

National Registry of Evidence-Based Programs and Practices for the treatment of substance use and family functioning. Current research and practice with BSFT focuses mainly on treatment of adolescents with risk behaviors and families with relationship problems.

### Adolescents

The fast-paced structure, use of paradoxes, and flexibility provided for resistant clients make BSFT an appealing choice when working with adolescents with risky behavior, such as drug or alcohol use. By treating families as systems with interdependent members, an adolescent's problematic behavior becomes symbolic of larger issues taking place within the family unit. Once these symptoms and interactions are understood through a holistic lens, the family can work to create goals and interventions aimed at solving the larger family problems directly affecting the adolescent's problematic behavior.

### Relationship Problems

SFT is also used to resolve family relationship disputes. At some point, nearly all families or couples struggle to find a healthy balance of power within the family. For example, in a new marriage, partners are forced to consider how they will approach communication, decision making, and caring for one another. If one person begins to feel inferior, he or she may act out to change the partner's behavior. Symptomatic behavior begins to influence various aspects of the relationship, and roles begin to feel unbalanced. SFT encourages the couple to reframe the symptomatic behavior and focus on issues of power and inferiority. The therapist may implement paradoxical interventions, such as prescribing nagging behavior, which ultimately make the couple more aware of the power imbalance. In time, power will be redistributed, and the couple can focus on ways to regain balance in their daily routine.

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See also Adolescent Risk-Taking Behavior; Adolescent Substance Use; Couple Therapy; Family Systems Theoretical Framework; Family Therapy; Psychotherapy; Resistance in Psychotherapy

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## STRESS

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Broadly defined, stress is a process that involves a complex interplay among environmental demands, health consequences, and vulnerability and protective factors in individuals and their social environments. *Stressors* that confront individuals with adaptive demands initiate the stress process. Life stressors are associated with emotional distress and physical illness. Despite the overall association between stressors and adverse emotional and physical outcomes, individuals react to stressors in highly variable ways. Although stressors make some individuals emotionally or physically ill, other individuals remain healthy, and some grow stronger and more resilient after managing stressors successfully. Thus, current approaches to the stress process emphasize the complex interaction among stressors and vulnerability and protective factors, which include coping skills, personality traits, and social-contextual factors.

### Life Stressors

Life stressors include life change events, traumatic experiences, and chronic strains. These categories of life stressors are interrelated, as stressors in

one category can worsen existing stressors and produce new stressors in other categories. For example, a traumatic experience can worsen chronic strains in the family or work environment, which in turn can trigger new life change events in these domains, such as marital separation or trouble with one's boss.

### Life Change Events

Historically, stress researchers have focused on episodic life change events that have an identifiable onset and are assumed to be time limited, such as a financial setback or the death of a close friend. Such events require individuals to face adaptive demands and readjustment. Measurement instruments are typically self-report questionnaires, such as the Social Readjustment Rating Scale, that sum life change events to index the level of adaptive demand experienced during a given period of time, usually the previous 3 to 12 months. Most contemporary measures focus on negative events. Greater severity of negative events, and a greater number of them, is associated with more detrimental emotional and physical health consequences. An alternative measurement procedure is in-depth interviews, which are more time-consuming than questionnaires but are considered methodologically superior.

### Traumatic Experiences

Traumatic experiences are generally more severe than the stressors indexed on life change events questionnaires. Like life change events, traumatic experiences have an identifiable onset. However, the effects of traumatic experiences are usually longer lasting than those of less severe stressors, as shown by the long-term effects of combat and other experiences associated with posttraumatic stress disorder (PTSD). Initially, the definition of *trauma* focused narrowly on soldiers' experience of combat. Over time, it broadened to encompass a wider range of potentially life-threatening experiences, such as being the victim of a violent crime or natural disaster. Eventually, the scope of trauma was extended beyond personally experiencing a life-threatening event to include witnessing others being killed or badly injured.

### Chronic Strains

A shortcoming of early stress research was its narrow focus on episodic and time-limited stressors. Based on the recognition that many stressors endure over time without a clear start or end point, investigators turned to examining chronic role strains, such as ongoing friction with family members or coworkers. Studies have also focused on the chronic demands and burden of specific social roles, such as caring for a child with a disability or a parent with Alzheimer's disease. Moreover, there has been growing interest in chronic strains associated with the intersection between social roles, such as the spillover of work strains into family life or of family problems into the workplace. Investigators have also studied persistent minor daily hassles, such as putting up with troublesome neighbors or traffic congestion. Studies are increasingly examining ongoing *macrostressors* that occur at a societal level, such as discrimination, economic recession, and fear of terrorism.

