Psychological Testing: An Overview
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Summary of Presentation

You try it out first!

Psychological Testing: Key Concepts
Intelligence Testing – Cognitive function
Neuropsychological Assessment
Personality Tests:
- Objective Personality Measures (MMPI-2)
- Projective Personality Tests (Rorschach, Thematic Apperception Test, Draw-A-Person)
Your First-hand Look at Testing

Wechsler Adult Intelligence Scales (3rd ed.)

1. What does “tirade” mean?
2. What does “compassion” mean?
3. What does the saying “one swallow does not make the summer” mean?
4. How are a fly and a tree similar?
5. Who’s buried in Grant’s Tomb?

Psychological Testing: Key Concepts

Psychological Test: An objective and standardized measure of a sample of behavior

- Standardization – uniform procedure of administering and scoring test, which reduces measurement error – i.e., differences between subjects’ scores are due to “true” differences rather than random factors unrelated to what the test is measuring.

- Norms: Scores of a representative sample of the population of a particular test
Psychological Testing: Key Concepts

Reliability: Consistency; how much a test provides consistent, repeatable results

Validity: How much a test measures what it is supposed to measure; e.g., does the “intelligence” test really measure “intelligence”?

Normal Distribution: When approx. the same number of people scored better than and worse than the mean, with the most people scoring close to the mean -- a "bell curve"

Standard Deviation: Measure of variance – 68% of all scores fall one standard deviation from the mean; 95% are within two S.D.’s

Standard Scores: A raw score’s distance from the mean (average) in terms of standard deviation units

Reasons for Testing Referrals

Referral Source needs to specify:
A. What areas of functioning need clarification?
B. Assessment relevant to cognitive functioning, treatment, disposition, etc.?
C. Is the client near their normal level of functioning?
Intelligence Testing

- What is intelligence?
  - Spearman: Mental tasks require two kinds of ability: general ability, “g”; specific abilities, “s”
  - Cattell: Two kinds of intelligence:
    - Fluid: On-the-spot reasoning, problem-solving, understanding complex relationships
    - Crystallized: Knowledge acquired about the world
  - Wechsler: High ability on one task predictive of other abilities; intelligence centered on ability to act purposefully, think rationally and deal effectively with environment

Studies of Intelligence

- Heredity vs. Environment: Approx. 50/50 contribution
- Stability of Intelligence: Infant tests have mixed ability to predict later performance
- Gender Differences
- Birth Order
- Racial/Ethnic Differences
  - The Genetic-based Argument (The Bell Curve (1994))
  - Flaws of the Genetic-based Argument
  - “Culture Free” Measures: e.g., Peabody Vocabulary Test
Stanford-Binet Intelligence Scale

- Forerunner of Intelligence Tests developed in 1916 by Alfred Binet in France.
- 15 subtests of Verbal and Performance items grouped by age levels, from age two to adult.
- Early versions showed intelligence by the ratio IQ (intelligence quotient) score of mental age divided by chronological age times 100.
- Latest version, in 1986, changed “IQ” to Standard Age Scales (SAS) in response to WAIS.

Wechsler Intelligence Scales

- Most commonly used intelligence tests; All are standardized by age norms
- Average score = 100, Standard deviation = 15; Subtest average score = 10, Standard deviation = 3. Variability among subtests can be great from subject to subject; therefore inter-test scatter must be assessed
- WISC-R (Wechsler Intelligence Scale for Children-Revised) for children ages 6 to 16; has 13 subtests divided into Verbal and Performance Scales
- WPPSI-R (Wechsler Preschool Primary Scale of Intelligence) specialized for children ages 4 to 6
- WAIS-III (Wechsler Adult Intelligence Scales, 3rd edition) – ages 16 and up.
**WAIS-III**

**Verbal Subtests (from best to worst “g” correlation):**

1. **Vocabulary** - learning ability, concept formation, long-term memory; very stable over lifetime, but dependent on life experiences
2. **Information** - crystallized intelligence – most culture-sensitive, least affected by brain injury
3. **Similarities** - abstract verbal ability
4. **Comprehension** - social judgment
5. **Arithmetic** – reasoning, concentration and mental arithmetic
6. **Letter-Number Sequencing** - concentration, tracking, set-shifting
7. **Digit Span** - attention, short-term memory

**WAIS-III (continued)**

**Performance Subtests:**

1. **Block Design** - visual-motor coordination, nonverbal concept formation and visual-spatial comprehension
2. **Matrix Reasoning** – non-verbal reasoning; analogy
3. **Symbol Search** - Processing speed
4. **Picture Completion** – visual organization, concentration
5. **Picture Arrangement** – nonverbal reasoning, interpretation of social situations
6. **Object Assembly** – perceptual organization, motor coordination
7. **Digit-Symbol Coding** – visual-motor coordination, short-term memory
WAIS-III: Interpretation

- Full-scale IQ
- Verbal-Performance IQ’s (diff. of 12+ pts. Significant)
- Subtest Variability
- Intra-subtest Variability
- Qualitative Analysis – what do the responses say about the subject beyond representing his/her intelligence?

