syndrome (GAS).	There is no conceptualization of coping per se. Instead, Selye used the concept of “resistance stage,” the purpose of which is to resist damage (this concept is part of the GAS).	On the basis of the assumption that each person is born with a finite amount of energy and that each stress encounter depletes energy stores that cannot be rejuvenated, it was proposed that stress causes “wear and tear on the body” that can result in various diseases based on the person’s genetic propensity.
Stimulus based (Holmes & Rahe, 1967)	The term <i>stress</i> is synonymous with “life event.” Life events are “stress” that require adaptation efforts.	Coping is not defined.	A summative accumulation of adaptation efforts over a threshold level makes a person vulnerable to developing a physical or mental illness (operationalized as disease) within 1 year.
Transaction based (Lazarus, 1966; Lazarus & Folkman, 1984)	The term <i>stress</i> is a “rubric” for a complex series of subjective phenomena, including cognitive appraisals (threat, harm, and challenge), stress emotions, coping responses, and reappraisals. Stress is experienced when the demands of a situation tax or exceed a person’s resources and some type of harm or loss is anticipated.	Coping is conceptualized as efforts to ameliorate the perceived threat or to manage stress emotions (emotion-focused coping and problem-focused coping).	Adaptational health outcomes are conceptualized as short term and long term.  Short-term outcomes include social functioning in a specific encounter, morale in the positive and negative affect during and after an encounter, and somatic health in symptoms generated by the stressful encounter.  Long-term outcomes include social functioning, morale, and somatic health.  Both short-term and long-term health outcomes encompass effective, affective, and physiological components.

## THE CONCEPT OF HEALTH

Each of the three theoretical perspectives described above incorporates proposed links between stress and health. It is clear that both the stimulus-based and the response-based models were developed based on a biomedical orientation to health in which illness is operationalized as disease and health is viewed as the absence of disease. The transaction model, however, views health as a subjective phenomenon that encompasses somatic sense of self and functional ability.

*Health* is an elusive term. It is a term that many people think they understand until they are asked to define or describe it and then asked how they would measure it. It has been described as a value judgment, as an objective state, as a subjective state, as a continuum from illness to wellness, and as a utopian state (rarely achievable). Contributing to the confusion about health are the related concepts of wellness, well-being, and quality of life.

Despite the common origin of the word health from *hoelth*, an Old English word

meaning safe or sound and whole of body (Dolfman, 1973), there is no one contemporary meaning for the construct. During the twentieth century, many attempts have been made by the lay community to define health in a manner that has broad applicability. These global definitions, however, are confusing and make it difficult, if not impossible, to clearly operationalize. This confusion has particularly important ramifications when one considers that health is a target goal shared by many professions and the federal government.

Health-related professions offer definitions of health that give rise to discipline-specific foci for diagnosis and treatment. Such definitions are not necessarily problematic. In fact, these differences have probably contributed to targeted and efficient efforts to generate knowledge about different aspects of the human condition. However, there are three important problems with discipline-specific definitions for which we must use caution.

The first is that discipline-specific health perspectives partition the holistic phenomenon of health in such a manner that the whole picture of the human condition and how persons feel and are doing is lost. The second is that too often the discipline's perspective on health is adopted by other disciplines when there is not a good match in terms of the disciplines' philosophical presuppositions and social mandate. An excellent example is the nursing field adopting the medical model definition of health as the absence of disease. A third problem is that the acceptance of a discipline-specific view of health by policy-making groups necessarily leads to health policy decisions that may not be in the best interest of the population as a whole.

### **The Biomedical View of Health**

The most popular and widely held view of health is the biomedical one. Medicine has traditionally viewed health from an objective stance and defines it as the absence of disease or discernible pathology and defines illness as the presence of same (Engel, 1992; Kleinman, 1981; Millstein & Irwin, 1987). On the basis of this perspective, medicine's social mandate has been the diagnosis and treatment of disease. Public health professionals and government agencies commonly adopt the biomedical model and use

morbidity and mortality statistics as an index of the population's health.

The biomedical model, as noted by Antonovsky (1979), is a dichotomous model. Consistent with this perspective, a person who has a chronic disease cannot have health or be considered well. Furthermore, a logical extension of the dichotomous model is that a person cannot be healthy in the presence of disease.

