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Cognitive Appraisal Processes

At the time of Lazarus's (1966) earliest full statement of his theory of psychological stress, mainstream psychology was still some distance from "the cognitive revolution" (Dember, 1974). Positivism, which regards mediating processes somewhat suspiciously, was the dominant outlook. Therefore, it was necessary at the time to dwell at length on why the concept of appraisal was essential to a theory of psychological stress and coping. Although the need is less pressing now, it is still worth taking the time to deal with this question. We shall begin our treatment of appraisal with a discussion of this issue and then examine some of the evidence. We then consider problems that are associated with a phenomenological approach, and conclude with a discussion of the concept of vulnerability, which is connected in important ways to cognitive appraisal.

Why Is a Concept of Appraisal Necessary?

Although certain environmental demands and pressures produce stress in substantial numbers of people, individual and group differences in the degree and kind of reaction are always evident. People and groups differ in their sensitivity and vulnerability to certain types of events, as well as in their interpretations and reactions.

Under comparable conditions, for example, one person responds with anger, another with depression, yet another with anxiety or guilt; and still others feel challenged rather than threatened. Likewise, one individual uses denial to cope with terminal illness whereas another anxiously ruminates about the problem or is depressed. One individual handles an insult by ignoring it and another grows angry and plans revenge. Even in the most devastating of circumstances, such as the Nazi concentration camps, people differed as to how threatened, disorganized, and distressed they were. Their patterns of coping differed as well (Benner, Roskies, & Lazarus, 1980). In order to understand variations among individuals under comparable conditions, we must take into account the cognitive processes that intervene between the encounter and the reaction, and the factors that affect the nature of this mediation. If we do not consider these processes, we will be unable to understand human variation under comparable external conditions.

There is, as one might expect, a positivist counterargument, which is that individual differences occur because human environments are always different and therefore individual differences are not necessarily due to person characteristics. Strack and Cooney (1983) and Cooney and Gotlib (1983), for example, have noted that affective depression is not entirely explainable by people’s tendencies to make cognitively inappropriate assumptions about themselves and to distort reality; to some extent they are responding accurately to their social environments. For example, people who are depressed generate feelings of distress in others, thus making themselves aversive. These depressed persons are therefore correct in perceiving that others are rejecting them. Moreover, to a considerable degree depressives may be responding to real losses in their lives. We agree that some portion of observed individual differences is the result of actual environmental differences, but this cannot be the whole story. Consistent with prior arguments by Lewin (1939) and others, we hold that what is important is the “psychological situation,” which is a product of the interplay of both environmental and person factors.

A second reason for understanding the appraisal process is that in order to survive and flourish people must distinguish between benign and dangerous situations. These distinctions are often subtle, complex, and abstract and depend on a highly versatile and efficient cognitive system made possible by the evolution of a brain capable of symbolic activity and powered by what we have learned about the world and ourselves through experience.

No one is surprised that plants have developed complex and essential protein discrimination mechanisms, or that animals have
wired-in mechanisms for distinguishing dangerous predators (e.g., Tinbergen, 1951). Why then should it surprise anyone that a species as advanced neurologically as Homo sapiens should have developed a highly symbolic set of cognitive processes for distinguishing among experiences that harm, threaten, challenge, or nurture? Indeed, successful adaptation and the human sense of well-being rest on the ability to make such evaluative perceptions.

In humans, therefore, and to a lesser extent in other primates and mammals, cognitive appraisal processes of some sort mediate reactions and are essential for adequate psychological understanding. A cognitive appraisal reflects the unique and changing relationship taking place between a person with certain distinctive characteristics (values, commitments, styles of perceiving and thinking) and an environment whose characteristics must be predicted and interpreted.

The idea that how a person construes an event shapes the emotional and behavioral response has a long tradition in Western thought. Some two thousand years ago the Roman philosopher Epictetus stated (in the Enchiridion, 1979) that “Men are disturbed not by things, but by the views which they take of things” (p. 19). The same notion was more eloquently expressed by Shakespeare in the famous line from Hamlet, “There is nothing either good or bad, but thinking makes it so” (Act II, Scene 2, line 259). Perhaps the only thing that is new is the stubborn effort of behaviorist psychology over the past 75 or so years to demonstrate that it is unnecessary or even without scientific credibility to study internal mental events (see, for example, Bolles, 1974).

There is also a long tradition in psychology that emphasizes the importance of the subjective meaning of any situation. Murray (1938), for instance, distinguished between the properties of environmental objects as disclosed through objective inquiry (alpha press) and the significance of those objects as perceived or interpreted by the individual (beta press). Lewin (1936) also wrote:

Even when from the standpoint of the physicist, the environment is identical or nearly identical for a child and for an adult, the psychological situation can be fundamentally different...the situation must be represented in the way in which it is “real” for the individual in question, that is, as it affects him. (pp. 24–25)

Many other current psychological theorists and researchers must be added to the list of those who adopt this stance (e.g., Bowers, 1973; Endler & Magnusson, 1976; Magnusson & Endler, 1977; Mischel, 1973; Murphy, 1966; Pervin & Lewis, 1978; Rotter, 1954, 1975; Sarason, 1977; see also many of the writers in Krohne & Laux, 1982, among others). All of these writers have urged that situations be considered in terms of their significance to the individual. This theme is found also in sociology, especially among symbolic interactionists (cf. Jessor, 1979). Ekonomar (1974) summarizes the implications of this position as follows:

...the person is a function of the situation, but also, and more importantly, the situation is a function of the person through the person's (a) cognitive construction of situations and (b) active selection and modification of situations. (p. 1035)

The Place of Cognitive Appraisal in Stress Theory

Many early writers in the field of psychological stress (e.g., Barber & Coules, 1959; Fritz & Mathewson, 1957; Janis, 1951; Shannon & Isbell, 1963; Wallace, 1956; Withey, 1962) made use of the concept of appraisal, although mostly in an un systematic, informal way or by implication. It is stated directly in the work of Gruiter and Spiegel (1945), who wrote “appraisal of the situation requires mental activity involving judgment, discrimination, and choice of activity, based largely on past experience” (p. 122, italics ours).

Arnold (1960, 1970) was the first to attempt a systematic treatment of the concept. She writes of appraisal as the cognitive determinant of emotion, describing it as a rapid, intuitive process that occurs automatically, as distinguished from slower, more abstract, reflective thought. She writes:

It [appraisal] is immediate and indeliberate. If we see somebody stab at our eye with his finger, we avoid the threat instantly, even though we may know that he does not intend to hurt or even to touch us. Before we can make such an instant response, we must have estimated somehow that the stabbing finger could hurt. Since the movement is immediate, unwitting, or even contrary to our better knowledge, this appraisal of possible harm must be similarly immediate. (1960, p. 172)

Although we agree that appraisal determines emotion, and that an emotional reaction can be immediate, especially in response to strong auditory or visual stimuli, or even in response to more subtle
or abstract cues such as facial expression, our emphasis is much more on complex, meaning-related cognitive activity. Appraisals go far beyond immediate and indeliberate cognitive-affective responses.

A fire alarm, for example, is a loud auditory stimulus that triggers automatic and instant arousal (fear). However, upon hearing a loud fire alarm in a building, unless we are panicked we are likely further to consider how realistic the perception of danger really is; if there is time, we localize the danger, assess its potency and, above all, consider how we might deal with it. New inputs and thoughts feed back to the original appraisal of threat, confirming it, enhancing it, or reducing it, depending on further evaluation of what is happening and what we can do. In short, the initial instant of fear experienced at the sound of the alarm initiates a whole chain of cognitive activity, some of it extending over a long period of time and involving complex thoughts, actions, and reactions, all of which make possible finely tuned and even sequential adaptational responses.

