STRESS, AND HEALTH

CHAPTER 16

LEARNING GOALS

Discuss the definition of stress and how it is experienced
  • Describe the stress response and explain how it is adaptive
  • Discuss Selyé’s General Adaptation Syndrome
  • Explain the role of cognitive appraisals in stress
  • Specify the relationship between personality, self-control, and stress

Identify the role stress in disease
  • Describe the effects on the cardiovascular system and the immune system

Discuss how to cope with stress
THINK

Pet Peeves

- Everyone has minor annoyances in life
- List your favorite Top 3 pet peeves
- Rate how much stress you feel when you encounter each one of the peeves
  - 0 = no stress
  - 100 = highest stress possible
- What patterns do you see?

OUTLINE

- Introduction
- Models of Stress
- Stress and Disease
- Coping with Stress
- Control
- Personality
EXPERIENCING STRESS

The term stress means different things to different people
- Lay person – tension and unpleasant feelings
- Athlete – training before a contest
- Business – work load and time pressure

Psychologists use different definitions and measure it in different ways
- Major life events
- Daily hassles
- Biological measures

Most common definition focuses on the Person-Environment Fit, where poor fit results in stress

DEFINITIONS OF STRESS

Stress as a physical force
- Most simplistic view
- Emphasis on external events
- Need to simply resist external pressure

Stress as an internal tension
- Psychodynamic
- Internal war to cope with the overwhelming
- May eventually lead to physical disease

Stress as body arousal
- Medical research shows that people react physiologically the same way regardless of stress in the environment
AUTONOMIC NERVOUS SYSTEM

Sympathetic Nervous System

Rapid Response System
Important in more-acute stressors
Results in activation of Sympathetic Nervous System

HPA AXIS

Hypothalamus
Releasing factor
Anterior pituitary
ACTH (through blood)
Adrenal cortex
Cortisol
MODELS OF STRESS

Fight or Flight
  - Oldest model, proposed by Walter Cannon
  - Physiological response is necessary for survival

General Adaptation Syndrome
  - Hans Selyé was not the first to use the term stress
  - Is more known for his work on the link between stress and disease
  - Started with environmental focus
  - Non-specific response to the environment
  - Homeostasis
GENERAL ADAPTATION SYNDROME

Stressor: The stressor may be threatening or exhilarating.

Homeostasis: The body systems maintain a stable and consistent (balanced) state.

Illness and death: The body's resources are not replenished and/or additional stressors occur; the body suffers breakdowns.

Return to homeostasis

PROBLEM WITH GAS

Not all people respond to the same stressor in the same way
MODELS OF STRESS

Cognitive Transactional Model
- Emphasis on perceptions and interpretations of the event.
- The model takes into consideration that how you view or appraise the situation makes all the difference in terms of stress.
- Faced with the same situation, two people will react completely differently.

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STRESS AND DISEASE

Exams can be dangerous to your health
After exam cold or flu?
Not everyone gets sick
- Exposure ≠ Contraction
- Contraction ≠ Symptoms or illness
Hardy Personality Type
- Commitment
- Control
- Challenge
STRESS AND DISEASE

- Exams can be dangerous to your health
- After exam cold or flu?
- Depends on personality
  - Type A = higher blood pressure
  - High-stress and low-stress people were given nasal drops that contained a common cold virus.
  - the high-stress people who received the virus were more likely to develop cold symptoms

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COPING WITH STRESS

Coping definition
- Cognitive and behavioral efforts
- to manage the specific internal and external demands
- appraised as taxing or exceeding the resources of the individual

Approach versus Avoidance
- Approach: Confronting problem, gathering information, taking direct action
- Avoidance: Minimize importance of event

Problem-focused versus Emotion-focused
- Problem-focused: proactive attempt to reduce demands, increase resources
- Emotion-focused: Manage emotions evoked by event

WHAT HELPS RELIEVE STRESS?

Social Support
Reappraisal (emotion regulation)
Relaxation
  Biofeedback
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CONTROL AND STRESS

Attributions of control over the environment are important in the experience of stress

Andy Baum and Three Mile Island

- Three Mile Island was a nuclear power plant near Harrisburg, PA that had a core meltdown in 1979
- Many people started to report illnesses and moved away from Harrisburg
- Health effects or lack of control?
- Compared people with radon gas in basement to people who stayed near the power plant
- More stress with TMI accident compared with people who were exposed to radon gas
CONTROL AND STRESS

Langer and Rodin (1976)

- Nursing home residents
- One group was given more control: move furniture, choose menu items, sit with different people, take care of a plant
- Control group: no change in routine, were given a plant but were not asked to care for it
- Overall results showed that having more control and more responsibility was very beneficial for the first group
- Results were maintained for 18 months after the study

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PERSONALITY AND STRESS

Sir William Osler (1892): Concept of coronary-prone personality

Rosenman and Friedman – Personality factors in heart disease

- Type A: excessive competitive drive, impatience, hostility and vigorous speech patterns
- Type B: lack of these characteristics, easy going coping style
- Early studies revealed a positive association between Type A and CHD comparable to other known risk factors
- However, later studies failed to find predicted relationship

PERSONALITY AND STRESS

Hostility

- **Emotional component**: anger, contempt, scorn
- **Behavioral component**: verbal and physical aggression, cause harm
- **Cognitive component**: cynicism, mistrust, interpret aggressive intent in others
- Review of all studies published prior to 1995 found that Hostility predicted CHD
- Predict incidence of CHD in healthy adults, and is associated with severity and progression of CAD
- Social support does not help
- Conflict and social isolation
## PERSONALITY AND STRESS

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STRESS MANAGEMENT

What to do about stress?

• Gain control over your environment
• Need to find ways to decrease stress after it happens
• Time management
• Relaxation techniques
  • Progressive muscle relaxation
  • Meditation
• Exercise
  • Aerobic exercise is very effective in improving mood and decreasing stress

STRESS MANAGEMENT

Ongoing study in Alameda County CA (Berkley)

Identified health related behaviors (More the better, >6)

• Getting 7-8 hours of sleep a night
• Breakfast
• Rarely eat between meals
• Drinking moderate amounts
  • 1 drink a day better than 0 and more than 2
• No smoking
• Exercise regularly
• Maintain healthy weight