

Health Psychology, 6th edition
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Chapter Six:
Stress

What is Stress?

- Stress is a negative emotional experience accompanied by predictable
 - Biochemical changes
 - Physiological changes
 - Cognitive changes, and
 - Behavioral changesThat are directed either toward altering the stressful event or accommodating to its effects.

What is a Stressor?

- Stressful events are called stressors
 - Noise
 - Crowding
 - Bad relationships
 - Job interviews
 - Commuting to work
- Each of these might be stressful to some people but not to others
- How the event is perceived substantially determines whether it is a stressor.

Person-Environment Fit



- Sufficient to meet demands:
Little Stress, can be challenging!



- Not sufficient to meet demands:
Great deal of stress

Theoretical Contributions: Fight or Flight

- Walter Cannon (1932) when an organism perceives threat
 - Sympathetic nervous system and endocrine system aroused
- Fight: Aggressive response to stress
- Flight: Social withdrawal, withdrawal through drugs, alcohol
- Adaptive: Allows quick response to threat
- Harmful: If unabated stress causes problems

Theoretical Contributions: Selye's General Adaptation Syndrome

- ***NONSPECIFIC RESPONSE***: The same pattern of physiological responding occurs, regardless of the type of stressor:
 - Organism confronts a stressor
 - Mobilizes for action
 - Regardless of the cause of the threat
 - The same response occurs

General Adaptation Syndrome

**Theoretical Contributions:
Selye's General Adaptation Syndrome**

Three Phases in reacting to a stressor

- Alarm
 - The body's first reaction
- Resistance
 - Occurs with continued exposure
- Exhaustion
 - Physiological resources are depleted

**Theoretical Contributions:
Criticisms of Selye's Model**

- Limited role given to psychological factors
 - Appraisal is important
- Not all responses to stress are uniform
 - Individual responses are influenced by personality, perception, & biological constitution
- Stress is assessed as an outcome
 - What about anticipation of a stressful occurrence?

**Theoretical Contributions:
Tend and Befriend**

- Taylor and colleagues
 - Developed a model of affiliative responses to stress
 - Humans respond to stress with social and nurturant behavior

↑
Responses Especially Characteristic
of Females

**Theoretical Contributions:
Tend and Befriend**

- Sympathetic arousal underlying fight-or-flight
 - may be down-regulated in females leading to nurturant behavior
- Females' responses to stress evolved to care for **self and for offspring**

**Theoretical Contributions:
Tend and Befriend**

- Oxytocin, a stress hormone, may be significant in female stress responses
- Animals and humans with high oxytocin levels show behaviors that are
 - Calmer and more relaxed
 - More social and maternal
- Under stress, females are more likely to turn to others than are males

**Theoretical Contributions:
Psychological Appraisal**

Primary appraisal process

- Is this event positive?
- Is this event neutral?
- Is this event negative?
 - Has harm already been done?
 - Is there a threat of future damage?
 - How challenging is the event, that is, can I overcome it or even profit from it?

Theoretical Contributions: Psychological Appraisal

Secondary Appraisal

- Are my coping abilities and my resources enough to overcome the
 - Harm
 - Threat
 - Challenge
- of this event?

Subjective Experience of Stress is a Balance between Primary and Secondary Appraisal

Theoretical Contributions: Psychological Appraisal

A glimpse at Chapter 7

- Some responses to stress are a conscious effort to cope with the stress
- Cognitive responses to stress include beliefs about
 - What causes it
 - Whether it can be controlled
- As well as how harmful or threatening it is

Theoretical Contributions: Physiology of Stress - SAM

- Sympathetic-adrenomedullary system
- Cannon's "Fight-or-Flight" Response
- Sympathetic arousal stimulates
 - medulla of the adrenal glands to secrete catecholamines (epinephrine and norepinephrine)
- Effects: blood pressure and heart rate increase, constriction of peripheral blood vessels, increased sweating

**Theoretical Contributions:
Physiology of Stress - HPA Axis**

- Selye's General Adaptation Syndrome
- Hypothalamus releases
 - Corticotrophin-releasing factor (CRF), stimulating pituitary to release ACTH (adrenocorticotrophic hormone)
- ACTH stimulates the adrenal cortex to release glucocorticoids, especially cortisol

Routes by Which Stress May Produce Disease: Figure 6.4



**Theoretical Contributions:
Physiology – Long Term Effects**

- Physiological changes in response to stress
 - Usually don't serve original purpose: short term mobilization to fight or flee
- Excessive discharge of hormones causes health problems
 - Example: prolonged cortisol secretion is related to destruction of neurons in the hippocampus
- Long term stress
 - Health consequences of HPA activation may be more significant than those of SAM activation