### **Nursing's View of Health**

Nursing has been critical of the narrow confines of the biomedical model as a perspective for nursing and its adoption by government agencies (Hall & Allan, 1987; Leininger, 1994; Lyon, 1990). Many nurses in practice and nurse educators, however, commonly adopt the biomedical view and equate illness and disease using the terms interchangeably. Likewise, concepts of health and wellness are used interchangeably, logically resulting in the conclusion that persons who have chronic diseases are not and cannot be described as well. Because health and wellness are targeted outcomes, it is imperative that nursing be clear on how it defines these concepts. This is particularly important in developing theoretical models linking stress, coping, and health that can serve as a framework for nursing research and practice. Nursing must define health in a manner that (a) is consistent with its philosophical presuppositions, (b) is measurable, (c) is empirically based, and (d) captures outcomes that are sensitive to nursing interventions or therapeutics.

Currently, there is little unity regarding a definition of health as a central concept for nursing. Considered an essential ingredient of nursing's theoretical meta-paradigm (i.e., person, environment, health, and nursing), nurse theorists have elected to define health in the context of their proposed models. Florence Nightingale (1860/1969) wrote that health is "*not only to be well, but to be able to use well every power we have to use*" (p. 26). Although one cannot be sure what Nightingale actually meant by the word *well*, Selanders (1995) argues she meant "*being the best you can be at any given point in time*" (p. 26). This allows for an individual to be healthy even if not *medically* well. Some additional light is shed on the meaning of wellness because it is clear that Nightingale viewed disease and illness as distinctly different phenomena. It is interesting to

speculate that if Florence Nightingale were writing her *Notes on Nursing* today, she most certainly would have included stress as one of the many nondisease-based causes of symptoms experienced by patients.

Tripp-Reimer (1984) proposed a two-dimensional health state with an *etic* perspective (disease–nondisease) that reflects an objective interpretation of health data and an *emic* perspective (wellness–illness) that represent the subjective experience. Four health states are possible within her model. Tripp-Reimer proposes that this approach is particularly useful cross-culturally when perceptions of health differ between scientifically educated providers and the client. Newman (1986) views health as the totality of life processes that are evolving toward expanded consciousness. Man represents only one stage of this evolution. Orem (1995) distinguishes between health and wellness. She defines health as a state characterized by soundness or wholeness of human structure and bodily and mental functions. Wellness, she notes, is a state characterized by experiences of contentment, pleasure, and movement toward maturation

and achievement of the human potential (personalization). Engagement in self-care facilitates this process of personalization. Other nurses offering conceptualizations of health include Henderson (1966), King (1981), Lyon (1990), Newman (1986), Parse (1992), Paterson and Zderad (1976), Peplau (1952, 1988), and Rogers (1970). Health is defined in many ways within the discipline of nursing (See Table 1.3). Commonly shared attributes of health inherent in all of these definitions, however, is that it is a subjective experience that encompasses how a person is feeling and doing. These commonly shared attributes are apparent in Keller's (1981) analysis of definitions of health. A subjective orientation to defining health is quite different from the medical definition of health as an objective phenomenon manifested by the absence of disease or pathology.

Regarding the possibility of a single definition of health for nursing, Meleis (1990) points out that, “although diversity should be accepted and reinforced, there is a need for unity in perspective that represents the territory of investigation, the territory for theoretical development” (p. 109).

**Table 1.3** Nursing-Focused Conceptualizations of Health

<i>Author</i>	<i>Definition of Health</i>
Henderson (1966)	Health is viewed in terms of a person's ability to perform 14 self-care tasks and a quality of life basic to human functioning.
Peplau (1952, 1988)	Health is defined as forward movement of the personality that is promoted through interpersonal processes in the direction of creative, productive, and constructive living.
Rogers (1970, 1989)	Health is defined as a value term for which meaning is determined by culture or the individual. Positive health symbolizes wellness.
Orem (1971, 1980, 1995)	Health is defined as a <i>state</i> that is characterized by soundness or wholeness of bodily and mental functioning. It includes physical, psychological, interpersonal, and social aspects. Well-being is the individual's perceived condition of existence.
King (1971, 1981)	Health is defined as a dynamic state of the life cycle; illness is an interference in the life cycle. Health implies continuous adaptation to stress.
Neuman (1989)	Health is defined as reflected in the level of wellness.
Parse (1981, 1989)	Health is defined as a lived experience—a rhythmic process of being and becoming.
Tripp-Reimer (1984)	Health is defined as encompassing two dimensions, the <i>etic</i> (objective) and the <i>emic</i> (subjective), which include both disease/nondisease and illness/wellness.
Lyon (1990)	Health is defined as a person's subjective expression of the composite evaluation of somatic sense of self (how one is feeling) and functional ability (how one is doing). The resulting judgment is manifested in the subjective experience of some degree of illness or wellness.