### Stressor Effects

Life stressors are associated with a number of psychological and physical issues. These resulting problems, in turn, may function as life stressors themselves, initiating new cycles in the stress process. Life stressors are linked to physical illness not only directly through biological pathways but also indirectly by promoting unhealthy behaviors such as increased cigarette smoking, alcohol misuse, poor exercise and dietary habits, irregular sleep patterns, and reduced medical compliance.

### Emotional Distress

Life stressors are associated with depressive and anxiety symptoms. Among vulnerable individuals, life stressors can precipitate a first episode of major depression, trigger the onset of an anxiety disorder (e.g., panic disorder), or heighten the likelihood of relapse among individuals recovering from these disorders. Life stressors can elicit schizophrenic episodes among vulnerable individuals or contribute to the development and progression of drug and alcohol abuse. In addition, PTSD is defined as a stress-induced disorder, the symptoms of which include reexperiencing trauma

through flashbacks and nightmares, emotional numbing, and high arousal and vigilance.

Greater severity of stressors and less personal control over the stressor produce greater emotional distress. Interpersonal problems and losses are especially associated with depressive reactions. Stressors are more likely to produce an adverse psychological reaction when they disrupt or threaten a life domain in which a person has central commitments. For example, a committed athlete who sustains a severe physical injury that threatens to end his or her athletic career may be especially likely to experience depression. Adverse psychological reactions to stressors can exacerbate the stress process. For example, an individual experiencing emotional distress due to a life change event may create conditions, such as conflict with family members or coworkers, that generate new life stressors.

### **Physical Illness**

The physiological stress response involves two key pathways, the sympathetic-adrenal-medullary (SAM) system and the hypothalamic-pituitary-adrenocortical (HPA) axis. Both pathways involve initial input from the hypothalamus at the base of the brain and operate in part through the adrenal glands located above the kidneys. The SAM system is mediated by the sympathetic nervous system, which releases the neurotransmitter norepinephrine (noradrenaline) at multiple sites throughout the body and stimulates the adrenal medulla to release the hormone epinephrine (adrenaline). The HPA axis is mediated by the pituitary gland, which stimulates the adrenal cortex to release glucocorticoid hormones, primarily cortisol in humans.

Short-term activation of these biological mechanisms is adaptive under stress—increasing circulating glucose; enhancing energy output to the muscles, heart, and brain; and directing the cells of the immune system to tissues at risk of damage by physical stressors. However, chronic activation of these pathways (*allostatic load*) is physiologically problematic. Chronic activation of the SAM system produces hyperarousal and is associated with tension-related complaints, such as headache and cardiovascular illness. For example, chronic activation of the sympathetic nervous system can lead

to continued elevated resting blood pressure, which increases the risk for coronary heart disease. Chronic activation of the HPA axis inhibits the ability of the cellular arm of the immune system to directly attack pathogens and of the humoral arm of the immune system to produce antibodies, which may increase vulnerability to immunity-related diseases. For example, chronic exposure to life stressors has been associated with the onset and progression of the common cold. Chronic stressors are also related to reactivation of latent herpesviruses, resulting in illnesses such as mononucleosis. Life stressors can produce inflammation, and chronic exposure to stressors may increase risk of the onset and exacerbation of some autoimmune diseases.

### **Stress Process Model**

After initially assuming a direct relationship between life stressors and detrimental psychological and physical conditions, stress studies evolved to recognize the importance of individual differences in the stress process. Individual reactions to stressors are quite variable. Some individuals experience profound health effects from stressor exposure, whereas others show few or no effects. Investigators have come to appreciate that different individuals appraise (interpret) the same stressor in different ways and that these differences in stressor appraisal reflect in part underlying differences in coping skills and associated coping resources.

Investigators have developed more complex models of the stress process, emphasizing vulnerability and protective factors in individuals and their social environments that may moderate the health effects of life stressors. For example, the diathesis-stress model focuses on vulnerability factors (personal diatheses) that increase health risk in the context of life stressors. In contrast, the stress resistance model focuses on protective factors (coping strategies and personal and social resources) that decrease health risk in the context of life stressors.

### **Coping Strategies**

Coping strategies involve cognitive and behavioral efforts to manage stressful conditions or the

emotional distress associated with stressful conditions. Although some coping strategies are oriented toward approaching and confronting problems, other strategies are oriented toward reducing tension by avoiding dealing with problems. In general, people who rely more on approach coping strategies, such as seeking information and problem solving, tend to show better emotional and physical health when facing life stressors. In contrast, individuals who rely more on avoidance coping strategies, such as denial and wishful thinking, tend to show more symptoms of depression, anxiety, and poorer physical health in the context of life stressors. Avoidance coping allows stressful conditions to persist, which may in turn generate new stressors.

