Chapter 2
Current Paradigms in Psychopathology and Therapy
Multidimensional-Integrative Approach

- Case study of Judy (Barlow & Durand, 2001)
- Cohen’s (1999) “Saturday Side” – “Sunday Side” distinction
- Saturday Side: Ecopathology
- Sunday Side: Behavior Genetics & Biology
Cohen’s Guiding Hypotheses

The influence of hereditary & prenatal life (nature) is particularly strong.
The influence of rearing & family life (nurture) is surprisingly weak.
The effects of nature and nurture are surprisingly perverse (and unpredictable).

Cohen (1999, p. 9)
The Biological Paradigm

• The biological paradigm (medical model) suggests that alterations of biological processes result in abnormal behavior.

• Biological processes may include:
  – Heredity
  – Imbalances of brain chemistry
  – Disordered development of brain structures
    • Prenatal factors (e.g., fetal infection, maternal abuse of nicotine, alcohol, or other drugs)
    • Postnatal factors (e.g., trauma affecting limbic-hypothalamic-pituitary-adrenal axis; Cicchetti & Walker, 2001)
Behavior Genetics

- **Behavior genetics** is the study of how individual differences in genetic makeup contribute to differences in behavior
  - **Genotype** is the total genetic makeup, composed of genes
  - **Phenotype** is the observable behavioral profile
    - The phenotype can change over time as a function of the interaction of genes and environment
    - Clinical syndromes are disorders of phenotype, not of genotype

- **Diathesis-stress model**
  - Phenotype results from an interaction between genotype and environment.
    - e.g., Poor nutrition may inhibit growth.
  - Most mental disorders are not directly inherited.
    - Underlying genetic vulnerability plus environmental stressor may trigger development of disorder.
Genetic Contributions

- Darwin’s theory of natural selection
- Mendel’s theory – single gene effects
- Multifactorial inheritance
- Heritability
- Environmentality
  - Shared influences
  - Unshared influences

(Willerman & Cohen, 1990, pp. 173-198)
Four Methods of Uncovering Genetic Influences

1. **Family Method**
   - The closer the blood relationship you have with someone, the more genetic material you have in common.
   - **First-degree relatives**
     - Parents/siblings - 50% shared genetic material
   - **Second-degree relatives**
     - Aunts/uncles/grandparents - 25% shared genetic material
     - Cousins - 12.5% shared genetic material
   - If a mental disorder is genetically influenced, relatives who are genetically close to **proband** or **index case**, are more likely than those who are genetically distant, to also have the disorder.
Four Methods of Uncovering Genetic Influences

2. **Twin studies**
   - Two types of twins
     - *Monozygotic* (MZ) Identical (share 100% of genes)
     - *Dizygotic* (DZ) Fraternal (share 50% of genes)
   - Twin method identifies the disorder of interest in one of the twins and then determines the likelihood (*concordance*) of whether the other twin will also have the same disorder. If MZ twin pairs are more *concordant* for a disorder than DZ twin pairs, the disorder has a heritable component
     - e.g., schizophrenia
   - *Equal environment assumption*
     - Environmental factors that may influence the development of a disorder are equal for both types of twin pairs.
Four Methods of Uncovering Genetic Influences

3. *Adoptees Method*

determines whether a child born to a person with a disorder (but adopted out at birth and raised away from the biological parent) will develop the same disorder

- Look at ways that children who are adopted very early in life are similar to their biological parents.
- When children raised by adoptive parents are more like biological parents, evidence that genetic predisposition plays a role in disorder.
  - Example (Rosenthal et al., 1975, illustrating cross-foster adoptee method)
Four Methods of Uncovering Genetic Influences

4. **Linkage Analysis**
   - Goal is to uncover the gene involved in the disorder
   - Blood samples are taken from families in which several members have a particular disorder.
   - *Genetic marker*
     - A characteristic whose genetics are well understood.
   - When disorder co-occurs with *genetic marker*, we have information about the gene on which the disorder is located.
Genes & Psychopathology

• No single gene
• Less than 50% contribution [in comparison to 62% heritability for IQ (McClearn et al., 1997)]
  – Inherit predisposition, not psychological disorders
Gene-Environment Interactions

- **Diathesis-Stress Model**
  - Inherit vulnerability tendency ("diathesis")
  - Tendencies activated by life events ("stress")
  - Examples: Schizophrenia, substance abuse, blood-injection injury phobia

- **Reciprocal Gene-Environment Model**
  - Genes lead us to take risks
  - Examples: Divorce, Depression, Impulsivity

