

Chapter 7

Physical Disorders and Health Psychology

Psychological and Social Factors that Influence Health

- Psychological, Behavioral, and Social Factors
 - Are major contributors to medical illness and disease
 - Examples include genital herpes, AIDS, cancer, cardiovascular diseases
- DSM-IV and Physical Disorders
 - Coded on Axis III
 - Recognize that psychological factors can affect medical conditions
- Psychological Approaches to Health and Disease
 - Behavioral medicine – Prevention, diagnosis, treatment of medical illness
 - Health psychology – Psychological factors involved in the promotion of health

How Do Psychological and Social Factors Influence Medical Illness?

- Two Primary Paths
 - Psychological factors can influence basic biological processes
 - Long-standing behavior patterns may put people at risk for disease
 - AIDS is an example of both forms of influence
- 50% of the Leading Causes of Death in the U.S. Are Linked to Behavior Patterns

Psychosocial factors directly affect physical health

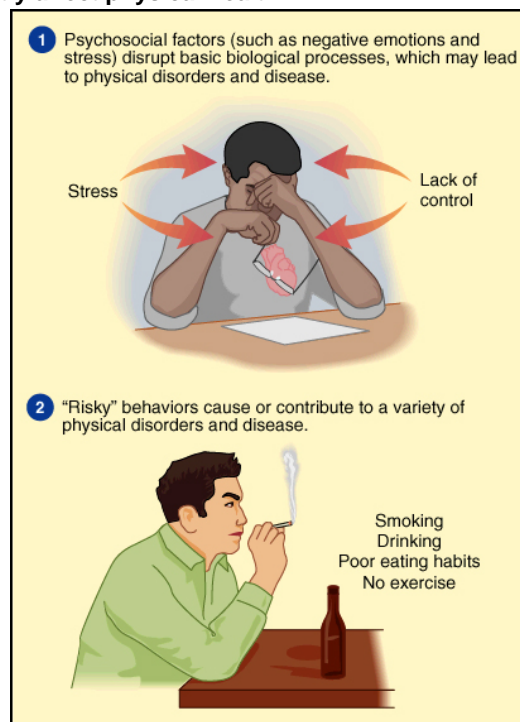


Figure 7.1

Overview of Stress and the Stress Response

- Nature of Stress
 - Stress – Physiological response of an individual to a stressor
 - Stress responses vary from person to person
- The Stress Response and the General Adaptation Syndrome
 - Phase 1 – Alarm response (sympathetic nervous system arousal)
 - Phase 2 – State of resistance (mobilized coping and action)
 - Phase 3 – State of exhaustion (chronic stress, permanent damage)

Physiology of Stress

- The Biology of Stress
 - Stress activates the sympathetic branch of the ANS
 - Stress activates the HPA axis, producing cortisol
 - The relation between the hippocampus and HPA activation
- The Function of the Hippocampus in HPA-Stress Response Cycle
 - Hippocampus – Part of the limbic system and highly responsive to cortisol
 - Hippocampus helps to turn off the HPA cycle
 - Chronic stress may damage cells in the hippocampus
 - Damage to hippocampal cells interferes with stopping the HPA loop

Psychological and Social Factors: Their Relation to Stress Physiology

- Primate Research: High and Low Social Status
 - High cortisol is associated with low social status
 - Low social status is associated with fewer lymphocytes and immune suppression
 - Dominant males benefit from predictability and controllability
- Vulnerabilities Operative in Mental Illness Contribute to Physical Illness
 - Stress, perceived uncontrollability, low social support, negative affect
- Interpretation of Physiological Response and Situation Seems Critical

Responses to threats and challenges range on a continuum from depression to excitement

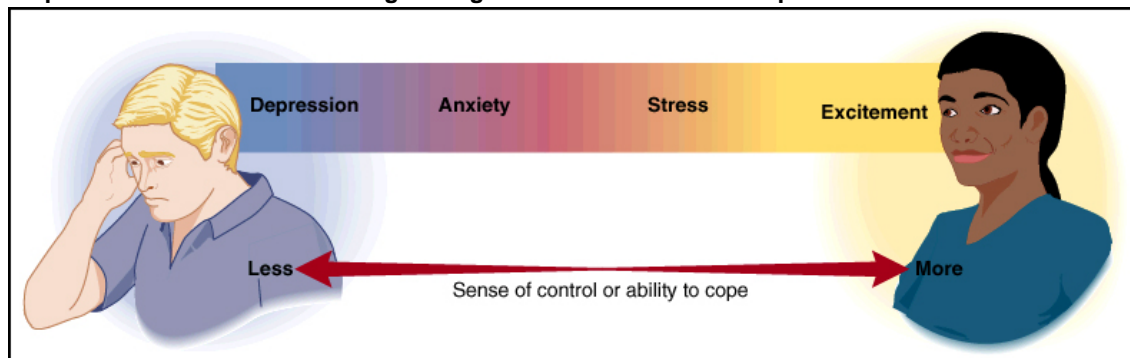


Figure 7.2

Stress and the Immune System

- Divisions of the Immune System
 - Humoral branch – Blood and other bodily fluids
 - Cellular branch – Protects against viral and parasitic infections
- Function of the Immune System
 - Identify and eliminate antigens (i.e., foreign materials) from the body
 - Leukocytes are the primary agents

Stress and the Immune System (cont.)