An immediate, intuitive appraisal such as Arnold speaks of does not exclude high-level cognitive activity at the outset. For example, in Mechanic’s (1978b) study of students preparing for doctoral examinations, one student describes his reactions to a professor’s words to him. The encounter took place while the examinations were being graded:

“I guess I was pretty upset about my statistics and I was doing some statistics for [Doctor F] and we came across a problem. And he said, ‘You work on this and see what you can do with it and, if you come up with a solution, I’ll add two points to your statistics grade.’ Immediately, I started ruminating. What does he know about my statistics? Do I really need two points? So I actually confronted him with these feelings later and he said it actually was just a figure of speech and that he hadn’t heard anything.” (p. 168, italics ours)

This student felt immediate threat, and his ruminations occurred so rapidly as to be considered virtually instantaneous. Nevertheless, they were the product of high-level cortical functioning and cannot readily be equated with the phylogenetically more primitive flight-fight type of response, or the sensory-based intuitive process Arnold refers to.

Although Janis and Mann (1977) do not describe their model of conflict and decision making in terms of appraisal, it is in fact heavily concerned with appraisal processes. They ask four questions about consequences, resources, and imminence, the answers to which determine the quality of information search and decision making: “Are the risks serious if I don’t change? Are the risks serious if I do change? Is it realistic to hope to find a better solution? Is there sufficient time to search and deliberate?” (p. 70) These questions are all concerned with what we call appraisal in that they shape the person’s evaluation of the event and consequent decision-making (coping) processes.

Janis and Mann’s (1977) model is an excellent example of an appraisal-based theory, but it differs from ours in several respects. Our focus, for example, is broader. Where Janis and Mann are concerned with choices between courses of action, we are concerned with any event in which the person feels his or her adaptive resources to be taxed or exceeded. Also, Janis and Mann generally consider emotion primarily as an interference with information search and decision-making processes; we look at emotion not only with regard to its impact on information processing, but also as it is in turn shaped by such information (see Chapter 9). We cite this important work mainly to point up parallel stress-related formulations that hinge on cognitive mediational processes such as appraisal.

Despite this evidence of interest in cognitive appraisal, until recently stress research has been based largely on noncognitive theoretical models such as drive reinforcement and arousal or activation. Since these models have dominated so much of stress research, we think it is useful to review them briefly in order to highlight the distinctions between models such as these and the cognitive model that we advocate.

In the drive-reinforcement model, stress is typically regarded as a state of disequilibrium, a “perturbation of the organism.” This perspective evolved from the view that in order to survive an animal had to learn to act adaptively to reduce tissue deficits (e.g., Dollard & Miller, 1950; Miller, 1948, 1959, 1980) or to discharge instinctual drives (Freud, 1953, 1955). Deficits or undischarged impulses resulted in tension or drive states. Even secondary or learned drives involving social behaviors such as affiliation and achievement were grafted onto primary or tissue-based drives through tension reduction (reinforcement).

An animal with unresolved drive tensions was also a physiologically aroused animal. Forty to 50 years ago, the concept of arousal was used synonymously with emotions; that is, emotion was assimilated into the concept of arousal or activation, and reduced to a simple, unidimensional construct which had behavioral and physio-
logical manifestations (cf. Brown & Farber, 1951; Duffy, 1962; Malm, 1959). Emotion as we know it in experience was written off as a psychological concept having no substance beyond the antecedent and consequent conditions that defined it. This view was also analogous to the physiologists' concept of equilibrium and its disruption, and fit well with Selye's General Adaptation Syndrome (see Chapter 7), which ignored the qualitative forms of emotion and the social and psychological factors that generated them.

The concept of drive, and the concurrent model of tension reduction, has lost favor, with evidence coming from a number of directions that general arousal theory is wrong or at least overstated. Studies in which more than one autonomic nervous system end-organ reaction was measured simultaneously have reported very low correlations (e.g., Lazarus, Speisman, Mordoff, & Davison 1962); this counters the notion of a generalized arousal state which implies that when one physiological indicator rises, the others will rise in concert. Actually, as Lacey (1967) demonstrated, when skin conductance rises, heart rate or blood pressure often falls. Lacey's impressive research on the specificity of automatic reactions in response to different stressful conditions weakened credibility in the simple concept of general activation. Research by Engel (1960), Engle and Bickford (1961), and others also demonstrated stimulus specificity, and Shapiro, Tursky, and Schwartz (1970) provided an effective demonstration of specificity by showing that heart rate could be conditioned to rise while blood pressure fell, and vice versa, as a result of biofeedback information. More recently, Ekman, Levenson, and Friesen (1983) have demonstrated emotion-specific autonomic nervous system activity in two ways: first, by having subjects construct facial prototypes of emotion by controlling specific muscle patterns; and second, by having subjects relive past emotional experiences. Not only could positive and negative emotions be distinguished in these ways, but differentiation also occurred within the category of negative emotions. This study provides one of the strongest empirical challenges to the idea of undifferentiated autonomic nervous system activity in emotional response.

The research of Mason (1974; Mason et al., 1976) also has provided evidence that the hormonal response varies with specific physical assaults such as heat, cold, fasting, and exercise, each creating a distinctive hormonal response pattern. Mason argues that a broad spectrum of hormones and endocrine systems, including the pituitary-gonadal, growth hormone, and insulin systems, along with the more commonly studied pituitary-adrenal cortical and sympa-

thetic-adrenal medullary systems, respond selectively to diverse psychological processes. Mason (1975a) writes:

It appears . . . the hormonal trend is a resultant of a balance of opposing and cooperative forces and can be predicted with increasing accuracy as the multiple factors involved, including affective states, defensive organization, social setting, prior experiential or developmental factors, and current activities, can all be evaluated in a psychodynamic perspective for each individual subject. (p. 149)

More recent psychophysiological research continues to support the idea that there is a specificity in the hormonal response to stressful and arousing conditions. For example, using an avoidance conditioning procedure with monkeys, Natelson, Krasnegor, and Holland (1976) demonstrated that behavioral and cortisol measures of arousal both converged and diverged, depending on when during the stressful session they were measured. Early in the first avoidance session, when many electric shocks were being received and performance was poor, behavioral scores for arousal were high and cortisol secretion was elevated; later in the same session the behavioral score for arousal remained high but cortisol secretion was low, regardless of the monkey's ability to avoid shock. The authors suggest that changes in the cortisol response are the result of the monkey being able to control the impact of the shock, and that "steroids are of little general use as a neuroendocrine index of arousal" (p. 968).

Similarly, Frankenheiser et al. (1978) observed important gender differences in a number of adrenal cortical and adrenal medullary hormones in the response of students to an important school examination despite comparable performance. Frankenheiser et al. offer the interpretation that "the physiological cost involved in coping with the situation seems to have been lower for females than for males" (p. 341). Frankenheiser (1980) observes further, "challenging but controllable tasks are likely to induce effort without distress. On the physiological level this means that catecholamine secretion will rise, whereas cortisol secretion may be actively suppressed" (pp. 207–208). If coping is a major factor in the patterning of physiological response, as other studies by Frankenheiser and her colleagues suggest (see Frankenheiser, 1979, 1982, 1983), then a unidimensional concept of arousal must give way to the concept that different psychological conditions or processes will affect the physiological response pattern in different ways.
The above findings fail to support general drive-reinforcement or activation theory. They make untenable or at least grossly incomplete any psychophysiological theory of stress or emotion which views the response as unidimensional disequilibrium or arousal. The issue is also complicated by the fact that what is considered an optimal level of arousal is variable (see also Yerkes-Dodson law, 1908; and Janis, 1974). Zuckerman (1979), for example, argues that some people seek to increase their arousal by sensation-seeking rather than to reduce it. Theorists and researchers are now obliged to look for specific patterns of physiological response, and if understanding is to follow, they must attempt to learn the specific cognitive-emotional states that are associated with these diverse patterns. Once one distinguishes among fear, anxiety, anger, guilt, shame, envy, jealousy, disgust, joy, happiness, exhilaration—that is, whatever distinct emotions are considered part of the human repertoire—the possibilities for what is measured become far more complex. We will return to this point in Chapter 9, when we deal with cognitive theories of emotion.