- **Nongenomic “Inheritance”** (Barlow & Durand, 2002)
Neurophysiology

- Neurons signal information by releasing packets of chemical transmitters from the axon terminal
  - Chemical molecules bind to receptors on the membrane of adjacent nerve cells
  - Binding in turn changes the electrical activity of the adjacent cell and can trigger an action potential
  - A reuptake process in the axon membrane takes up excess chemical for reuse
Neurons

• Four major parts:
  – Cell body
  – Dendrites
  – Axons
  – Terminal buttons

• Nerve impulse
  – Moves down the axon

• Synapse
  – Small gap between terminal button and dendrites of adjacent neuron.
The Synapse

• **Neurotransmitters**
  – Chemical messengers that are released from the **presynaptic neuron** into the synapse.
    • *Inhibitory* or *excitatory*

• **Postsynaptic Neuron**
  – Contains receptor sites that receive the neurotransmitter.

• **Reuptake**
  – Reabsorption of excess neurotransmitter by the **presynaptic neuron**
Brain Neurochemistry and Abnormal Behavior

• Abnormal behavior could result from:
  – Too much or too little of a specific neurotransmitter owing to changes in synthesis of the transmitter
  – Too much of a specific neurotransmitter owing to changes in reuptake of the transmitter
  – Too many or too few receptors on the postsynaptic neuron membrane
  – Neurotransmitter imbalances in different, interacting neural circuits
- **Agonists**
  - Increase Activity of a Neurotransmitter

- **Antagonists**
  - Decrease or Block a Neurotransmitter

- **Inverse Agonists**
  - Produce Effects Opposite the Neurotransmitter
Major Neurotransmitters in Psychopathology

- Norepinephrine (noradrenaline)
- Serotonin
- Dopamine
- Gamma Aminobutyric Acid (GABA)

Major Neurotransmitter in Psychopathology
Norepinephrine (noradrenaline)
- Alpha and Beta Andrenergic Receptors
- Beta Blockers
Serotonin
- Thought, Emotion, and Behavior
- Inhibition
- Prozac

Norepinephrine (noradrenaline)
- **Dopamine**
  - Exploratory, Pleasure-Seeking behaviors
  - L-DOPA (Agonist)
    - Schizophrenia (too much)
    - Parkinson’s Disease (too little)
- **Serotonin**
- **Norepinephrine (noradrenaline)**
- **GABA**
  - Reduce Overall Arousal and Emotion
  - Valium, Librium, Xanax
  - Make More GABA Available
- **Dopamine**
  - Anxiety and Stress
- **Serotonin**
- **Norepinephrine** (noradrenaline)
Biological Approaches to Treatment

• The biological approach argues that abnormal behavior reflects disorders biological mechanisms (usually in the brain)

• The approach to treatment is usually to alter the physiology of the brain
  – Drugs alter synaptic levels of neurotransmitters
  – Surgery to remove brain tissue
  – Induction of seizures to alter brain function

• Reductionism
  – Psychological functioning should be reduced to simplest biological components.
  – View criticized as too simplistic.
    • Will fail to capture the complexity of a mental disorder.
The Brain: Structure and Function

- Brain Neuroimaging
  - Techniques
    - PET, CAT, MRI, fMRI, QEEG
- Implications for Psychopathology
“Saturday Side”

- Ecopathology facets (Willerman & Cohen)
  - Proactive ecopathology
  - Reactive
  - Transactive
  - Expressive
  - Selective
  - Inventive

- “Ecopathology – psychopathology correlations are modest” (p. 118)
Forging a World (Cohen, 1999)

- Resiliency: capacity to resist ego-threatening conditions (vs. Vulnerability)
- Reversion to Type: tendency toward preferred ways of being despite years of stress
- Proactivity: disposition to select / create environments suitable to the self
- Creativity: capacity for inventive thinking (Cohen, 1999, p. 62)
- Importance of non-shared environmental effects
- Importance of shared environment in mother-infant attachment security: A behavioral genetic study (Bokhorst et al., 2003)
- Genes and social class: New twins study underscores power of the environment (Turkheimer, 2003, as cited by Waters, 2003)
- Environmental trauma (prenatal & postnatal) affecting limbic-hypothalamic-pituitary-adrenal axis; e.g., Cicchetti & Walker, 2001)
- Avoid “evangelism” in the nature-nurture debate (Rutter, 2002)
The Problem of Unpredictability

• Sheer number of possible causes
• There may be unknown, critical events
• Influences may be unique to the individual
• Two types of causality
  – Systematic (involves unique but non-chance influences on behavior)
  – Unsystematic (involves unique but random events)  (Willerman & Cohen, pp. 142-144)
The Psychoanalytic Paradigm