**Theoretical Contributions:
Physiology – Individual Differences**

- People differ in reactivity
- Reactivity
 - Degree of change in
 - Autonomic
 - Neuroendocrine
 - Immune responses
 - As a result of stress
- Reactivity to stress can affect vulnerability to illness

**Theoretical Contributions:
Physiology of Stress: Allostasis Load**

- Allostasis
 - Body's physiological systems fluctuate to meet stressful demands
- Allostasis load
 - Physiological costs of chronic exposure to fluctuating neural/neuroendocrine responses from repeated/chronic stress
- This wear and tear can lead to illness

**What makes events stressful?
Assessing Stress**

Multiple measures may include

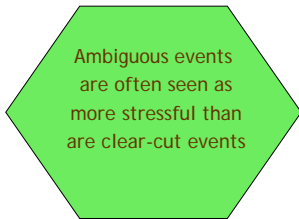
- Self-reports of
 - perceived stress, life change, emotional distress
- Behavioral measures
 - task performance under stress
- Physiological measures
 - heart rate and blood pressure
- Biochemical markers
 - elevated catecholamines

What makes events stressful?
Dimensions of Stressful Events

- Negative events
 - More stressful than positive events
- **Exception:** Among people who hold negative views of themselves
 - Positive life events have a detrimental effect on health
- People with high self-esteem
 - Positive life events are linked to better health

What makes events stressful?
Dimensions of Stressful Events

- Events that are
- Uncontrollable
 - Unpredictable
- Are more stressful than controllable, predictable events



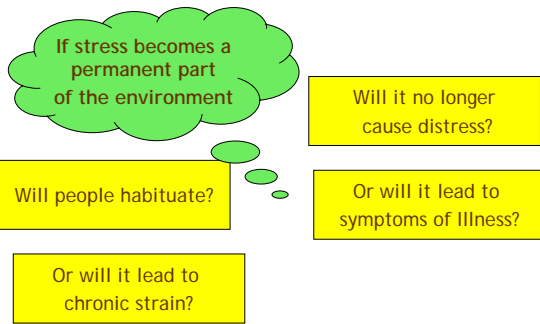
What makes events stressful?
Dimensions of Stressful Events

- Overloaded people are more stressed than are people with fewer tasks to perform
- More vulnerability to stress occurs in central life domains than in one's peripheral life domains

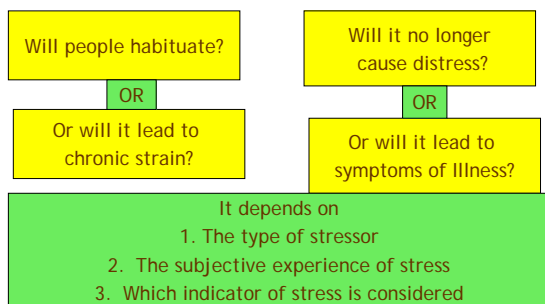
What makes events stressful? Must stress be perceived?

- To what extent is stress
 - A subjective experience?
 - An objective experience?
- Air Traffic Controller Study
 - Subjective perceptions studied
 - Objective measures:
weather, amount of air traffic
- Both measures independently predicted psychological distress and health complaints

What makes events stressful? Can people adapt to stress?



What makes events stressful? Can people adapt to stress?



What makes events stressful?
Can people adapt to stress?

Psychological Adaptation

- Most people adapt to moderate or predictable stressors
 - Environmental noise, crowding
- Vulnerable populations (children, elderly, the poor)
 - already experience little control over environments
 - do seem adversely affected

What makes events stressful?
Can people adapt to stress?

Physiological Adaptation

- Evidence for both
 - Habituation *AND*
 - Chronic Strain
- Immune system compromised by long-term stress

What makes events stressful?
Must a stressor be ongoing?

Anticipation

- Anticipating a stressor can be as stressful as its actual occurrence
- Medical Student Blood Pressure Study
 - The day before an exam blood pressure was as high as during the exam itself

We've got to talk about our relationship soon

←

I'm getting worried about tomorrow's exam

←

**What makes events stressful?
Must a stressor be ongoing?**

Aftereffects of Stress

- Decreases in performance
- Decreases in attention span
- Believed to be produced by residual
 - Physiological
 - Emotional
 - Cognitive draining

**What makes events stressful?
Must a stressor be ongoing?**

- Adverse aftereffects of stress are well documented
 - Cognitive tasks and social behavior affected
 - The aftereffects may be more devastating than the stressful event itself
- Cognitive costs
 - Stronger for unpredictable and uncontrollable events

**Sources of Chronic Stress:
Post-Traumatic Stress Disorder**

Box 6.2

A person suffering from PTSD has undergone a highly stressful event:
war, rape, earthquake

Reactions may include:
psychic numbing,
reliving aspects of the trauma,
intensification of adverse reactions to other stressors,
sleep disturbances

Symptoms persist long after the event is over

What makes events stressful?