A growing number of psychophysiological researchers are cognizant of the role of cognitive appraisal—with its significance for individual differences in meaning—as a factor in stress, although the cognizance does not mean that a cognitive-phenomenological approach will be used in interpreting findings. A good example is Levine, Weinberg, and Urisn (1978), who write:

Before any further discussion of coping can occur it seems necessary to revise the stress theory prevalent in current medical and psychological literature where stress is still defined according to the early theories of Selye (1956). We believe that much of the controversy over stress theory can be eliminated by clarification of the "affrent limb," that is, by focusing on the nature of the stimuli that provoke physiological responses, rather than by focusing primarily on the physiological responses themselves. This requires an unusual integration of physiology and psychology, disciplines that tend to be traditionally separated, and puts the emphasis on the psychological variables. However, even if we accept the hypothesis that psychological factors are the prepotent stimulators of the response to stress, we believe that there are, in fact, complicated psychological mechanisms involved in determining whether an individual does or does not respond to a specific situation. It appears that it is not just the stimuli or physical environment per se that determines the physiological response, but the individual's evaluation of these stimuli. This may be regarded as a filter or gating function. Thus, if the organism evaluates the situation as threatening and uncertain, there will be a continuing high level of activation. However, if the organism evaluates the situation as being safe and one in which he can master the probable events, the resulting physiological response will be diminished, if not absent, even though the situation itself had been extremely threatening. (p. 6)

This statement by Levine et al. (1978) goes a long way toward treating psychological stress in terms of cognitive mediation and permitting psychophysiological researchers to question unidimensional stress concepts such as arousal or activation. On the other hand, if one examines Levine's research on stress, coping, and control, it is clear that what is said here is lip service rather than based on real conviction, a reluctant and cautious movement toward neo-behaviorism. The research models are all based on animal subjects and laboratory experiments, and therefore no direct effort is made to examine cognitive processes or to consider complex forms of coping and social and symbolic variables that are central in human adaptation. Yet the above quote reflects growing awareness of the significance of what we have been emphasizing in theory even if it is not always honored in actual research practice.

Basic Forms of Cognitive Appraisal

Cognitive appraisal can be most readily understood as the process of categorizing an encounter, and its various facets, with respect to its significance for well-being. It is not information processing per se, in the sense used by Mandler (1975), Erdelyi (1974), and others, although it partakes of such processing. Rather, it is largely evaluative, focused on meaning or significance, and takes place continuously during waking life.

In all previous accounts of appraisal theory, we have made a basic distinction between primary appraisal and secondary appraisal, identifying the two main evaluative issues of appraisal, namely, "Am I in trouble or being benefited, now or in the future, and in what way?" and "What if anything can be done about it?" The choice of terminology, "primary" and "secondary," was unfortunate for two reasons. First, these terms suggest, erroneously, that one is more important (i.e., primary) than the other, or that one precedes the other in time. Neither of these meanings is intended. Second, these terms give no hint about the content of each form of appraisal. It is awkward to try to change terms after they have found a place in the literature, however, so we think it is wise not to replace "primary" and "secondary" with connotatively more accurate terms.
Primary Appraisal

Three kinds of primary appraisal can be distinguished: (1) irrelevant, (2) benign-positive, and (3) stressful. When an encounter with the environment carries no implication for a person’s well-being, it falls within the category of irrelevant. The person has no investment in the possible outcomes, which is another way of saying that it impinges on no value, need, or commitment; nothing is to be lost or gained in the transaction.

Psychologists concerned with the orienting reflex recognize that an animal will respond to any stimulus with a “What is it?” reaction, but will habituate through repeated exposure until it no longer responds. This is a similar notion to what we mean by irrelevance. Make a noise at a dog whose eyes are closed and it will react automatically and prick up its ears; eventually, however, this response will fade when the dog discovers that nothing relevant is happening. It is highly adaptive for humans to distinguish among relevant and irrelevant cues so that they will mobilize for action only when it is desirable or necessary. Although appraisals of irrelevance are not themselves of great interest adaptationally, what is of interest is the cognitive process through which events are so appraised.

Benign-positive appraisals occur if the outcome of an encounter is construed as positive, that is, if it preserves or enhances well-being or promises to do so. These appraisals are characterized by pleasurable emotions such as joy, love, happiness, exhilaration, or peacefulness. Totally benign-positive appraisals that are without some degree of apprehension may be rare, however. For some people there is always the prospect that the desirable state will sour, and for those who believe that one must ultimately pay for feeling good with some later harm, benign appraisals can generate guilt or anxiety. These illustrations anticipate the idea that appraisals can be complex and mixed, depending on person factors and the situational context.

Stress appraisals include harm/loss, threat, and challenge. In harm/loss, some damage to the person has already been sustained, as in an incapacitating injury or illness, recognition of some damage to self- or social esteem, or loss of a loved or valued person. The most damaging life events are those in which central and extensive commitments are lost.

Threat concerns harms or losses that have not yet taken place but are anticipated. Even when a harm/loss has occurred, it is always fused with threat because every loss is also pregnant with negative implications for the future. The severely burned patients studied by Hamburg, Hamburg, and deGoza (1953), and the victims of polio studied by Visotsky, Hamburg, Goss, and Lebovits (1961) were not only severely incapacitated in the present but also had to face a host of related threats about their future functioning. The primary adaptational significance of threat, as distinguished from harm/loss, is that it permits anticipatory coping. To the extent that humans can anticipate the future, they can plan for it and work through some of the difficulties in advance, as in anticipatory grief work.

The third kind of stress appraisal, challenge, has much in common with threat in that it too calls for the mobilization of coping efforts. The main difference is that challenge appraisals focus on the potential for gain or growth inherent in an encounter and they are characterized by pleasurable emotions such as eagerness, excitement, and exhilaration, whereas threat centers on the potential harms and is characterized by negative emotions such as fear, anxiety, and anger.

Threat and challenge are not necessarily mutually exclusive. A job promotion, for example, is likely to be appraised as holding the potential for gains in knowledge and skills, responsibility, recognition, and financial reward. At the same time, it entails the risk of the person being swamped by new demands and not performing as well as expected. Therefore, the promotion is likely to be appraised as both a challenge and a threat. Although threat and challenge appraisals are distinguished from one another by their cognitive component (the judgment of potential harm or loss versus mastery or gain) and their affective component (negative versus positive emotions), they can occur simultaneously. For example, as part of a study about examination stress (Folkman & Lazarus, in press), students were asked to indicate the extent to which they experienced each of a number of threat emotions such as fear, worry, and anxiety, and challenge emotions such as hopefulness, eagerness and confidence, two days before a midterm examination. Ninety-four percent of the students reported feeling both threat and challenge emotions.

We want to emphasize that we do not view threat and challenge appraisals as poles of a single continuum. As we stated above, threat and challenge can occur simultaneously, and must be considered as separate, although often related, constructs. Moreover, the relationship between threat and challenge appraisals can shift as an encounter unfolds. A situation that is appraised as more threatening than challenging can come to be appraised as more challeng-
ing than threatening because of cognitive coping efforts which enable the person to view the episode in a more positive light (see Chapter 6), or through changes in the environment that alter the troubled person–environment relationship for the better.

Challenge, as opposed to threat, has important implications for adaptation. For example, people who are disposed or encouraged by their circumstances to feel challenged probably have advantages over easily threatened people in morale, quality of functioning, and somatic health. Challenged persons are more likely to have better morale, because to be challenged means feeling positive about demanding encounters, as reflected in the pleasurable emotions accompanying challenge. The quality of functioning is apt to be better in challenge because the person feels more confident, less emotionally overwhelmed, and more capable of drawing on available resources than the person who is inhibited or blocked. Finally, it is possible that the physiological stress response to challenge is different from that in threat, so that diseases of adaptation are less likely to occur (see also Chapter 7).