This unity in perspective would also help to shape the target goals of nursing's unique contributions to society and could serve as a practical guideline for assessment, diagnosis, and intervention. The importance of using a definition of health that can be operationalized and used to guide nursing practice and research cannot be overemphasized.

A nursing-oriented definition of health consistent with the theme that health is a subjective phenomenon that is operationalizable has been proposed by Lyon (1990). Lyon defined *health as a subjective representation of a person's composite evaluation of somatic sense of self (how one is feeling) and functional ability (how one is doing)*. As such, health is manifested in the subjective judgment that one is experiencing wellness or illness. These subjective experiences are dynamic and are an outgrowth of person and environmental interactions. As long as a person is capable of evaluating how he or she is feeling and doing at some level, the person has health. For example, an infant, although unable to utter words, is capable of evaluating somatic sensations and functional ability. Likewise, a fundamental assumption underlying nursing practice is that all persons who have brain waves have the capability of sensing their environment and the capability of experiencing discomfort or comfort. Therefore, even persons who are unconscious should be treated in a manner that assumes that they can sense discomfort and comfort. Defined in this manner, both illness and wellness are health outcomes. The target goals for nursing care are to promote and maintain wellness (comfortable somatic sensations and functional ability at capability level) and to prevent or alleviate illness (somatic discomfort and a decline in functional ability below capability level). Illness and wellness are conceptualized as different phenomena, not as opposite or polar ends of the same phenomenon.

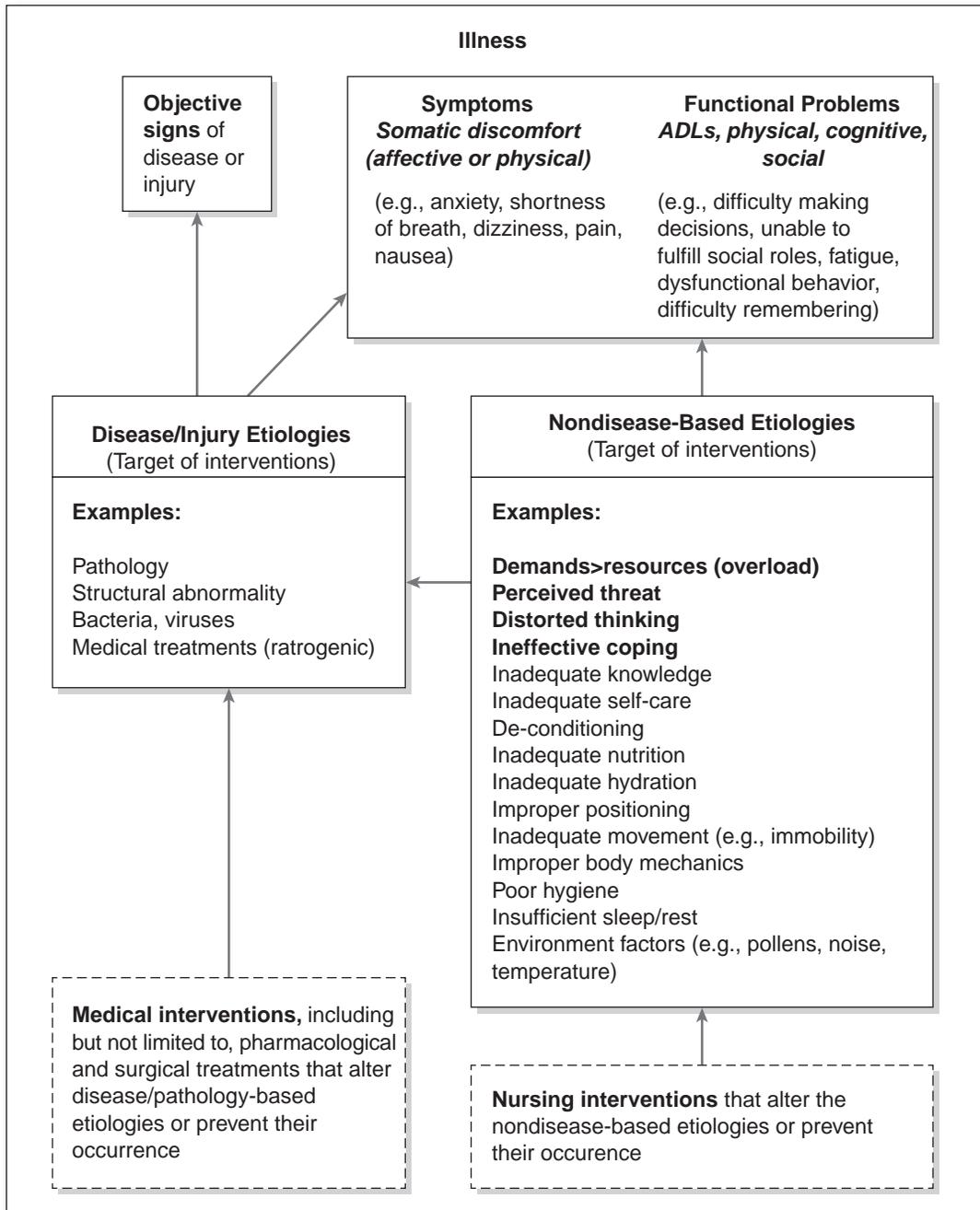
*Illness* as defined by Lyon (1990) is the subjective experience of somatic discomfort (emotional or physical or both) that is accompanied by some degree of functional decline below the person's perceived capability level. Illness occurs on a continuum from low ("I'm not feeling well") to high ("I'm very ill or sick"). The experience of somatic discomfort and a decline in functional ability can be the consequence of both disease and, importantly for nursing, factors other than disease (nondisease-based factors) that are amenable to nursing interventions (Lyon, 2010) (see Figure 1.1).

