Chapter Two

Causes of Abnormal Behavior

CHAPTER OUTLINE

- Brief Historical Perspective
- Systems Theory
- Biological Factors
- Psychological Factors
- Social Factors
OVERVIEW

• The cause or etiology of most abnormal behavior remains a mystery.
• Throughout much of the twentieth century many psychologists vowed allegiance to one of four broad theories purporting to explain the etiology of psychology disorders.
• Most psychologists now recognize that abnormal behavior is caused by a combination of biological, psychological, and social factors (Kendler & Prescott, 2006; Rutter & Rutter, 1993).

BIOPSYCHOSOCIAL MODEL

• Biological contributions to abnormal behavior range from imbalanced brain chemistry to genetic predispositions.
• Psychological contributions range from troubled emotions to distorted thinking.
• Social and cultural considerations range from conflict in family relationships to sexual and racial bias.
• This model integrates research on the various contributions related to the causality of abnormal behavior.

BRIEF HISTORICAL PERSPECTIVE:

• The Biological Paradigm
  — Looks for biological abnormalities that might cause abnormal behavior.
  — General Paresis
    • Gave hope that scientists would discover biological causes for other mental disorders.
    • Caused by syphilis, a sexually transmitted disease.
  — To date, specific biological causes have been identified for only some cognitive disorders.
BRIEF HISTORICAL PERSPECTIVE:

• The Psychodynamic Paradigm
  — An outgrowth of the writings of Sigmund Freud (1856-1939).
  — Freud was trained by Jean Charcot, a neurologist.
  — Asserts that abnormal behavior is caused by unconscious mental conflicts that have roots in early childhood.
  — Psychoanalytic theory
    • Id, ego and superego
    • Defense mechanisms

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TABLE 2-1  Some Freudian Defense Mechanisms

**DENIAL**
Insistence that an experience, memory, or need did not occur or does not exist. For example, you completely block a painful experience from your memory.

**PROJECTION**
Attributing one’s own feelings or thoughts to other people. For example, a husband argues that his wife is angry at him when, in fact, he is angry at her.

**REPRESSION**
Suppressing threatening material from consciousness but without denial. For example, you “forget” about an embarrassing experience.

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BRIEF HISTORICAL PERSPECTIVE:

• The Cognitive Behavioral Paradigm
  — Views abnormal behavior—and normal behavior—as a product of learning.
  — Prominent early contributors to learning theory:
    ➡ Wilhelm Wundt
      ➡ Scientific study of psychological phenomena
    ➡ Ivan Pavlov
      — Classical Conditioning
    ➡ B. F. Skinner
      — Operant Conditioning
BRIEF HISTORICAL PERSPECTIVE:

The Cognitive Behavioral Paradigm (continued)

- Classical Conditioning
  - Learning through association
    - US \rightarrow UR
    - CS + US \rightarrow UR
    - CS \rightarrow CR
    - Extinction
      - Occurs once a CS no longer elicits the CR

BRIEF HISTORICAL PERSPECTIVE:

- The Cognitive Behavioral Paradigm (continued)
  - Operant Conditioning
    - Asserts that learned behavior is a function of its consequences
      - Positive reinforcement
      - Negative reinforcement
      - Punishment
      - Extinction

BRIEF HISTORICAL PERSPECTIVE:

- The Cognitive Behavioral Paradigm (continued)
  - John B. Watson
    - Influential proponent of applying learning theory to human behavior.
    - Behaviorism
      - Observable behavior is the only appropriate subject matter for the science of psychology
BRIEF HISTORICAL PERSPECTIVE:

• The Humanistic Paradigm
  — An explicitly positive view of human nature
  — Free will
    • We control, choose, and are responsible for our actions
  — Determinism
    • The scientific assumption that human behavior is caused by potentially knowable factors

TABLE 2.2:

<table>
<thead>
<tr>
<th>Topic</th>
<th>Biological</th>
<th>Psychodynamic</th>
<th>Cognitive-Behavioral</th>
<th>Humanistic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Initial human nature</td>
<td>Competitive, task oriented</td>
<td>Aggressive, social</td>
<td>Neurotic-oriented</td>
<td>Basic goodness</td>
</tr>
<tr>
<td>Cause of abnormality</td>
<td>Genetic, neurochemical, physical damage</td>
<td>Early childhood experiences</td>
<td>Social learning</td>
<td>Frustrations of society</td>
</tr>
<tr>
<td>Type of treatment</td>
<td>Rehabilitation, other somatic therapies</td>
<td>Psychodynamic therapy</td>
<td>Cognitive-behavioral therapy</td>
<td>Noninvasive therapy</td>
</tr>
<tr>
<td>Paradigmatic focus</td>
<td>Bodily function and structure</td>
<td>Unconscious mind</td>
<td>Observable behavior</td>
<td>Free will</td>
</tr>
</tbody>
</table>