Although these speculations are plausible and agree with anecdotal observation, empirical evidence about challenge (as opposed to threat) and functioning and somatic outcomes is sparse, perhaps because only recently have researchers concerned with behavioral medicine become interested in challenge. A study by Schlegel, Wellwood, Copps, Gruchow, and Sharratt (1980) provides some encouragement for the basic thesis. Type A and Type B survivors of myocardial infarction were compared on reported symptoms and subjective fatigue during a bicycle ergometer exercise task and over a two-week period of daily living. The subjects were divided into those who scored high or low in perceived challenge in the course of daily living. Type A's and Type B's did not differ on the ergometer task, but those Type A's who scored high on perceived challenge in the course of daily living reported fewer symptoms (e.g., shortness of breath, pain, nausea) than those scoring low, whereas a positive correlation was found for Type B's. It is not possible to say whether these findings reflect suppression of symptoms by Type A's, greater indifference to symptoms, or, least likely, actual functional differences (see Chapter 5 for a more complete discussion of the Type A phenomenon).

Frankenhaeuser (1982, 1983) and her colleagues have been providing findings for short-run psychophysiological patterns in threat and challenge that appear promising. And Fish (1983) had developed a method of assessing challenge versus threat appraisals and has demonstrated that performance outcomes differ in the expected direction in a stressful encounter involving public speaking. The hypotheses about threat and challenge and short- and long-run adaptational outcomes seem worth investigating more closely in controlled studies.

Secondary Appraisal

When we are in jeopardy, whether it be a threat or a challenge, something must be done to manage the situation. In that case, a further form of appraisal becomes salient, that of evaluating what might and can be done, which we call secondary appraisal. Secondary appraisal activity is a crucial feature of every stressful encounter because the outcome depends on what, if anything, can be done, as well as on what is at stake.

Secondary appraisal is more than a mere intellectual exercise in spotting all the things that might be done. It is a complex evaluative process that takes into account which coping options are available, the likelihood that a given coping option will accomplish what it is supposed to, and the likelihood that one can apply a particular strategy or set of strategies effectively. Bandura (1977a, 1982) emphasizes the distinction between these two expectations. He uses the term outcome expectancy to refer to the person's evaluation that a given behavior will lead to certain outcomes and efficacy expectation to refer to the person's conviction that he or she can successfully execute the behavior required to produce the outcomes. In addition, the appraisal of coping options includes an evaluation of the consequences of using a particular strategy or set of strategies vis-à-vis other internal and/or external demands that might be occurring simultaneously.

Secondary appraisals of coping options and primary appraisals of what is at stake interact with each other in shaping the degree of stress and the strength and quality (or content) of the emotional reaction. This interplay can be quite complex, although our understanding here is still rudimentary. For example, other things being equal, if the person is helpless to deal with a demand, stress will be relatively great because the harm/loss cannot be overcome or prevented. If the person has a high stake in the outcome, meaning that it touches a strong commitment, helplessness is potentially devastating. Even when people believe they have considerable power to control the outcome of an encounter, if the stakes are high any doubt can produce considerable stress.
Challenge appraisals are more likely to occur when the person has a sense of control over the troubled person–environment relationship. Challenge will not occur, however, if what must be done does not call for substantial efforts. The joy of challenge is that one pits oneself against the odds.

We need to look closely at what it means to speak of a sense of control in a stressful encounter with respect to challenge. There are numerous situations in which there seems to be little opportunity to enhance a value or commitment and/or in which the person feels helpless. Yet people can appraise these situations as challenges because challenges can also be defined as controlling oneself in the face of adversity, and even transcending adversity. An example is a life-threatening, incapacitating illness or a severe loss in which the person reports being challenged by the task of maintaining a positive outlook, or tolerating pain and distress without falling apart. Thus, we must use our broadened definition of control, as developed in Chapter 3, in which we speak of control over oneself and one’s emotions, as well as control over environmental conditions, to understand how people can feel challenged even under the bleakest conditions.

Secondary appraisal of coping options has been discussed in an article by Lazarus and Launier (1978). The following quotations describe a series of interrelated, imaginary scenarios in which the threat is rejection in an upcoming job interview. Each scenario portrays a slightly different pattern of appraisal, as to both stakes and coping options, which has a strong impact on coping and emotion.

1. "As things stand now, I will probably be rejected. This is a very damaging outcome because I have no other job opportunities. If I had the ability to deal effectively with the interview, I could be hired, but I don’t have the ability. Moreover, there is no one to help me. The situation is hopeless."

2. "As things stand now, I will probably be rejected. This is a very damaging outcome because I have no other job opportunities. If I had the ability to deal effectively with the interview, I could be hired. I believe I do have such ability and I must think out what would make me an attractive candidate, rehearse, and take a tranquilizer two hours before the interview to control my nervousness."

3. "As things stand now, I will probably be rejected. This is a very damaging outcome because I have no other job opportunities. If I had the ability to deal effectively with the interview, I could be hired, but I don’t. However, I have a good friend who knows the personnel manager, and I think he will help me."

4. "As things stand now, I will probably be rejected. This would be too bad because I need a job and this one looks very attractive. However, there are other possibilities, so if I am not hired I can try those."

5. "As things stand now, I will probably be rejected. This is a very damaging outcome because I have no other job opportunities. I never get a fair shake in life because I am (black, a Jew, a foreigner, ugly, a woman, etc.; there is also because of the policy of affirmative action, which puts me at a disadvantage). It is a corrupt world."

The authors briefly analyze the cognitive appraisal process in each scenario. For example, in Scenario 1 the coping-centered appraisal reinforces and enhances the threat (the stakes are high) and treats the situation as hopeless. Depression is a likely state of mind, and the person might not bother to show up for the interview. In Scenario 2 the person goes from threat and anxiety (high stakes) to finding reasons for hope in light of coping options, and the appraisal that emerges is more one of challenge than of threat. In Scenario 3 the sequence and emotional impact seem similar except that the person relies on a well-placed friend rather than on personal resources. We can visualize complications here, as when getting such help assaults conflicting personal values. In Scenario 4 the stakes are low because the person has their options; stress will also be low. In Scenario 5 blame is externalized, the appraisal is one of anticipated harm/loss, and the emotional reaction is one of anger rather than the depression in Scenario 1.

In the above scenarios, appraisal processes in different combinations illustrate the cognitive mediation of the stress reaction and the coping process. Each kind of emotional reaction depends on a particular cognitive appraisal process. For example, the anger in Scenario 5 stemmed from the externalization of blame for the problem, whereas the depression in Scenario 1 stemmed from an appraisal of hopelessness. That is, we can turn the reasoning about cognitive appraisal around and argue backwards from a particular kind of emotion, say anger, depression, anxiety, guilt, envy, jealousy, and so on, to the particular pattern of appraisal that produced it. For instance, a sense of imminent but ambiguous and symbolic harm should result in anxiety, and a judgment that one has been demeaned arbitrarily yields anger. We shall discuss this more fully in Chapter 9, where we talk at greater length about cognitive-phenomenological approaches to emotion.
Reappraisal

Reappraisal refers to a changed appraisal on the basis of new information from the environment, which may resist or nourish pressures from the person, and/or information from the person's own reactions. For example, while overt anger affects the other person, it is also noted and reacted to by its initiator. As such, it may result in guilt or shame, or it may generate a feeling of righteousness or even fear. Mediating these complex two-way transactions between the person and the environment are cognitive appraisal processes. In instances of this type of feedback, threat can be reappraised as unwarranted or, conversely, a benign appraisal may turn into one of threat, creating a succession of changing emotions and appraisals. A reappraisal is simply an appraisal that follows an earlier appraisal in the same encounter and modifies it. In essence, appraisal and reappraisal do not differ.

There is another form of reappraisal which we have called defensive reappraisal. It should be mentioned only in passing here because it properly belongs under the rubric of cognitive coping. A defensive reappraisal consists of any effort made to reinterpret the past more positively, or to deal with present harms and threats by viewing them in less damaging and/or threatening ways.