Must a stressor be ongoing?

- Box 6.3 Dormitory Crowding - An Example of Learned Helplessness
- Living on long corridors
 - Repeated encounters with other students
- Living on short corridors or in suites
 - Few forced encounters
- Results: Those on long corridors had repeated uncontrollable personal interactions with others

How Stress has been Studied: In the Laboratory

- Acute Stress Paradigm
 - People are taken into the laboratory
 - Exposed to a short-term stressful event
 - Counting backward by 7s
 - The impact of the stress is observed
 - Physiological responses
 - Neuroendocrine responses
 - Psychological responses

How Stress has been Studied: Inducing Disease

- Measure levels of psychological stress
- Expose participants to virus
- Assess if the person gets ill (and how ill)
- RESULTS:
When life is stressful, exposure leads to a greater expression of illness

How Stress has been Studied: Stressful Life Events (SLE)



- Developed by pioneers in stress research, Holmes and Rahe
- Identified events that force people to make changes in their lives
- Scores on the SRRS predict illness
- Relationship is modest

How Stress has been Studied: Daily Stress

- Minor stressful events (daily hassles) would include events such as
 - Being stuck in a traffic jam
 - Waiting in line
 - Making small decisions
- Daily hassles
 - reduce psychological well-being over short term, produce physical symptoms
 - Worsen symptoms in people already ill
- Chronic Strain
 - A stressful experience that is an usual but continuously stressful aspect of life



Sources of Chronic Stress: Post-Traumatic Stress Disorder

- Exposure to a disaster, such as the World Trade Center attack
 - May produce chronic mental health effects
 - May produce chronic physical health effects

Sources of Chronic Stress:
Long-Term Effects of Early Stressful
Experiences

- Do stressors in early childhood have a delayed effect later in life?
- Retrospective research **and** Prospective longitudinal studies
 - support conclusions about the delayed effects of being raised in “risky families”
- Vietnam War vets with PTSD
 - had more illnesses in old age

Sources of Chronic Stress:
Chronic Stressful Conditions

- Chronic strain of long term kind
 - Poverty, bad relationship, high stress job
- Lasting more than two years
 - implicated in development of depression
- Chronic life stress may lead to exaggerated sympathetic reactivity

Sources of Chronic Stress:
Chronic Stress and Health

- There are clear social class differences in rates of specific diseases
- There are chronic stressors that vary with social class: poverty, exposure to crime
- Jobs that are high in demands but low in control are tied to the development of cardiovascular disease

Sources of Chronic Stress: Stress in the Workplace

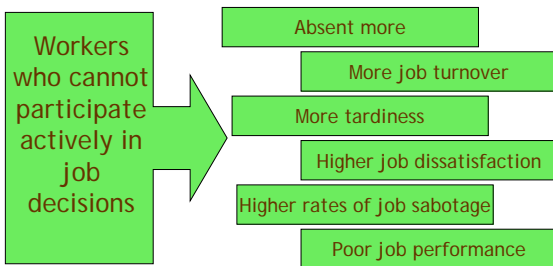
- Studies of occupational stress
 - Help identify common, everyday stressors
 - Provide evidence for stress-illness relationship
 - May lead to intervention to prevent stress
 - Help rein in costs to the economy for physical and mental health disorders

Sources of Chronic Stress: Stress in the Workplace

- Physical hazards
- Overload
- Ambiguity and role conflict
- Lack of amiable social environment
- Lack of control over work
- Unemployment

Sources of Chronic Stress: Stress in the Workplace

Other Occupational Outcomes



**Sources of Chronic Stress:
Reducing Occupational Stress**

1. Reduce physical stressors
noise, crowding
2. Minimize unpredictability
3. Involve workers in decisions when possible
4. Add interest to jobs when possible
5. Promote social relationships
6. Focus on rewards, not punishments
7. Watch for early signs of stress

**Sources of Chronic Stress:
Combining Work and Family Roles**

- Women and multiple roles
 - Home and work responsibilities may conflict, thus enhancing stress
 - More than half of married women with young children are employed
- Protective effects of multiple roles
- Men and multiple roles
 - Men need satisfaction in parent role, too
- Children and adolescents have their own sources of stress