- Leukocytes: Subtypes and Functions
 - Macrophages – Body's first line of defense, surround and destroy antigens, signal lymphocytes
 - Lymphocytes – B cells (humoral branch) and T cells (cellular branch)
 - B cells produce antibodies that neutralize antigens
 - memory B cells that are stored for the next encounter w/the antigens

Stress and the Immune System (cont.)

- T cells
 - Killer T cells directly destroy antigens
 - Helper T cells (T4) signal B cells to produce antibodies and the other T cells to attack
 - Can be overactive leading to autoimmune diseases (rheumatoid arthritis)
 - Suppressor T cells stop production of antibodies when not needed
 - Memory T cells
- Stress Dramatically and Quickly Alters Immune Function

An overview of the immune system

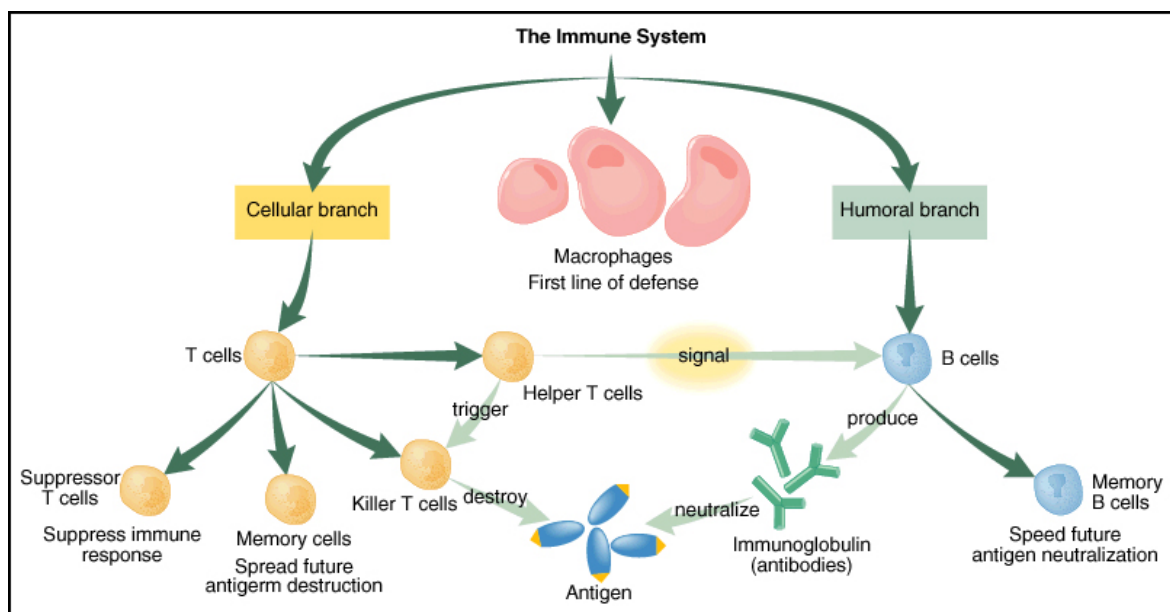


Figure 7.3

Pathways through which psychological factors might influence onset and progression of immune system-mediated disease

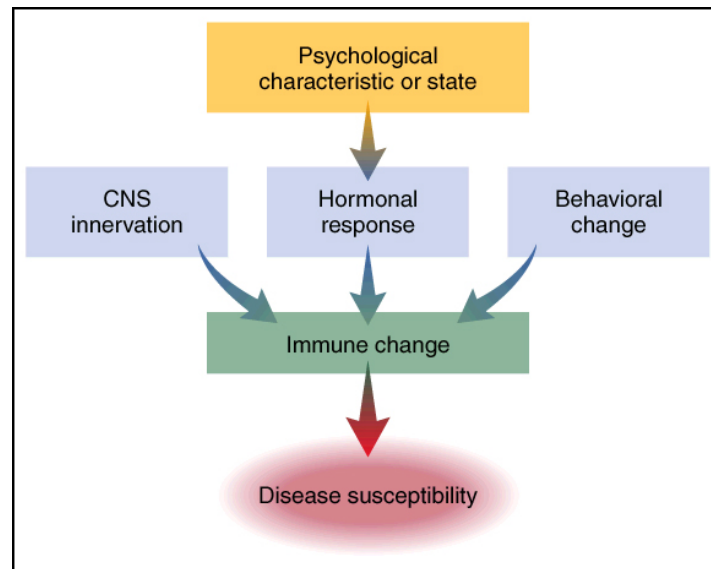


Figure 7.4

Acquired Immunodeficiency Virus (AIDS)