• The core assumption of the psychoanalytic paradigm is that abnormal behavior reflects unconscious conflicts within the person

• The psychoanalytic paradigm is derived from the theories of personality developed by Sigmund Freud
Freud’s Psychoanalytic Paradigm

• Structures of Mind
  – Id
    • Primary Process Thinking
      – Fantasizes satisfaction of desires
    • Operates at the unconscious level
    • Pleasure Principle
  – Ego
    • Secondary Process Thinking
      – Planning, decision-making
    • Operates primarily at the conscious level
    • Reality Principle
      – Navigates desires of ID and demands of reality
  – Superego
    • Contains values and ideals (Conscience)
    • Introjection
      – Child incorporates the values, rules of parents
Psychosexual Development

- Freud argued that personality develops in stages: in each stage the id derives pleasure from a distinct part of the body
  - **Oral**
    - Mouth, lips, gums, & tongue
    - Primary satisfaction from sucking & chewing
  - **Anal**
    - Anus
    - Pleasure derived from feces elimination & retention
  - **Phallic**
    - Pleasure derived from sexual organs
    - Sexual desire for opposite sex parent. Afraid of same sex parent, child *represses* the desire for the opposite sex parent and *identifies* with the same sex parent.
      - Oedipus complex
      - Electra complex
  - **Latent** (6 to 12 years): id impulses are dormant
  - **Genital (Adulthood)**: heterosexual interests are dominant
  - **Fixation**
    - Too little or too much gratification at any stage leads to fixation.
    - When under stress, individual *regresses* to that stage.
<table>
<thead>
<tr>
<th>Defense Mechanism</th>
<th>Definition</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>Repression</td>
<td>Keeping unacceptable impulses or wishes from conscious awareness</td>
<td>A professor starting a lecture she has dreaded giving says, “In conclusion...”</td>
</tr>
<tr>
<td>Denial</td>
<td>Keeping negative events from conscious awareness</td>
<td>A survivor of incest in childhood cannot recall the incident(s) as an adult.</td>
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<tr>
<td>Projection</td>
<td>Attributing to someone else one’s own thoughts or feelings</td>
<td>Someone who hates members of a racial group believes that it is they who dislike him.</td>
</tr>
<tr>
<td>Displacement</td>
<td>Deflecting feelings from their original target to someone else</td>
<td>A child gets mad at a sibling but then acts angrily toward her friend.</td>
</tr>
<tr>
<td>Rationalization</td>
<td>Offering socially acceptable explanations that are not the real reasons for behavior</td>
<td>A parent berates a child out of anger and impatience, then indicates that she did so to “build character.”</td>
</tr>
<tr>
<td>Reaction formation</td>
<td>Unacceptable wishes or impulses are transformed into their opposite</td>
<td>A person with sexual feelings toward children leads a campaign against child sexual abuse.</td>
</tr>
<tr>
<td>Sublimation</td>
<td>Aggressive or sexual impulses are diverted into prosocial behaviors</td>
<td>Someone who has aggressive feelings toward his father becomes a surgeon.</td>
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</tbody>
</table>
The goal of psychoanalysis is **insight** (understanding) of the basis for anxiety.

Techniques of psychoanalytic therapy:

- **Free association**: person says whatever comes to mind; the content is examined by the therapist for **resistances** (areas the person does not wish to talk about).
- **Dream analysis**: Unconscious impulses are expressed during dreams.
- **Interpretation**: Analyst points out to the patient the symbolic (‘real’) meaning of certain of his/her behaviors.
- **Analysis of Transference**: By remaining a neutral figure, the analyst encourages the patient to respond in ways similar to the patient’s response to important figures in the patient’s early life.
Other Forms of Psychoanalysis

• **Ego analysis** views the ego as capable of controlling id impulses and the external environment.

• **Brief therapy** focuses on a few specific problems and involves few sessions.

• **Interpersonal therapy** focuses on current personal problems:
  - Therapist uses empathic listening and makes suggestions for improvement.
Freud’s Legacy

- Freud contributions include the views that:
  - Childhood experiences help shape adult personality (e.g., infant-parent attachment)
  - There are unconscious influences on personality
  - Defense mechanisms help to control anxiety
  - The causes and purposes of human behavior are not always obvious
C.G. Jung’s Analytic Theory

- Growth (Individuation) through unifying opposite tendencies
- Psychological Types
- Ego vs. Self Axes
- Personal UCS “complexes” & collective UCS “archetypes”
- Precursor of humanistic, transpersonal, spiritual approaches
- Open to lay participation (e.g., Austin Jung Society, http://www.jungsociety.org)
Humanistic/Existential Paradigms