The Problem With Paradigms

• Paradigms can both direct and misdirect scientists.
  • Biological paradigm: can overemphasize the medical model
  • Psychodynamic paradigm: can be unyielding in focusing on childhood and the unconscious conflicts
  • Cognitive behavioral paradigm: can overlook social and biological context of human behavior
  • Humanistic paradigm: can be antiscientific
SYSTEMS THEORY

- Integrative approach to science
- Can be considered a synonym for the biopsychosocial model

TABLE 2.3:

<table>
<thead>
<tr>
<th>Level of Analysis</th>
<th>Academic Discipline</th>
</tr>
</thead>
<tbody>
<tr>
<td>Beyond Earth</td>
<td>Astronomy</td>
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<tr>
<td>Supramolecular</td>
<td>Ecology, economics</td>
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<tr>
<td>National</td>
<td>Government, political science</td>
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<td>Organizational</td>
<td>Organizational science</td>
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<tr>
<td>Groups</td>
<td>Sociology</td>
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<td>Organs</td>
<td>Psychology, ethics, theology</td>
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<td>Cells</td>
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<td>Biochemical</td>
<td>Biochemistry</td>
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<td>Chemicals</td>
<td>Chemistry, physical chemistry</td>
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<td>Atoms</td>
<td>Physics</td>
</tr>
<tr>
<td>Subatomic particles</td>
<td>Subatomic physics</td>
</tr>
<tr>
<td>Abstract systems</td>
<td>Mathematics, philosophy</td>
</tr>
</tbody>
</table>


SYSTEMS THEORY

- Holism
  - The whole is more than the sum of its parts
- Reductionism
  - Understands problems by focusing on smaller and smaller units, viewing the smallest possible unit as the true or ultimate cause
- Levels of Analysis
SYSTEMS THEORY

- Causality
  - The view that there are many routes to the same destination (multiple pathways)
  - The same event can lead to different outcomes
  - A predisposition toward developing a disorder
    - Risk factors
  - Causality operates in both directions

- Developmental Psychopathology
  - Emphasizes the importance of developmental norms — age-graded averages — to understanding influences on abnormal behaviors (Cicchetti & Cohen, 1995; Rutter & Garmezy, 1983).
  - Abnormal behaviors:
    - Premorbid history
    - Prognosis

Does a psychology major make you smarter?

- Correlational study
  - The relation between two factors is studied systematically.
  - Correlation coefficient
    - Why does correlation not mean causation?
    - Reverse causality
    - Third variable
    - The correlational method has the weakness that correlation does not mean causation, but the strength that is can be used to study many real-life circumstances.
BIOLOGICAL FACTORS

The Anatomic Structure of the Neuron
- Neurons are the basic building blocks of the brain.
- Soma is the cell body.
- Dendrites receive the messages from other cells.
- Axon is the trunk of the neuron that transmits the messages.
- Synapse is a small gap filled with fluid.
- Neurotransmitters are chemical substances released into the synapse.

Synaptic Transmission
- When an electrical nerve impulse reaches the end of the neuron, synaptic vesicles release neurotransmitters into the synapse. The chemical transmission between cells is complete when neurotransmitters travel to receptor sites on another neuron.
Biological Factors

- Neurotransmitters and Psychopathology
  - Disruptions in the functioning of various neurotransmitters are present among some people with mental disorders.
    - Schizophrenia – dopamine
    - Depression – serotonin
  - Mental health problems are not necessarily caused by “a chemical imbalance in the brain”.

Cerebral Hemispheres

- Forebrain composed of two cerebral hemispheres.
- Left cerebral hemisphere
- Right cerebral hemisphere
- Cerebral cortex
  - Divided into four lobes
    - Frontal
    - Parietal
    - Temporal
    - Occipital

Biological Factors

- Major Brain Structures
  - Bodily functions involved in sustaining life, regulation of stages of sleep
  - Involved in the control of some motor activities (fighting and sex), regulation of sleep
  - Site of most sensory, emotional, and cognitive processes
    - Limbic system
    - Hypothalamus
Biological Factors

• Major Brain Structures and Psychopathology
  – Only the most severe mental disorders have clearly been linked to abnormalities in the neuroanatomy.
  • Stroke
  • Alzheimer’s Disease
  • Schizophrenia

Biological Factors

• Psychophysiology
  – The study of changes in the functioning of the body that result from psychological experiences
  • Psychophysiological responses:
    – Pounding heart
    – Flushed face
    – Tears
    – Sexual excitement

Biological Factors

• Psychophysiology
  – Endocrine System
    • Psychophysiological arousal results from the activity of two different communication systems within the body: the endocrine system and the nervous system.
      – Major components: testes and ovaries, pituitary, thyroid, and adrenal glands
    • Certain abnormalities in the functioning of the endocrine system are known to cause psychological symptoms.
      – Hyperthyroidism
### Biological Factors:

#### AUTONOMIC NERVOUS SYSTEM
- Regulates various body organs
- Responsible for psychophysiological reactions
- Controls activities with increased arousal and energy expenditure
- Sympathetic and parasympathetic nervous system

#### SOMATIC NERVOUS SYSTEM
- Controls voluntary or intentional actions
- Controls muscles

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#### Psychophysiology and Psychopathology
- Overarousal and underarousal can both contribute to abnormal behavior.
- Overactivity of the autonomic nervous system linked to anxiety.
- Chronic autonomic nervous system underarousal found in Antisocial Personality Disorder.
- Psychophysiological assessment useful in objective measurements.