- Nature of AIDS
 - Course from HIV to full blown AIDS is variable
 - Median time from initial infection to full-blown AIDS is 7.3 to 10 years or more
 - AIDS is diagnosed when several serious diseases (e.g., pneumonia, cancer, dementia, etc.) appear
 - Stress of getting an AIDS diagnosis can be devastating
- Role of Stress Reduction Programs
 - Higher stress and low social support speed progression of disease
 - Reduce stress of diagnosis, improve immune system functioning
- AIDS is Influenced by Psychological, Behavioral, and Social Factors

Cancer: Psychological and Social Influences

- Field of Psychoncology
 - Study of psychological factors and their relation to cancer
- Psychological and Behavioral Contributions to Cancer
 - Perceived lack of control
 - Inadequate or inappropriate coping responses (e.g., denial)
 - Overwhelming stressful life events
 - Life-style risk behaviors
 - Psychological factors also are involved in chemotherapy
- Cancer is Influenced by Psychological, Behavioral, and Social Factors

Cardiovascular Problems: Hypertension

- Cardiovascular System: An Overview

- Heart, blood vessels, and mechanisms for regulating their function
- Hypertension – High Blood Pressure
 - Major risk factor for stroke, heart disease, and kidney disease
 - Causes wear and tear of the blood vessels
 - Essential hypertension is the most common form
- Contributing Factors and Associated Features of Hypertension
 - Affects 20% of all adults between the ages of 25 and 74
 - African Americans are most likely to develop hypertension relative to Caucasians
 - Salt, fluid volume, sympathetic arousal, stress, and lifestyle are contributors
 - Core psychological contributors include anger and hostility
- Hypertension Is Influenced by Psychological, Behavioral, and Social Factors

Cardiovascular Diseases: Coronary Heart Disease (CHD)

- Coronary Heart Disease (CHD)
 - Blockage of the arteries supplying blood to the heart muscle
 - Angina pectoris – Chest pain from partial obstruction of the arteries
 - Atherosclerosis – Accumulation of artery plaque (i.e., fatty substances)
 - Ischemia – Deficiency of blood supply because of too much plaque
 - Myocardial infarction – Heart attack involving death of heart tissue; results when an artery becomes completely clogged w/plaque
- Psychological and Behavioral Risk Factors for CHD
 - Stress, anxiety, anger, poor coping skills, low social support, and lifestyle
 - Classic Type A Behavior Pattern - excessive competitive drive, sense of being pressed for time, particularly anger and negative affect
- CHD Is Influenced by Psychological, Behavioral, and Social Factors

Chronic Pain

- Acute vs. Chronic Pain
 - Acute pain – Follows injury and heals within 1 month on average
 - Chronic pain – Does not decrease with healing and treatment
 - Severity of pain does not predict one's reaction to it
- Pain: Some Clinical Distinctions
 - Subjective vs. overt behavioral manifestations of pain
- Psychological and Social Factors in Chronic Pain
 - The role of perceived control over pain and its consequences
 - Role of negative emotion, poor coping skills, low social support, compensation
 - Social reinforcement for pain behaviors
- Gate Control Theory: An Integrative Account
- Endogenous Opioids: Our Body's Response to Pain

Chronic Pain

- Gate Control Theory: An Integrative Account
 - Dorsal horns of spinal column act as a gateway for transmission of pain sensations
 - Determine pattern and intensity of sensations
 - Brain sends signals back to the spinal column, influencing this gating mechanism
- Endogenous Opioids: Our Body's Response to Pain
 - Act like neurotransmitters to inhibit pain

Chronic Fatigue Syndrome: Psychological, Behavioral, and Social Influences

- Nature of Chronic Fatigue (CF)
 - Symptoms include lack of energy, marked fatigue, and pain
 - Most common in females, with incidence increasing in Western countries
 - No evidence to support link with viral infection, immune problems, depression
- Speculation About Causes
 - CF seems related to a high-achievement oriented lifestyle
 - Fast paced lifestyle combines with stress and illness
 - Psychological misinterpretation of after effects of illness
- Treatment
 - Medications are ineffective
 - Cognitive-behavioral interventions appear promising