Theoretically, what distinguishes defensive reappraisal from other reappraisals is that the former are self-generated; they arise from needs within the person rather than from environmental pressures. Empirically, defensive reappraisals are distinguished from ordinary, information-based appraisals in the same ways that defenses themselves are assessed clinically, namely, by their compulsivity, by contradictions among verbal, behavioral, and somatic indicators or from one time to the next, and by obvious gaps between such appraisals and environmental evidence.

Research on Cognitive Appraisal

Most of the early field observations and anecdotes about cognitive processes in stress came from studies of war, natural disasters, and life-threatening or incapacitating illness. The ideas of primary and secondary appraisal were often implicit in these discussions. For example, of their research on the threat of combat in World War II, Grinker and Spiegel (1945) wrote that "The reactions to the stimuli of combat depend upon the meaning given to these stimuli and in terms of recognizing them as a threat and of feeling confident of the ability to neutralize the threat" (p. 122). For a full review of early field and laboratory research that demonstrates the role of cognitive mediation in stress, see Lazarus (1966).

In the 1960s, Lazarus and his colleagues (see Lazarus, 1966, 1968; Lazarus, Averill, & Opton, 1970, for reviews) embarked on a systematic effort to study cognitive mediation using motion picture films to create a quasi-naturalistic way of generating stress. This approach relied on people's tendencies to react vicariously with stress to viewing the plight of others. In this extensive research program, subjective distress as well as autonomic disturbances (skin conductance and heart rate) were monitored while subjects watched films that showed people being mutilated in primitive rites of passage, experiencing accidents in a woodworking shop, and so on. Four methods were used to study the cognitive appraisal process:

1. Appraisal was manipulated by encouraging subjects to interpret the filmed events as damaging and painful or benign (through denial-like processes), or to view them in a detached fashion (through a kind of distancing or intellectualization). It was found that by influencing appraisal through soundtracks and statements provided before the film, it was possible to affect both physiological and subjective stress response levels (e.g., Folkins, Lawson, Opton, & Lazarus, 1968; Lazarus & Alfert, 1964; Lazarus, Opton, Nomikos, & Rankin, 1965; Speisman, Lazarus, Mordkoff, & Davison, 1964).

2. Conditions on which the appraisal process depended were also manipulated, including the amount of time the subject waited for an anticipated source of pain or harm, and the uncertainty about whether and when the harm would occur. In these experiments it was found that even though the actual harm did not change, the amount of time the subject waited for the anticipated harm affected its stressful impact. Slightly longer brief anticipation periods produced greater stress reaction levels than very short ones; yet if sufficient time was allowed for thinking about and reappraising the situation—say, three to five minutes—subjects could considerably mitigate the stress effects (Folkins, 1970; Nomikos, Opton, Averill, & Lazarus, 1968). What made the difference was what the subjects thought about, or had time to think about, while awaiting the harm. The experimentally manipu-
lated conditions affected the appraisal and coping process and thereby also affected the levels of stress response.

3. Cognitive appraisal was also studied by seeking retrospective reports about what subjects thought about and felt during the stressful experience. Through these reports it was possible to identify various cognitive coping strategies such as detachment or denial as well as the intensity and quality of the distress experienced. One study (Koriat, Melkman, Averill, & Lazarus, 1972) combined manipulations and assessments of cognitive activity by asking subjects either to strive for detachment from the emotional features of a stressful film or to increase their involvement; subjects were then asked about the strategies they employed, such as identifying with the victims or, conversely, dehumanizing them.

4. By selecting subjects on the basis of personality or cognitive styles, cognitive appraisal was further studied as a function of individual differences in ways of thinking and coping. In such research (e.g., Speisman et al., 1964), efforts were made to influence appraisal through denial or intellectualization. The success of these efforts in reducing stress response levels varied depending on whether or not they matched the mode of thought characteristic of the persons studied. There was evidence that denial-oriented influences worked best for people who were inclined to use denial-like modes of appraisal, and intellectualization was most effective with intellectualizers.

This extensive series of studies demonstrated that cognitive appraisal processes affected (mediated) stress response levels, and identified some of the personality characteristics and situational factors on which mediation depended. Taken as a whole, these studies left little doubt about the powerful role played by cognitive appraisal processes in the stress response to diverse stressors.

Since this research, other studies of the cognitive appraisal process in stress reactions have been reported. Most of the studies have been focused on the determinants of emotional response or other outcomes, although a few have concerned the determinants of appraisal itself. In our discussion of more recent research on the appraisal process, we include only studies in which appraisal has been manipulated or varied in some way and linked to coping and emotional outcomes; we leave consideration of research on the determinants of appraisal for Chapters 3 and 4. Our purpose here is to summarize further evidence that differing appraisals do indeed affect coping and emotion as immediate outcomes of a stressful transaction.

Geen, Stonner, and Kelley (1974) extended the earlier research on cognitive appraisal to anxiety associated with aggression. Subjects were made to deliver painful electric shocks to confederates of the experimenter who either remained silent (a control) or expressed their suffering. All subjects then watched a movie of one boxer brutally beating another. The cognitive appraisal manipulations either reminded subjects that the fight was fictitious—to generate denial-like detachment from the observed distress—or provided no options for amelioration. The film was appraised as less violent by those in the denial-like manipulation. To these subjects, the boxer seemed less distressed. More relevant, the denial-like strategy helped reduce aggression anxiety in the subjects themselves.

A series of studies by Holmes and his colleagues (Bennett & Holmes, 1975; Bloom, Houston, Holmes, & Burish, 1977; Holmes & Houston, 1974) continued the tradition of appraisal manipulation, although these researchers spoke of the process as redefinition of the stress situation, a form of reappraisal. Holmes and Houston threatened their subjects with a series of painful electric shocks, using as a control a group with no manipulated threat. The threatened subjects were also given two additional types of instruction: threat redefinition, in which they were told to reduce stress by thinking of the shock as interesting new physiological sensations; and threat isolation, in which they were told to reduce stress by remaining detached and uninvolved. Pulse rate, skin conductance, and self-reports of anxiety provided evidence of the levels of stress response. Holmes and Houston reported that subjects who used redefinition and isolation showed smaller increases in stress response levels over baseline and control conditions than control subjects not told to use these cognitive coping strategies. Here too, although one can think of the experimental treatments as providing modes of coping with stress, the process studied can just as readily be regarded as one of cognitive appraisal or reappraisal.

In a subsequent study, Bennett and Holmes (1975) found that redefinition was effective in lowering pulse rates in a failure threat situation only when it preceded the threat, not as a post-threat focus. This finding should not surprise us, for Bennett and Holmes were dealing with two different appraisal situations, threat and harm. We would expect cognitive coping or reappraisal efforts that are successful in regulating distress in anticipation of an event likely
to differ from those that are effective in regulating distress after an event has occurred.

The third experiment in the series involved attention diversion rather than redefinition. In this study, Bloom et al. (1977) reported that encouraging subjects threatened with shock to think about something else was effective in reducing autonomically measured stress levels. Moreover, redefinition of the situation was more effective when no preliminary shock was given to acquaint subjects with the nature of the harm. Their findings suggest, interestingly, that when a preliminary shock has not been encountered, that is, when the threat is ambiguous, redefinition is easier for subjects to accomplish than when the nature of the threat has been established. This fits countless instances reported in the literature which suggest that allowing subjects to experience shock demystifies it and makes it far less threatening than when it has not yet been experienced. In later chapters we give much attention to ambiguity, since we regard it as one of the key determinants of appraisal in that it amplifies individual differences in how transactions are construed.