Nursing's unique health-related contribution to society is the prevention of and diagnosis and treatment of factors other than disease contributing to or causing illness (Lyon, 1990). No other discipline focuses on the prevention or alleviation of nondisease-based etiologies of illness. In fact, it is interesting to note that the concept of *cure* is applicable to illness experiences. That is, in addition to preventing somatic discomforts and functional disability caused by nondisease-based factors, nursing therapeutics also can cure *illness* by eliminating or altering nondisease-based factors that are causing symptoms (Loomis & Wood, 1983). Symptoms such as pain, fatigue, nausea, and a decline in functional ability, such as skin breakdown, falling, and inability to swallow, need to be addressed.

*Wellness* is characterized by Lyon (1990) as the experience of somatic comfort (emotional and physical) and a functional ability level at or near the person's perceived capability level. There is an abundance of research to demonstrate that people commonly judge themselves to feel well even in the presence of chronic, debilitating, or life-threatening diseases when they are somatically comfortable and can function at their highest capability level (Dasback, Klein, Klein, & Moss, 1994; Long & Weinert, 1992; Okun, Zautra, & Robinson, 1988; Stuijbergen, Becker, Ingalsbe, & Sands, 1990). Evaluation of somatic sense of self and functional ability is ongoing and can change from moment to moment. The important distinction in Lyon's (1990) definition of functional ability is that a person's subjective evaluation of functional ability is a comparison between what the individual believes his or her capability level is and what he or she is actually able to do. This view allows for adjustments of perceived capability downward or upward. Therefore, during the early phases after diagnosis of rheumatoid arthritis, a person may not only be experiencing physical discomfort but also be viewing their self as not being able to measure up to previously held standards and expectations of functional ability. As a consequence, the person judges himself or herself to be experiencing some degree of illness. After a diminished level of functioning has become the person's norm (along with learning to live with some degree of discomfort), however, the individual with rheumatoid arthritis actually might judge himself or herself as quite well.

Some in nursing may, at first glance, be concerned about using a subjective definition

**Figure 1.1** Disease-Based and Nondisease-Based Etiologies of Illness With Medical and Nursing Interventions



SOURCE: Reproduced with permission from B. L. Lyon © 1995.

of health as a framework to guide nursing practice. That is, what do you do with the person who has had a stroke yet perceives himself

