What is Stress?

• Stress is a negative emotional experience accompanied by predictable changes in...

...that are directed either toward altering the stressful event or accommodating to its effects.

Stress: Theories & Models

Walter Cannon introduced the concept of homeostasis, & the fight or flight response

- Perceived threat results in the activation and mobilization of the body’s coping resources
- Fight:
- Flight:

Hans Selye defined stress as “the non-specific result of any demand upon the body, be the effect mental or somatic”
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

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General Adaptation Syndrome

Stressor
...a demand placed on the body that requires adjustment and brings about the stress reaction.

G. A. S.
3 Stages:
1. Alarm
2. Resistance
3. Exhaustion

Healthy Adaptation or Illness

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General Adaptation Syndrome

1) **Alarm**: acute response to stress to mobilize defenses
   - similar to fight or flight response
2) **Resistance**: if stressor becomes chronic then body adapts & appears normal while maintaining balance until resistance is depleted
3) **Exhaustion**: stressor too severe or continues for too long then ability to resist breaks down

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Theoretical Contributions:
Criticisms of Selye’s Model

- Limited role given to psychological factors
- Not all responses to stress are uniform
- Stress is assessed as an outcome
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

• Sympathetic arousal underlying fight-or-flight
• Females’ responses to stress evolved to care for self and for offspring

Stress: Theories & Models

Lazarus & Folkman describe stress as a relationship between a person & the environment that is appraised by the person as taxing or exceeding his or her resources & endangering his or her well being

• Oxytocin, a stress hormone, may be significant in female stress responses
• Animals and humans with high oxytocin levels show behaviors that are
• Under stress, females are more likely to turn to others than are males
Cognitive Transactional Models

Emphasize the relationship between the individual & their environment, and its appraisal

3 Types of Cognitive Appraisal

Primary appraisal:
Secondary Appraisal:
Reappraisal:

Secondary Appraisal

- Are my coping abilities and my resources enough to overcome the

of this event?

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

Theoretical Contributions: Psychological Appraisal

Primary appraisal process
  • Is this event positive?
  • Is this event neutral?
  • Is this event negative?

- Appraisal on 3 key dimensions

Cognitive Transactional Models

Stressful = harm/loss, threat, & challenge

Interaction of Primary & Secondary appraisal \(\rightarrow\) emotional reaction to stressor

Behavioral responses to stressor
  1. Confrontive action against stressor
  2. Withdrawal from threatening event
Lazarus and Folkman’s Theory

Stressor

Primary Appraisal: Is Stressor Negative?
Can be negative if it involves harm or loss, threat, or challenge (chance to grow).

Yes  No

Secondary Appraisal: Can I Control the Situation?
If coping resources are adequate, then consider options: problem-focused or emotion-focused coping strategies.

Theoretical Contributions:

Physiology of Stress - SAM

- Sympathetic-adrenomedullary system
- Cannon’s “Fight-or-Flight” Response
- Sympathetic arousal stimulates
  - _______ of the adrenal glands to secrete
  (______________________________)
- Effects:

Physiology of Stress - HPA Axis

- Selye’s General Adaptation Syndrome
- Hypothalamus releases
  - ____________________________, stimulating ___________ to release
  ________________
- _______ stimulates the adrenal
  _______ to release ____________, especially ____________
Routes by Which Stress May Produce Disease: Figure 6.4

Theoretical Contributions: Physiology – Individual Differences
- People differ in reactivity
- Reactivity
  - Degree of change in responses as a result of stress
- Reactivity to stress can affect vulnerability to illness
- Personality and health models – CH7

Theoretical Contributions: Physiology of Stress: Allostatic Load
- Allostasis
  - Body’s physiological systems fluctuate to meet stressful demands
- Allostatic load
  - Physiological costs of chronic exposure to fluctuating neural/neuroendocrine responses from repeated/chronic stress
- This wear and tear can lead to illness

Allostatic load
- Fluctuation of physiological systems to meet the demand of stress over time
- Heightened response → wear and tear
How do you assess stress?

Multiple measures may include

- Self-reports of
- Behavioral measures
- Physiological measures
- Biochemical markers

Holmes-Rahe Life Events Rating Scale (1967)

<table>
<thead>
<tr>
<th>Event</th>
<th>Rating</th>
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<tbody>
<tr>
<td>Death of spouse</td>
<td>100</td>
</tr>
<tr>
<td>Divorce</td>
<td>73</td>
</tr>
<tr>
<td>Marital separation</td>
<td>65</td>
</tr>
<tr>
<td>Jail term</td>
<td>63</td>
</tr>
<tr>
<td>Death of family member</td>
<td>63</td>
</tr>
<tr>
<td>Personal injury/illness</td>
<td>53</td>
</tr>
<tr>
<td>Marriage</td>
<td>50</td>
</tr>
<tr>
<td>Fired at work</td>
<td>47</td>
</tr>
<tr>
<td>Retirement</td>
<td>45</td>
</tr>
<tr>
<td>Pregnancy</td>
<td>40</td>
</tr>
<tr>
<td>Business readjustment</td>
<td>39</td>
</tr>
<tr>
<td>Begin or end school</td>
<td>26</td>
</tr>
<tr>
<td>Trouble with boss</td>
<td>23</td>
</tr>
<tr>
<td>Change in residence</td>
<td>20</td>
</tr>
<tr>
<td>Vocation</td>
<td>13</td>
</tr>
<tr>
<td>Christmas</td>
<td>12</td>
</tr>
</tbody>
</table>

Social Readjustment Rating Scale

Scoring

- Under 100 = Very low stress level
- 100 to 199 = typical stress level
- 200 to 299 = moderately high stress level
- over 300 = very high stress level

Problems? Name 2

What items would you add to update this scale?

How Stress has been Studied:
Inducing Disease

Stone et al. (1992) exposed students to a cold virus to see who would get a cold

- They found that students who got a cold experienced significantly more life events (pos. & neg.) in the previous year

Cohen et al. (1998) found that duration of life event was even more important than the severity of the stress

- Acute/severe stress < 1 month
- Severe/chronic stress > 1 month
How Stress has been Studied: Daily Stress

- Minor stressful events (daily hassles) would include events such as
  - Daily hassles
  - Chronic Strain

What makes events stressful? Dimensions of Stressful Events

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

WHY?

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

What makes events stressful? Can people adapt to stress?

Psychological Adaptation
- Most people adapt to moderate or predictable stressors
- Vulnerable populations (children, elderly, the poor)
Sources of Chronic Stress: Chronic Stressful Conditions
- Chronic strain of long term kind
- Lasting more than two years
- Chronic life stress may lead to

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

Job Strain – Karasek et al., 1981

<table>
<thead>
<tr>
<th>Demands</th>
<th>Control</th>
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<tbody>
<tr>
<td>High</td>
<td>Active</td>
</tr>
<tr>
<td>Low</td>
<td>Passive</td>
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Sources of Chronic Stress: Combining Work and Family Roles
- Women and multiple roles
- Protective effects of multiple roles
- Men and multiple roles
- Children and adolescents have their own sources of stress
Stress

Direct physiological Effects
- Elevated lipids
- Elevated BP
- Decreased Immunity
- Increased hormonal activity

Health Habit Effects
- Increased Smoking
- Increased alcohol use
- Decreased Nutrition
- Decreased sleep
- Increased Drug use

Health Behavior Effects
- Decreased compliance
- Increased delay in seeking care
- Obscured symptom profile
- Decreased likelihood of seeking care