Chapter 3
Clinical Assessment and Diagnosis
Research Methods

Assessing Psychological Disorders

• Purposes of Clinical Assessment
  – To understand the individual
  – To predict behavior
  – To plan treatment
  – To evaluate treatment outcome

• Analogous to a Funnel
  – Starts broad
  – Multidimensional in approach
  – Narrow to specific problem areas

Key Concepts in Assessment

• Reliability
  – Consistency is measurement
  – Examples include test-retest and inter-rater reliability

• Validity
  – What an assessment approach measures and how well it does so
  – Examples include concurrent, discriminant, and predictive validity

• Standardization
  – Standards and norms help ensure consistency in the use of a technique
  – Examples include structured administration, scoring, and evaluation procedures

Concepts that determine the value of clinical assessments
Domains of Assessment: The Clinical Interview and Physical Exam

- Clinical Interview
  - Most common clinical assessment method
  - Structured or semi-structured
- Mental Status Exam
  - Appearance and behavior
  - Thought processes
  - Mood and affect
  - Intellectual functioning
  - Sensorium
- Physical Exam

Domains of Assessment: Behavioral Assessment and Observation

- Behavioral Assessment
  - Focus on the present – Here and now
  - Focus on direct observation of behavior-environment relations
  - Purpose is to identify problematic behaviors and situations
  - Identify antecedents, behaviors, and consequences
- Behavioral Observation and Behavioral Assessment
  - Can be either formal or informal
  - Self-monitoring vs. others observing
  - Problem of reactivity using direct observation methods
Domains of Assessment: Psychological Testing and Projective Tests

- Psychological Testing
  - Must be reliable and valid

- Projective Tests
  - Project aspects of personality onto ambiguous test stimuli
  - Roots in psychoanalytic tradition
  - Require high degree of clinical inference in scoring and interpretation
  - Examples include the Rorschach Inkblot Test, Thematic Apperception Test
  - Reliability and validity data tend to be mixed
Domains of Assessment: Psychological Testing and Objective Tests

- **Objective Tests**
  - Test stimuli are less ambiguous
  - Roots in empirical tradition
  - Require minimal clinical inference in scoring and interpretation

- **Objective Personality Tests**
  - Minnesota Multiphasic Personality Inventory (MMPI, MMPI-2, MMPI-A)
  - Extensive reliability, validity, and normative database

- **Objective Intelligence Tests**
  - Nature of intellectual functioning and IQ
  - Verbal and performance domains

Domains of Assessment: Neuropsychological Testing

- **Neuropsychological Tests**
  - Assess broad range of motor, cognitive, memory skills and abilities
  - Goal is to understand brain-behavior relations (i.e., person’s assets and deficits)
  - Examples include the Luria-Nebraska and Halstead-Reitan Batteries

- **Problems with Neuropsychological Tests**
  - False Positives – Saying “you have a brain problem, but you do not”
  - False Negatives – Saying “you do not have a brain problem, but you do”

Domains of Assessment: Neuroimaging and Brain Structure

- **Neuroimaging: Pictures of the Brain**
  - Allows for a window on brain structure and function
• Imaging Brain Structure
  – Computerized axial tomography (CAT or CT scan) – Utilizes X-rays
  – Magnetic resonance imaging (MRI) – Utilizes strong magnetic fields
    • Greater resolution

**Domains of Assessment: Neuroimaging and Brain Function**

• Imaging Brain Function
  – Positron emission tomography (PET)
  – Single photon emission computed tomography (SPECT)
  – Both involve injection of a tracer substance containing radioactive isotopes; SPECT is somewhat less accurate, but less expensive
  – Radioactive isotopes react with oxygen, blood, and glucose in the brain; blood rushes to active areas creating “hot spots”
  – Functional MRI (fMRI) – Provides a view of brief changes in brain activity

• Advantages and Limitations
  – Provide detailed information regarding brain function
  – Procedures are expensive, lack adequate norms
  – Procedures have limited clinical utility

**Domains of Assessment: Psychophysiological Assessment**

• Psychophysiological Assessment
  – Methods used to assess brain structure, function, and activity of the nervous system