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#### Behavior Genetics
Behavior Genetics

- Genes are ultramicroscopic units of DNA that carry information about heredity.
- Chromosomes are chainlike structures.
- Behavior genetics studies genetic influences on evolution.
- Genotype is an individual's actual genetic structure.
- Phenotype is an expression of the given genotype.

FIGURE 2-5 Patterns of transmission from parents to children.

BIOLOGICAL FACTORS

- Polygenic Inheritance
  - Twin Studies
    - Can provide strong evidence about genetic and environmental contributions to a disorder
    - Concordance rate
    - Influenced by more than one gene (Gottesman, 1991)
  - Adoption Studies
  - Probands
  - Genetics and Psychopathology
FIGURE 2-6 Single Gene and Polygenetic Inheritance

FIGURE 2-7 A gene-environment interaction occurs when genetic risk combines with environmental stress to produce a mental disorder.

PSYCHOLOGICAL FACTORS

• Human Nature
  – Evolutionary Psychology
    • The application of principles of evolution to our understanding of the animal and human mind
  • Natural selection: the process through which successful inherited adaptations to environmental problems become more common over successive generations of offspring
**PSYCHOLOGICAL FACTORS**

- Human Nature
  - Attachment Theory: John Bowlby (1907-1990)
    - Infants form attachments early in life—special and selective bonds with caregivers
    - Theory based on ethology, the study of animal behavior
    - Secure or insecure attachments
      - Uncertain or ambivalent parent-child relationships

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**Attachment Theory**

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**PSYCHOLOGICAL FACTORS**

- Human Nature
  - Dominance
    - The hierarchical ordering of a social group into more- and less-privileged members
    - Dominance observed in human as well as other animal social groups
    - Dominance competition is basic to sexual selection (Buss, 2009).
PSYCHOLOGICAL FACTORS

• Human Nature
  – Temperament
    • Characteristic styles of relating to the world
    • Consists of five dimensions: The “Big Five”  
      (McAdams & Pals, 2006; Zuckerman, 1991)
      – Openness to experience
      – Conscientiousness
      – Extraversion
      – Agreeableness
      – Neuroticism

PSYCHOLOGICAL FACTORS

• Human Nature
  – Emotions
    • Internal feeling states
    • Researchers have used statistical analysis to reduce
      our lexicon of feelings to six basic emotions
      (National Advisory Mental Health Council, 1991):
      Love      Anger
      Joy       Sadness
      Surprise  Fear

PSYCHOLOGICAL FACTORS

• Learning and Cognition
  – Modeling: Albert Bandura
    • Learning through imitation
  – Cognition and Social Cognition
    • Cognitive psychologists often draw analogies
      between human thinking and computers.
    • Attributions: perceived causes or people’s
      beliefs about cause-effect relations
PSYCHOLOGICAL FACTORS

• The Sense of Self
  – Erik Erikson (1968): identity is an integrated sense of self.
  – Other theorists: we do not have one identity but many selves.
  – Self-control
    • Learned through the process of socialization
    • Externalized rules become internalized

Sense of Self

Brain imaging shows deterioration caused by frontotemporal lobar degeneration after just 15 months. The ability to self-reflect is lost as a result of the disease.

PSYCHOLOGICAL FACTORS

• Stages of Development
  – Developmental stages: periods of time marked by age and/or social tasks during which children or adults face common social and emotional challenges
  – Freud – psychosexual
    • Childhood
  – Erikson – psychosocial
    • Crises
    • Development continues throughout lifespan
SOCIAL FACTORS

• Close Relationships
  – Marital Status and Psychopathology
    • Factors are clearly correlated
    • Does marital status cause the problems?
    • What is the role of genes? Gene-environment correlation
  – Social Relationships
    • Social support

SOCIAL FACTORS

• Gender and Gender Roles
  – Gender roles may influence the development, expression, or consequences of psychopathology.
• Prejudice, Poverty, and Society
  – Increase the risk for psychological disorders (National Advisory Mental Health Council, 1995)
  – Poverty increases exposure to chemical toxins.
  – Societal practices, beliefs, and values help shape the definition of abnormal behavior.