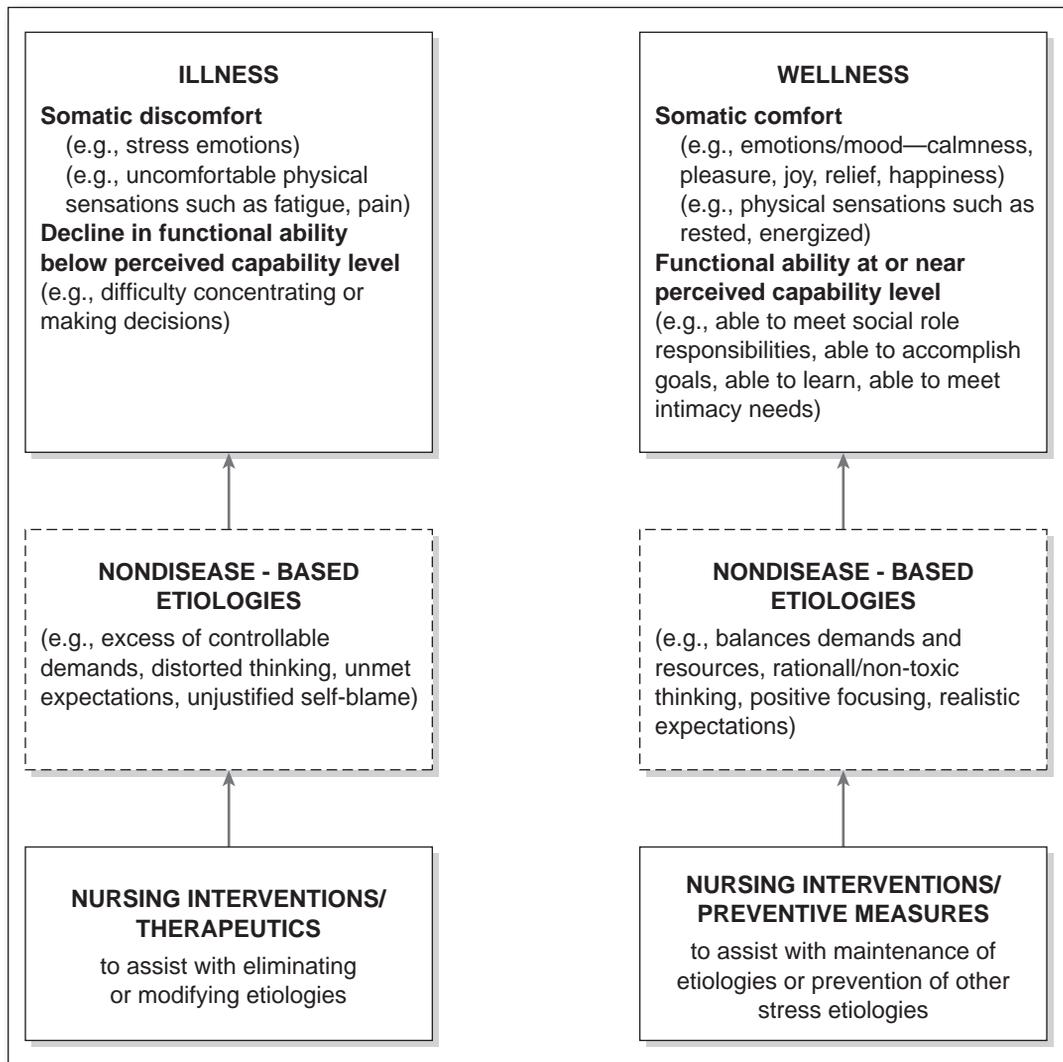
or herself as well? Nothing? Of course not, it is important to note, however, that the individual with a stroke may not do anything unless he or

she deems his actions (e.g., taking medications and changing lifestyle) as both salient and important. Helping patients to elevate and to maximize their awareness of slight somatic discomforts (e.g., extremity weakness) or slight problems with functional ability (e.g., decreased mobility) is important in stimulating therapeutic self-care actions (Lyon, 2002). Figure 1.2 presents a graphic of this perspective.

The understanding that both illness and wellness can be experienced in the presence or absence of disease and that nursing's unique contribution is focusing on the diagnosis and treatment of factors other than disease (nondisease

based) contributing to illness is a fundamental cornerstone of nursing. Grasping this idea is what makes it possible for nurses to see possibilities for patients to experience wellness in the presence of a chronic and/or life-threatening disease. Knowledge about nondisease-based factors, such as stress, that can contribute to somatic (physical or emotional) discomfort and declines in functional ability increases a nurse's repertoire of intervention possibilities to help patients. It is imperative that nursing develop and/or adopt measurements of health outcomes that demonstrate the efficacy of stress- and coping-focused nursing interventions. In Chapter 22, Lyon and

**Figure 1.2** Linking Nursing Interventions to Health Outcomes



Rice present a conceptual model for nursing that links stress, coping, and health. This chapter has provided a historical overview of stress, coping, and health and its importance for the profession and discipline of nursing.

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