• Psychophysiological Assessment Domains
  – Electroencephalogram (EEG) – Brain wave activity
  – Heart rate and respiration – Cardiorespiratory activity
  – Electrodermal response and levels – Sweat gland activity

• Uses of Routine Psychophysiological Assessment.
  – Disorders involving a strong emotional component
  – Examples include PTSD, sexual dysfunctions, sleep disorders, headache, and hypertension

**Diagnosing Psychological Disorders: Foundations in Classification**

• Diagnostic Classification
  – Classification is central to all sciences
  – Assignment to categories based on shared attributes or relations

• Terminology of Classification Systems
  – Taxonomy – Classification in a scientific context (i.e., entities/things)
  – Nosology – Application of a taxonomy to psychological/medical phenomena
  – Nomenclature – Labels that comprise the nosology (e.g., anxiety disorders)

**Issues with Classifying and Diagnosing Psychological Disorders**

• Categorical vs. Dimensional Approaches
– Classical (or pure) categorical approach – Strict categories
– Dimensional approach – Classification along dimensions
– Prototypical approach – Combines classical and dimensional views

• Two Widely Used Classification Systems
  – International Classification of Diseases and Health Related Problems (ICD-10); published by the World Health Organization
  – Diagnostic and Statistical Manual of Mental Disorders (DSM-IV and DSM-IV-TR); published by the American Psychiatric Association

The DSM-IV

• Basic Characteristics
  – Five axes describing full clinical presentation (person and environment)
  – Clear inclusion and exclusion criteria for disorders, including duration
  – Disorders are categorized under broad headings
  – Prototypic approach to classification; one that is empirically grounded

The DSM-IV (cont.)

• The Five DSM-IV Axes
  – Axis I – Most major disorders
  – Axis II – Stable, enduring problems (e.g., personality disorders, mental retardation)
  – Axis III – Medical conditions related to abnormal behavior
  – Axis IV – Psychosocial problems affecting functioning or treatment
  – Axis V – Global clinician rating of adaptive functioning

• Other Unique Features of the DSM-IV

Unresolved Issues in the DSM-IV

• The Problem of Comorbidity
  – Defined as two or more disorders for the same person
  – High comorbidity is the rule clinically
  – Comorbidity threatens the validity of separate diagnoses

• Labeling issues and stigmatization

Summary of Clinical Assessment and Diagnosis

• Clinical Assessment and Diagnosis
  – Designed to provide a complete understanding of the client
  – Designed to aid in understanding and ameliorating human suffering
  – Requires reliable, valid, and standardized information

• Dangers of Diagnosis
  – Problem of reification
Problem of stigmatization

- Clinical Assessment and Diagnosis: The Core of Abnormal Psychology
  - A multidimensional perspective of persons who are suffering

Conducting Research in Psychopathology

- Questions Driving a Science of Psychopathology
  - What problems cause distress or impair functioning?
  - Why do people behave in unusual ways?
  - How can we help people behave in more adaptive ways?

Basic Components of Research

- Starts with a Hypothesis or “Educated Guess”
  - Not all hypotheses are testable
  - Hypotheses in science are formulated so that they are testable

Research Design

- A method to test hypotheses
  - Independent variable – The variable that causes or influences behavior
  - Dependent variable – The behavior influenced by the independent variable

Considerations in Research Design

- Internal Validity vs. External Validity
  - Internal validity – Confidence that effects are due to the independent variable, and not potential confounds
    - Maturation
    - History
    - Regression to the mean
  - External validity – Extent to which the findings are generalizable

- Ways to Increase Internal Validity by Minimizing Confounds
  - Use of control groups
  - Use of random assignment procedures

- Relation Between Internal and External Validity

Statistical vs. Clinical Significance

- Statistical Methods
  - Branch of mathematics
  - Helps to protect against biases in evaluating data

- Statistical vs. Clinical Significance
  - Statistical significance – Means the results are beyond chance or coincidence
  - Clinical significance – Refers to whether the results are clinically meaningful
  - Statistical significance does not imply clinical meaningfulness
• Balancing Statistical vs. Clinical Significance
  – Evaluate effect size
  – Evaluate social validity