Additional experiments by Neufeld have added further to our understanding of the appraisal process and its consequences. In one study, Neufeld (1975) employed signal detection modes of analysis in a complex and carefully designed study to determine whether cognitive appraisal works by changing merely the tendency to report stress or by actually affecting felt stress. This issue has traditionally been of great interest to those who question whether defense processes alter the experience of the person or the response indicator of this experience, that is, the propensity to report. The stress stimuli were unretouched color photographs, taken in the morgue, of victims of crime and patients in advanced stages of severe skin disease. The core procedure had subjects rank the aversiveness of the photos under two conditions, one after listening to an intellectualization-denial tape designed to reduce the threat, and the other after a neutral, study habits tape. This attempt to modify cognitive appraisal in the direction of reducing threat was effective in lowering stress response measured autonomically (skin conductance) without affecting later ratings of aversiveness to a mixture of new photos and some of the original ones. In effect, threat levels were changed but the tendency to report stress was not. Thus, Neufeld argues, the actual appraisal of threat was changed rather than merely the tendency to report aversiveness. This is in accord with the earlier formulation of Lazarus and Alpert (1964) that benign cognitive appraisals actually short-circuit threat. Subjects following such appraisal now can look at the same threat stimuli without as much stress response (see also Neufeld, 1976).

Deliberate attempts to separately operationalize primary and secondary appraisal processes have been infrequent, although systematic efforts are now beginning to appear (cf. Folkman & Lazarus, in press). Dobson and Neufeld (1979) raise some doubt about the usefulness of separating primary and secondary appraisal in assessing how people construe the threatening nature of an encounter. In our view, primary and secondary appraisal cannot be considered as separate processes. Even though they derive from different sources within the same encounter, they are interdependent, and probably influence each other.

The recent experimental research cited above in which appraisal was manipulated in the laboratory suffers from a well-known limitation of laboratory study of psychodynamic processes (see Wachtel, 1980; Willems, 1969, and others, as well as our discussion in Chapter 10). Without direct measurements of changes in appraisal produced by experimental manipulation, one cannot tell to what extent the laboratory treatments actually modified the appraisal process. Subjects may have differed greatly in the extent of such effects, and in some instances, such as the research of Geen et al. (1974), the treatments may not have overriden existing appraisal tendencies, a difficulty sometimes recognized by the experimenters in their attempt to interpret equivocal findings. The use of a single methodological approach rather than two or more procedures that supplement each other in the same study leaves in some doubt the issue of what, if anything, is being varied (see Lazarus et al., 1970, and our discussion in Chapter 10, of various methods of tackling appraisal in research).

An impressive use of appraisal-related interpretations of field and laboratory findings has been made by Breznitz (1976) regarding the effects of false alarms. He notes that the effects of false alarms represent a rare instance in which experience is detrimental, because the person fails to take protective action when the danger is real. Breznitz offers a number of hypotheses about how this comes about. He suggests that the reduction of active coping with the danger is greater if the threat is imminent when it is canceled. Thus, a warning about a hurricane which proves false at the last moment before impact will produce a larger false alarm effect than one which is canceled early in the process. Second, a manipulation which intensifies the fear reaction to the initial threat magnifies the false alarm effect following the cancellation of the danger. More generally, the greater fear can be seen as an indicator of a greater investment or
commitment, with an increase in the person's vulnerability. Third, anything that encourages discrimination between a future threat and a canceled one will reduce the false alarm effect. In other words, if the person is made to see that the cancellation has nothing to do with the next occasion of threat, the next one is less likely to be ignored. Fourth, the personal costs of the precautionary measures that must be taken are also relevant, the false alarm effect being greater when the costs of evading the harm are greater.

These hypotheses, some of which Breznitz was able to confirm in his research, directly implicate the cognitive appraisal process not only in affecting whether or not preventive measures are taken, but also the level of emotional distress experienced. Moreover, the false alarm effect itself, that is, the person responding by not doing anything precautionary, is a product of what the false alarm teaches the person about the credibility of the threat, in short, how it influences the cognitive appraisal of threat.

Two field studies of our own might also be noted. The first (Folkman & Lazarus, 1980) directly bears on the relationship between appraisal and coping. Descriptions of over a thousand specific coping episodes involving stressful encounters were obtained from 100 middle-aged men and women once a month for a period of a year. Subjects were asked to indicate on a checklist the things they thought and did to cope. In addition, they were asked to indicate which of several appraisals characterized the situation for them. The appraisals concerned whether the situation was one about which they could actually do something or, alternatively, one which they had to accept or get used to. Appraisal proved to be a potent predictor of whether coping was oriented toward emotion-regulation (emotion-focused coping) or doing something to relieve the problem (problem-focused coping). An encounter judged as requiring acceptance was associated with a greater emphasis on emotion-focused coping, whereas an encounter the person felt could be acted on was associated with a greater emphasis on problem-focused coping.

The second study (Folkman & Lazarus, in press) bears on the relationship between appraisal and emotion. The context of the study was the midterm examination mentioned earlier. Two days before the exam students were asked how difficult they expected it to be, what was at stake for them in its outcome, how much they felt in control, and their grade-point average (GPA). As noted above, the students were also asked the extent to which they were experiencing threat-related emotions including anxiety, worry, and fear. Two appraisal variables—how much the student had at stake and how difficult the exam was expected to be—proved to be important predictors of threat emotions. GPA, on the other hand, which is not a cognitive appraisal variable per se, did not predict threat.

Krantz (1983) too assessed secondary appraisal of cognitive coping strategies prior to an examination in a college student group and the perceived ease of implementing those strategies in case the grade they received proved disappointing. In addition, Krantz directly observed six coping behaviors on a second exam for those who received an unsatisfactory grade on the first exam: amount of study time, class attendance, review session attendance, contact with the instructor, discussions with peers about course material, and whether help or information was obtained from other sources. She found that secondary appraisal predicted coping behaviors but not actual exam performance. In effect, subjects actually did what they had said they would do in the event of poor performance; their actual coping behaviors on the second exam were consistent with their secondary appraisals of coping options. Krantz interpreted the failure to predict actual exam performance as indicating that other variables, such as academic ability, were more important than preparatory coping behaviors. An unpublished finding from our study of examination stress (Folkman & Lazarus, in press) lends support to this interpretation. The coping strategies reported by the students before the exam did not predict their grade, but GPA did.

Overall, we can see in the above accounts a pattern of research and observation that shows clearly that the way a person appraises an encounter strongly influences the coping process and how the person reacts emotionally. The theoretical perspective that cognitive appraisal is central in mediating subsequent thought, feeling, and action is not only logically necessary to an understanding of individual differences and, we believe, even normative patterns of reaction, but it also accords well with the observations of people in adaptationally relevant encounters. Taken as a whole, research resoundingly supports such a view.

Indeed, the concept of cognitive appraisal in one form or another has become firmly entrenched in research and theory on stress, coping, and emotion. A large literature has developed in which researchers employ this concept in accounting for the effects of antecedent variables on stress and emotional reactions (see Baum, Singer, & Baum, 1981). In our discussions above we have taken pains to examine only research in which the concept of appraisal was directly studied; we have ignored the many investigations in which appraisal was used solely as an explanatory construct.
Cognitive Appraisal and Phenomenology

Because cognitive appraisal rests on the individual's subjective interpretation of a transaction, it is phenomenological. The basic idea of phenomenology is neither new nor unusual. It has its origins in ancient philosophical treatises, and in more recent times is reflected in the work of Jung, Adler, and Rank, and psychological theorists such as Lewin, Rogers, Murray, Tolman, Heider, and Kelly (see Weiner, 1974). Phenomenology has negative connotations that could throw into question certain aspects of our cognitive approach: first, that appraisal is a private, subjective process that has an uncertain relationship to the objective environment; and second, that the concept of appraisal is inevitably circular, because in order to predict the emotional or adaptational outcome we must ask the person how he or she construes events; in turn, the subjective appraisal itself can only be verified by reference to the very outcome we want to predict.