Although approach coping is usually more efficacious than avoidance coping, there are exceptions to this generalization. For example, avoidance coping can be adaptive in the short term and with stressors that are uncontrollable. Conversely, whereas approach coping is adaptive with controllable stressors, it can lead to feelings of helplessness when used persistently with stressors that are uncontrollable. Individuals adapt best when their coping efforts match the unique adaptive demands of the particular stressor. Being able to select a coping strategy that fits the requirements of a particular challenge and alter coping strategies as situational demands change is an adaptive strength.

### Personal and Social Moderators

A number of factors in the individual and in the social environment may play a moderating role in the stress process. Protective factors tend to reduce the strength of association between life stressors and psychological and physical illness, whereas vulnerability factors tend to increase this association. Personal protective factors include optimism, self-esteem, a sense of mastery, and extraversion, whereas neuroticism and hostility are examples of personal vulnerability factors. Environmental protective factors include emotional support, guidance, and tangible assistance from family members and friends, whereas conflict and criticism from family members and friends are examples of environmental vulnerability factors. Some personal factors have a genetic component; for example,

variation in the serotonin transporter gene may increase risk for depression in the context of life stressors. Other personal factors are shaped more by environmental experience; for example, exposure to environmental adversity in childhood may cause personal vulnerability in adulthood.

The mechanisms through which personal and social moderators operate are complex, and a single factor may affect health in more than one way. Some protective and vulnerability factors influence the biological stress pathways discussed earlier. For example, social support and personality strengths appear to reduce sympathetic arousal and HPA axis activation in the context of life stressors. In contrast, exposure to childhood adversity may increase HPA axis activation in the context of subsequent stressors. In addition, some protective and vulnerability factors influence the selection of coping strategies. Protective factors enhance perceptions of control when facing stressors and encourage approach coping. Conversely, vulnerability factors reduce perceptions of personal control when facing stressors and promote avoidance coping.

### Posttraumatic Growth

Stress researchers recognize that individuals who face painful life crises can grow psychologically stronger. Some individuals are able to emerge from a crisis with new coping skills, greater self-confidence, closer relationships with family and friends, clearer priorities, deeper religious faith, and a richer appreciation of life. Such posttraumatic growth has been documented across a remarkable range of life stressors, including serious illness and accidents, divorce, bereavement, sexual assault, combat, and childhood adversity.

To engender posttraumatic growth, a stressor needs to be powerful enough to challenge an individual's prevailing assumptions about life. For this reason, posttraumatic growth typically emerges only after an initial period of distress and uncertainty. Moreover, posttraumatic growth is promoted by social support, particularly support from individuals who have confronted a similar trauma. Posttraumatic growth is also facilitated by openness to experience, especially a willingness to acknowledge the distressing emotions surrounding

the trauma. Finally, it requires a willingness to relinquish goals that are no longer attainable and a capacity to frame new goals consistent with the posttrauma reality.

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See also Coping and Stress; Diathesis-Stress Model; Hassles, Stress and; Health Psychology: Overview; Illness, Stress and; Immune System Responses to Stress; Life Events, Stress and; Social Support; Trauma- and Stressor-Related Disorders: Overview

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## STRESS APPRAISAL

Stress appraisal is a construct designed to account for readily observable individual differences in stress responses to similar stressors. Observing that individuals varied greatly in their psychological reactions to potentially traumatic experiences, Richard S. Lazarus proposed that psychological stress was not a reaction to one's objective circumstances but, rather, that an individual's stress response was based on an evaluation, or appraisal, of what the circumstances implied for his or her personal well-being. Psychological stress results when an individual appraises the demands of his or her circumstances as taxing or exceeding his or her resources for coping with the situation. Although much of the scientific literature on appraisal and stress emphasizes stress as resulting when the demands of one's situation are appraised as exceeding one's coping resources, according to the original formulation, stress can be evoked when the circumstances are appraised as merely taxing one's coping resources (i.e., when the situation requires an effortful response). This entry discusses primary and secondary stress appraisal, as well as emotional reactions to stress appraisal.

### Primary and Secondary Stress Appraisal

There have been significant elaborations on this original formulation of stress appraisal. Lazarus and Susan Folkman have differentiated between primary and secondary appraisal. Primary appraisal is a consideration of what is at stake in the situation. Secondary appraisal is an evaluation of coping options and resources for dealing with the stressful situation. The primary appraisal of stakes determines whether or not a stress response will be elicited. Secondary appraisals combine with the primary appraisal both to determine the specific type of stress response to be