• Generalizability and the Patient Uniformity Myth

  **Studying Individual Cases**

• Case Study Method
  – Extensive observation and detailed description of a client
  – Foundation of early historic developments in psychopathology

• Limitations
  – Lacks scientific rigor and suitable controls
  – Internal validity is typically weak
  – Often entails numerous confounds

  **Research by Correlation**

• The Nature of Correlation
  – Statistical relation between two or more variables
  – No independent variable is manipulated
  – Range from $-1.0$ to $0$ to $+1.0$
  – Negative vs. positive correlation

• Limitations
  – Correlation does not imply causation
  – Problem of directionality

• Epidemiological Research: An Example of the Correlational Method
  – Incidence
  – Prevalence
  – Course of disorders and diseases (e.g., AIDS, extent of trauma following disaster)

**Hypothetical correlations between age and sleep problems**

![Hypothetical correlations between age and sleep problems](image)
Research by Experiment

• Nature of Experimental Research
  – Manipulation of independent variables
  – Attempt to establish causal relations

• Group Experimental Designs
  – Control groups: Placebo vs. double-blind controls

• Comparative Treatment Designs
  – Type of group design
  – Compare different forms of treatment in similar persons
  – Used to address treatment process and treatment outcome

Single-Case Experimental Designs

• Nature of Single Subject Design
  – Rigorous study of single cases over varied experimental conditions and time
  – Repeated measurement and evaluation of variability, level, and trend
  – Premium on internal validity

• Types of Single-Subject Design: Their Nature, Assets, and Liabilities
  – Withdrawal designs
  – Multiple baseline designs

Evaluation of trend and variability in Wendy’s anxiety via the single-subject design method

Figure 3.7
Genetic Research Strategies

• Behavioral Genetics
  – Examine interaction between genes, experience, and behavior

• Strategies Used in Genetic Research
  – Family studies – Examine behavioral pattern/emotional traits in family members
  – Adoptee studies – Allow separation of environmental from genetic contributions
  – Twin studies – Evaluate psychopathology in fraternal vs. identical twins
  – Genetic linkage and association studies – Locate sites of defective genes

Studying Behavior Over Time

• Rationale and Overview
  – How does the problem or behavior change over time?
  – Important in prevention and treatment research

• Time-Based Research Strategies
  – Rationale driving cross-sectional designs – Problem of the cohort effect
  – Rationale driving longitudinal designs – Problem of the cross-generational effect
  – Sequential designs – Combine cross sectional and generational designs

• Assets and Liabilities of Time-Based Research Strategies

Two research designs (i.e., longitudinal and cross-sectional designs)

Studying Behavior Across Cultures

• Value of Cross-Cultural Research: Overcoming Ethnocentric Research
• Assets and Liabilities of Cross Cultural Research
  – Assets – Clarify how psychopathology manifests in different ethnic groups
  – Problems with cross-cultural research

  The Nature of Programmatic Research and Research Ethics

• Components of a Research Program
  – Set of inter-related research questions – A tree with many branches
  – Draw on several methodologies in finding answers
  – Conducted in stages, often involving replication

• Research Ethics: Institutional Review Boards and the APA Ethics Codes
  – Informed consent – Historical evolution post WWII
  – Competence – Ability to provide consent
  – Voluntarism – Lack of coercion
  – Full information – Necessary information to make an informed decision
  – Comprehension – Understanding about benefits and risks of participation

Summary of Research Methods

• Nature of Research: Establishing and Testing Hypotheses

• Value of Research Designs Vary Depending on the Questions Posed

• Abnormal Psychology Is Founded in the Scientific Method
  – Understand the nature of abnormality and human suffering
  – Understand the causes of psychological disorders
  – Understand the course of psychological disorders
  – Understand how to prevent and treat psychological disorders

• Replication Is the Corner Stone of Science and Programmatic Research

• Research Must Occur in the Context of Ethical Considerations and Values

Discussion Group 3 – Questions

• Identify 3 goals of clinical assessment.

• Describe differences between objective and projective approaches to psychological assessment.

• What are some components (at least 2) of the mental status exam? Describe…