A complex specific model of chronic fatigue syndrome

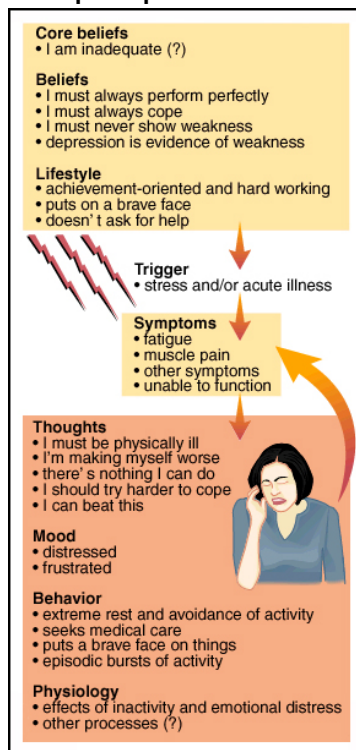


Figure 7.6

Psychosocial Treatment of Physical Disorders

- Biofeedback: An Overview
 - Patient learns to control bodily responses
 - Used with chronic headache and hypertension
- Relaxation and Meditation
 - Progressive muscle relaxation
 - Transcendental meditation (TM)
- Comprehensive Stress Reduction and Pain Management Programs
 - More effective and durable than individual interventions alone

Modifying Behaviors to Promote Health

- Life-Style Practices
 - Many health problems are traceable to lifestyles and behaviors
 - Behavioral risk factors are also influenced by psychological and social factors
 - Prevention and intervention programs target behavioral risks to improve health
- Types of Life-Style Behaviors
 - Injury and injury prevention – Repeated warnings are not enough
 - Injuries are the leading cause of death for people between 1 to 45 years of age
 - AIDS – Highly preventable by changing lifestyle behavioral factors
 - China and smoking cessation programs – Getting children involved
 - Stanford three community study – Success in reducing risk of heart disease; focused on smoking, diet, blood pressure and weight reduction

Results of the Stanford three community study

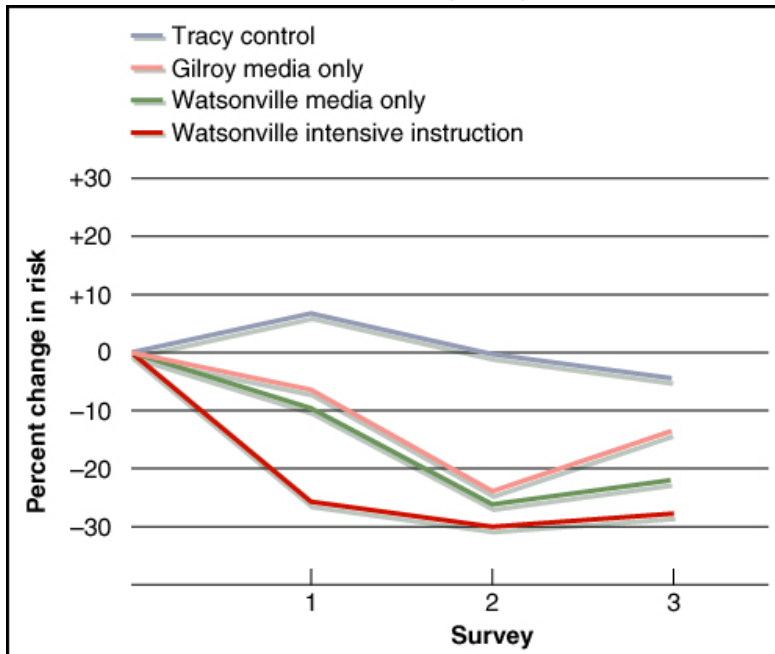


Figure 7.8

Summary of Physical Disorders and Health Psychology

- Psychological Factors Play a Major Role in Physical Disorders
 - Behavioral medicine and health psychology
- Psychological and Social Factors: Their Role in Illness and Disease
 - Several diseases are influenced by the effects of stress on immune function
 - Such influences interact with other psychological and social factors
- Long-Standing Patterns of Behavior and Life-Style Increase Risk for Physical Illness
- Psychosocial Treatments Aim to Prevent or Treat Physical Disorders
 - Comprehensive individual or community programs are best

Discussion Group Questions

- *What are the two ways (i.e., two primary pathways) in which psychosocial factors could influence physical disorders?*
- *Describe the General Adaptation Syndrome and its 3 stages.*
- *Identify and explain one of the psychosocial approaches to the prevention or treatment of physical disorders?*