- Humanistic/existential paradigms focus on insight into the motivations/needs of the person
  - These paradigms place greater emphasis on the person's freedom of choice (free will)
  - The humanistic paradigm does not focus on how problems develop in a person
Assumptions of Rogers’ Client-Centered Therapy

• Client-centered therapy argues that:
  – People can only be understood from the vantage point of their own feelings
  – Healthy people are:
    • aware of their own behavior
    • innately good and effective
    • purposive and directive
  – Therapy creates conditions under which person makes independent decisions
Client-Centered Therapy

• Client-centered therapy assumes that
  – The client takes the lead during therapy
  – The client takes responsibility for their own actions
  – The therapist is warm, attentive and receptive (unconditional positive regard)
  – The therapist fosters growth on the part of the client
  – empathy is crucial to therapy
Existential Therapy

• The existential view emphasizes personal growth
• The existential view notes that making choices results in anxiety
• Existential therapy encourages clients to confront their anxieties and to make important decisions about how to relate to others
Learning Paradigms

- Learning paradigms argue that abnormal behavior is learned as are normal behaviors
  - Classical conditioning
  - Operant conditioning
  - Modeling

- Behaviorism focuses on the study of observable behavior
Classical Conditioning

Initial situation
- bell (CS) → no salivation
- meat powder (UCS) → salivation (UCR)

Training trial
- bell (CS)
- meat powder (UCS)

Conditioning established
- bell (CS) → salivation (CR)
Mowrer’s Account Avoidance Learning

- **UCS (shock)**
- **Linked by contiguous pairings**
- **CS (buzzer)**
- **Internal pain-fear response**
- **Strong fear response acts as a stimulus or drive**
- **Overt avoidance response**
Operant Conditioning

• Behaviors have consequences
  – Positive reinforcement: behaviors followed by pleasant stimuli are strengthened
  – Negative reinforcement: behaviors that terminate a negative stimulus are strengthened

• Behavior can be shaped using method of successive approximations
  – Reward a series of responses that approximate the final response
  – Ayllon’s (1965) demonstration: Learning theory vs. psychoanalytic interpretations
Modeling

• Learning can occur in the absence of reinforcers

• Modeling involves learning by watching and imitating the behaviors of others
  – Models impart information to the observer
    • Children learn about aggression watching aggressive models
Behavior Therapy

- **Behavior therapy** uses learning methods to change abnormal behavior, thoughts and feelings
  - Behavior therapists use classical and operant conditioning techniques as well as modeling
  - **Counterconditioning**: learning a new response
    - **Systematic desensitization**: relaxation is paired with a stimulus that formerly induced anxiety
    - **Aversive conditioning**: an unpleasant event is paired with a stimulus to reduce its attractiveness
Counterconditioning

Original situation: S elicits R1

After therapist intervention: S elicits R2
The Cognitive Paradigm

• **Cognition** involves the mental processes of perceiving, recognizing, judging and reasoning

• The cognitive paradigm focuses on how people structure and understand their experiences and how these experiences are related to past experiences stored in memory
Cognitive Behavior Therapy

- Cognitive therapy assumes that thought patterns can cause a disturbance of emotion or behavior
  - Beck’s Cognitive Therapy for Depression
    - Depressed mood caused by cognitive distortions
      - “Nothing good ever happens to me”
  - Ellis’s Rational Emotive Behavior Therapy
    - Emotional upset is due to irrational beliefs
      - “I must be loved by everyone”
Cognitive-Behavioral Influences

- Behavior
- Emotion
- Cognition
- Biology
- Environment
• Lack of Social Support
  – Depression and Suicide
  – Illness and Suppressed Immune Function
  – Variety of Other Disorders

• Increasing Social Support Helps
  – Interpersonal Psychotherapy (IPT)
Diathesis-Stress: An Integrative Paradigm

• Three depictions of diathesis-stress models
• Different perspectives on a clinical problem
• Eclecticism in psychotherapy: Practice makes imperfect
Adapted from Monroe and Simons (1991)

Fig 2.6
Diathesis-Stress Model

• **Diathesis**
  – Underlying predisposition or vulnerability to develop the disorder.
    • Could be a biological (genetics, maternal viral infection, etc.)
    OR
    • Psychological (cognitive set, physical abuse, cultural factors, etc.)

• **Stress**
  – Unpleasant environmental stimulus
    • Traumatic event, day to day hassles

*Diathesis increases risk for developing the disorder, but stress may actually trigger the disorder’s onset.*
• Many Paths to a Given Problem
  – Principle of Equifinality

Social Factors

Genes and Biology

Age and Development

Cognition, Emotion, and Behavior