The first issue touches on a longstanding conflict in psychology concerning perception. Classical perception theory (see, for example, Allport, 1955; Vernon, 1962) had three characteristics: it was veridical, normative, and "cool." The veridical perspective is reflected in the basic question, "How is it that we are able to perceive the world as it really is in order to behave adaptively?" With respect to its normative quality, the focus is on how people in general perceive (i.e., individual differences are ignored or treated as error). Finally, classical theory and research paid little attention to perception tasks that are emotionally laden and of high salience to the person ("hot" contexts). Most of its observations were about perception of laboratory displays ("cold" contexts, to paraphrase William James).

A dissident movement emerged in the 1940s and 1950s, which was referred to as the "New Look." Many of its protagonists were personality and clinical psychologists primarily interested in what goes wrong in human adaptation. In contrast with classical perceptionists, who were concerned with normative issues, the New Look psychologists focused on individual differences and the role of personality factors such as needs and defenses in shaping perceptions and cognitions. A different question was asked: "How is it possible that different people, or the same person at different times, perceive a given stimulus array in different ways?" This emphasis on individual differences required rejection of the normative tradition of studying "people in general." Because the New Look psychologists were particularly concerned with adaptation and its failures, perception was studied in situations where the person had some important stake in what was being perceived, that is, in hot contexts.

The New Look movement had a close affinity with phenomenology in that its proponents emphasized that to some extent people perceived what they want to or need to rather than what is actually in the environmental display. This outlook, despite its documentation in research, was never integrated into classical perception theory. The tradition of the classical perception theorists is evident today in the field of information processing, which, though process-centered, is by and large normative, is concerned with veridicality, and deals largely with cold contexts. Ultimately any comprehensive theory of perception and cognition must find a way to integrate these seemingly contradictory outlooks.

Since phenomenology refers to private ways of thinking that have no necessary relationship with objective reality, one can readily see this concept as an extreme version of the New Look. There is no doubt that personality factors can shape and distort perception, especially under conditions of ambiguity or severe mental disorder. When the environmental display is unambiguous, however, for most people perception and appraisal follow the objective environment quite well. We see what is there, so to speak, and there is little opportunity for individual differences to manifest themselves except in what is attended to and in styles of responding. Furthermore, no one would question that the physical and social environments have a powerful impact on our reactions (see Proshansky, Itelson, & Rivlin, 1970, for a vivid account of the physical environment in life crises such as physical disability, natural disasters, aging and relocation, and divorce). Much of our social existence is ambiguous, however, and personality factors can play a large role in perception and appraisal.

When we speak of cognitive appraisal, we are not referring strictly to need-centered or defensively based judgments, although commitments (motives) and defensive processes are always involved. Our premise is that people usually want to know what is happening and what it means for their well-being, while, at the same time, they usually prefer to put a positive light on things. This stance integrates the approaches of classical perception theory and the New Look in that we acknowledge that both the environment as it is, and what individuals want, interact to produce any given appraisal. Thus, to say that the reaction to demanding or hostile environments is mediated by cognitive processes is not to say that inner promptings alone shape appraisals, but that such promptings interact with the objective environment in generating cognitive appraisals.
Our phenomenology does not state that thinking something necessarily makes it so, or that every appraisal is subjective and private. Rather, people are normally constrained in what they perceive and appraise by what is actually the case, although their cognitions are not perfectly correlated with objective reality.

Another issue is that because of its phenomenological character, the concept of appraisal is inherently circular. An appraisal is inferred from what a person says: an individual is threatened because he or she reports being threatened or appears threatened to us. To get out of this circle we need to demonstrate that what we call appraisal has antecedents and consequences. The research described earlier, in which appraisal, as inferred from self-reports, experimental manipulations, and personality assessments, affects coping and emotion, goes a long way to dispel this criticism, since this research demonstrates that appraisal does indeed have predictable consequences for emotion and coping.

At the antecedent end, what is needed to break the tautology is to demonstrate that certain conditions derived from theory, within the person and in the situational context, determine interactively the mediating appraisal process which, in turn, affects in predictable ways the coping and emotional response.

A familiar example of an earlier tautology is the concept of instinct, which was out of favor for many years because it had become merely a label rather than a genuine explanation of the seemingly built-in patterns of behavior of species. When asked why animals did what they did, the answer was that they had the instinct to do so; when asked for evidence of the instinct process, the answer was to refer to the very behavior that instinct was supposed to explain. It was not until research such as that of Lehrman (1964) that knowledge moved outside the circle by establishing the specific environmental and internal conditions that interacted, and in sequence, to produce so-called instinctual patterns. For example, Lehrman showed that each step of the reproductive behavior of female ring doves is governed by interactions between hormones and external stimuli, including those arising from seeing the behavior of the mate which, in turn, affected endocrine patterns regulating behaviors such as mating, building a nest, laying eggs, sitting on them, feeding the young, and so on, all in synchrony. Likewise, only when we can specify the person and environment antecedent factors determining the nature of the appraisal process, and how these appraisals affect the coping and emotional consequences, can cognitive appraisal theory go beyond pure description, which is itself a valuable first step, and contribute to prediction. Only then too can such a theory power practical interventions designed to affect adaptational outcomes such as health, morale, and effective functioning.

There still remains a problem, however—that of making the concept of appraisal independent in measurement from antecedent and consequent variables. This problem has been effectively described by Kasl (1978) in a discussion of epidemiological contributions to the study of work stress. He states it as follows:

Unfortunately, this convergence of theoretical formulations [about the role of individual differences in appraisal] had led to a self-serving methodological trap which has tended to trivialize a good deal of the research on work stress or role stress: the measurement of the “independent” variable (e.g., role ambiguity, role conflict, quantitative overload, etc.) and the measurement of the “dependent” variable (work strain, distress, dissatisfaction) are sometimes so close operationally that they appear to be simply two similar measures of a single concept. (p. 13)

One example offered by Kasl is a report by Lyons (1971) of a correlation of -.59 between “role clarity” and an index of a job tension among staff registered nurses. The index of job tension is defined by questionnaire items such as being bothered by unclear responsibility, unclear evaluation by supervisor, and unclear expectations by others. Kasl trenchantly and somewhat sardonically concludes that the correlation between the two measures is

...about as illuminating as correlating “How often do you have a headache?” type of item with “How often are you bothered by headaches?” form of item. Similarly, what is the meaning of an association between high qualitative overload and low self-esteem among university professors (Mueller, 1965), when the former (perceiving one’s skills and abilities as not being good enough to meet job demands) and the latter (being dissatisfied with oneself and one’s skills and abilities) both derive from one and the same perception of oneself? (p. 14)

Having, in effect, noted that often the measures of the objective (stressor) conditions overlap operationally with the subjective ones, that is, with appraisal, Kasl goes on to suggest that one solution would be to measure both the objective and the subjective separately in the same research whenever possible; another is to search for modifying effects of various characteristics of the person on the association between the independent and dependent variables, a strategy we described earlier. Kasl is of course quite correct in pointing out that if
there is no operational difference between subjective (appraisal-centered) and objective measures of environmental events and their impact—at least in some cases or under some conditions—the cutting edge of the appraisal concept is dulled to the point of futility. Some of the research on appraisal discussed earlier is sound in this respect, whereas other research falls into the trap described by Kasl.

In Chapters 3 and 4 we will examine the antecedent side of the picture, the person and situation determinants of appraisal. To the extent that we can identify antecedents and consequences of appraisal, or develop a set of principles for doing so, we break out of the tautology.

The Concept of Vulnerability

The term vulnerability is widely used in the conceptualization and study of psychological stress and human adaptation. Most often, it is conceptualized in terms of the adequacy of the individual's resources. For example, Murphy and Monaristy (1976) define vulnerability in children as the "equipment" of the child, by which they mean the child's physical, psychological, and social resources for dealing with adaptive demands. In his study of cancer patients, Weisman (1976) treats vulnerability as a faltering capacity to cope, and emotional distress associated with pessimistic attitudes about recovery and inadequate social support. Similarly, Zabin and Spring (1977) describe vulnerability in schizophrenics in terms of inborn and acquired resource deficiencies. Garmezy (1978) too employs the concept of vulnerability in arguing for genetic factors as primary in childhood schizophrenia. The invulnerable child, from his perspective, is biologically highly resistant to mental disorder.

There are circumstances in which it makes sense to speak of vulnerability solely in terms of resources. One instance is when vulnerability is physical—for example, a person whose ankle was recently sprained is vulnerable to further injury, and a traveler in a foreign country is vulnerable to organisms in the water to which his or her system is unaccustomed. It is also reasonable to speak of vulnerability in terms of resources when there is such an enormous deficit that the person is unable to function adequately in most situations, as is the case with schizophrenics.

Among ordinary, adequately functioning people, however, inadequacy of resources is a necessary but not sufficient condition for psychological vulnerability. A deficiency in resources makes a person psychologically vulnerable only when the deficit refers to something that matters. For example, the extent to which the physical psychological vulnerability depends on the importance of the commitment that the physical disabilities threaten. For a dancer, a weakened ankle means the possibility of a fall on stage; for a person at a desk job, a weakened ankle is a minor inconvenience. Anticipated problems in an interpersonal relationship will create psychological vulnerability only if the relationship has meaning for its members. In short, psychological vulnerability is determined not just by a deficit in resources, but by the relationship between the individual's pattern of commitments and his or her resources for warding off threats to those commitments.

This relational definition of vulnerability parallels our relational definition of threat. Indeed, vulnerability can be thought of as potential threat that is transformed into active threat when that which is valued is actually put in jeopardy in a particular transaction. In this sense, vulnerability also refers to a susceptibility to react to broad classes of events with psychological stress that is shaped by a range of person factors, including commitments, beliefs, and resources.

An example of research that uses a relational concept of vulnerability is provided by Kaplan (1976). He developed a scale of "defenselessness/vulnerability" that reflects the combination of two characters: a high value placed on receiving approval (a value or commitment) and the inability to regulate feelings of distress about Schlesken and Leary (1982). These authors suggest that people who are motivated to make a good impression on an audience and simultaneously expect an unsatisfactory evaluation from that audience are vulnerable to social anxiety. Here the vulnerability is caused by a relationship between a commitment and an expectation.

We have more to say about person factors that influence vulnerability to psychological stress in Chapter 3 and some researchers have triggered the transformation of vulnerability to threat in Chapter 4.

The Issue of Depth

Before leaving this theoretical account of cognitive appraisal we want to briefly address a problem that inheres in cognitive approaches to stress, emotion, and coping: the issue of surface and depth, or consciousness and unconsciousness.
Appraisal is often taken to be a conscious, rational, and deliberative process. We have argued, however, that an individual may be unaware of any or all of the basic elements of an appraisal (e.g., Lazarus, 1966, 1982, 1984). A threat appraisal can arise without the person clearly knowing the values and goals that are evaluated as endangered, the internal or environmental factors that contribute to the sense of danger, or even that threat has been appraised. This lack of awareness can result from the operation of defense mechanisms, or it can be based on nondefensive attentional processes.

Our position allows the concept of appraisal to be integrated with depth or psychodynamic-type theories. For example, the Jungian notion of superior and inferior functions, where one function predominates while the other is submerged, implies that a suppressed tendency may emerge from time to time to influence thought (e.g., appraisal), emotion, and behavior. And of course Freudian thought gives mental activity that is inaccessible to consciousness a role in shaping thoughts, feelings, and action. Within the context of stress research per se, Weissman (1972) has used the term middle knowledge to describe the vague sense of the truth that an unexpectedly surface and color mood even when the individual is engaged, in what seems like a firm denial, at when a patient denies the truth of a terminal illness.

Appraisal theory thus need not be restricted to personal agendas that are accessible and easily operationalized, less accessible agendas and processes, about which psychodynamic theorists have been most vocal, are also fair game. Appraisal theory is in a sense neutral with respect to the specific personal agendas that are constitutive to shape it. The reader should keep this feature of the concept of cognitive appraisal in mind in subsequent chapters where we discuss person factors that influence appraisal (Chapter 3), the coping process (Chapters 5 and 6), and cognitive theories of emotion (Chapter 9).

Summary

There is an old phenomenological tradition in psychology that the meaning of an event to the person shapes the emotional and behavioral response. Our concept of cognitive appraisal refers to evaluative cognitive processes that intervene between the encounter and the reaction. Through cognitive appraisal processes the person evaluates the significance of what is happening for his or her well-being. Traditionally, stress research has been based largely on non-cognitive models such as drive reinforcement and arousal or activation. However, the utility of these models has come into question. For one thing, the evidence is overwhelming that appraisal-related processes shape the reaction of people to any encounter. Moreover, emotional response is in fact specific to appraised meanings and differentiated as to quality as well as intensity. As a result, a growing number of psychophysiological researchers are beginning to incorporate cognitive mediation into their models.

Our cognitive theory of stress is phenomenological. Phenomenology has two negative connotations, the first of which concerns the veridicality of appraisals. It is our premise that although personality factors such as needs, commitments, and preferred styles of attention influence perception, appraisals are generally correlated with reality. A second problem with phenomenological approaches is that they are inherently circular; an appraisal of threat is inferred from what the person says. We can break out of the circularity to the extent that we can identify antecedents and consequences of appraisals. We have identified three kinds of cognitive appraisal: primary, secondary, and reappraisal. Primary appraisal consists of the judgment that an encounter is irrelevant, benign-positive, or stressful. Stressful appraisals can take three forms: harm-loss, threat, and challenge. Harm-loss refers to damage the person has already sustained, threat refers to anticipated harms or losses, and challenge refers to events that hold the possibility for mastery or gain. Threat and challenge are not poles of a single continuum; they can occur simultaneously and must be considered as separate, although often related, constructs.

Secondary appraisal is judgment concerning what might and can be done. It includes an evaluation about whether a given coping option will accomplish what it is supposed to, that one can apply a particular strategy or set of strategies effectively, and an evaluation of the consequences of using a particular strategy in the context of other internal and/or external demands and constraints.

Reappraisal refers to a changed appraisal based on new information from the environment and/or the person. A reappraisal differs from an appraisal only in that it follows an earlier appraisal. Sometimes reappraisals are the result of cognitive coping efforts; these are called defensive reappraisals and are often difficult to distinguish from reappraisals based on new information. The concept of vulnerability is closely related to cognitive appraisal. Vulnerability is frequently conceptualized in terms of coping
resources; a vulnerable person is one whose coping resources are deficient. Psychological vulnerability, however, is determined also by the significance of the commitments that are engaged or endangered in any encounter. As in our definition of stress, this view of vulnerability to stress is relational.

Cognitive appraisal processes are not necessarily conscious, nor are the agendas that shape appraisal always easily accessible. Cognitive appraisal may also be shaped by agendas that are below the person's awareness.

3

Person Factors
Influencing Appraisal

In this chapter we discuss two person characteristics that are important determinants of appraisal: commitments and beliefs. These variables influence appraisal by (1) determining what is salient for well-being in a given encounter; (2) shaping the person's understanding of the event, and in consequence his or her emotions and coping efforts; and (3) providing the basis for evaluating outcomes (cf. Wru-bel, Bennner, & Lazarus, 1981). In the next chapter we will discuss situation characteristics that influence appraisal.

Although we treat person and situation variables in separate chapters, we view these variables as interdependent. Thus, our discussion of person factors includes references to situations, and our discussion of situation factors refers to person characteristics. For example, when we speak of commitment as a person factor that influences appraisal, there is always an implied "to"—that is, a commitment to a relationship, an objective, or an ideal—that is pertinent to a specific transaction between the person and the environment. For a commitment to influence appraisal, it has to be engaged by a particular encounter.

Yet there is no way to evaluate the person and situation variables that affect appraisal without measuring them separately. The division of our discussion of determinants of appraisal into two chapters is a recognition of the need to separate them for purposes of discussion. However, although these factors can be measured