Adaptive Functioning

- Intelligence testing may **not** fully represent overall intelligence; other domains may differ from testing domain
- Vineland Adaptive Behavior Scales – Measures personal and social sufficiency, based on three principles:
  - Adaptive behavior develops with age
  - Adaptive behavior is defined by expectations of others
  - Adaptive behavior relates to **performance** – not ability

  **Domains:**
  - Communication
  - Daily living skills
  - Socialization
  - Motor Skills
Neuropsychological Assessment:
Bender Visuomotor Test

- Test of visual-motor coordination used as a **screening device** for brain damage and psychiatric disorders
- 9 simple designs presented one at a time to be copied by subject on a single piece of paper
- Memory test: One minute later, asked to recall

**Signs of organic brain disorder:**
- Rotation (partial in organics, fully in psychotics)
- Difficulties with angles
- Perseveration
- Distortion
- Overlapping figures
- Personality features

Bender Stimuli
Bender: An Example of Organicity

Minnesota Multi-Phasic Inventory (MMPI-2)

- Most commonly used clinical personality test today, developed to distinguish people with clinical disorders from normal individuals
- Large numbers of people, both “normals” and people already known to have clinical disorders, were asked hundreds of true/false questions; when certain groups tended to answer differently from “normals”, these items were placed on clinical scales that suggest different clinical problems
MMPI-2: Scales

Clinical Scales (examples)

Hypochondriasis: Preoccupation with bodily functions
Depression: Helplessness, worthlessness
Hysteria: Physical symptoms with functional origin
Psychopathic Deviate: Antisocial tendencies
Masculinity-Femininity: Interests typical of the opposite sex

Validity Scales

? Scale: More than 30 unanswered questions is problematic
L (Lie) Scale: elevations = perfectionistic self-image
F (Infrequency) Scale: “looking bad”, either intentionally or not
K(Correction): Defensiveness, guardedness

Projective Tests: Rorschach

- Psychoanalysts: Projective tests, esp. Rorschach, are a window to primary process thinking: instinctual drives, wishes, fears
- Rorschach devised by Hermann Rorschach in 1921: Most commonly used test after the WAIS and MMPI
- 10 inkblots, five chromatic, five achromatic. Subjects asked to free associate and then elaborate
- Avg. of 20-30 responses total for the 10 cards, followed by inquiry
- Exner Scoring System developed in 1986 to make scoring more uniform and objective – this was to allow for better reliability and validity in the scoring.
Rorschach Interpretation

Location
1. W = Whole - assd. with striving, integrating, intellectualizing (20%-30%)
2. D = Detail – conventional (approx. 50%)
3. Dd = Rarely noticed Detail – assd. with obsessiveness or paranoia (10%)
4. W = White space – assd. with negativism, antagonism (5-10%)

Rorschach Interpretation (2)

Determinants (i.e., What makes it look as it does?)
- Form (F) – most common determ. High F = conforming, rigid, emotionally cut off; Low F = poor reality-testing, impulse control (also assigned a Form Quality score)
- Movement: M = human movement = strong inner resources, sense of agency; FM = animal movement = impulse toward immediate gratification; m = inanimate object movement = tension, helplessness. Movement assigned a or p score
- Color (C) = Represents emotional life; achromatic (C’) = withdrawn, depressed, subdued; chromatic = sociable, active; “Pure C” = effusive, hysterical
- Texture (T) = soft = warm, need for physical closeness; hard = tough, standoffish
- Shading (Y) = need for security, anxiety
Rorschach Interpretation (3)

Content
Humans – Interest in and awareness of others
Animals – Tending toward stereotype, conventional, immature
Anatomy – Concern with bodily harm; somatic preoccupation
Art – when used often = intellectualizing, distancing from feelings

Popular vs. Original Percepts
High Populars = conventionality, conformity
Low Populars = rebelliousness or thought disorder

Rorschach Interpretation (4)

Special Scores – Some examples
COP – Cooperative = people working together good socialization
MOR – Morbid = Doubtful about world, antic. Failures
DV – Deviant response
INCOM – Incongruous Combination of = strained logic systems, disregard for reality
PSV – Perseveration = cognitive inflexibility; organicity/retard.
ALOG – Alogical response
CONTAM – Contamination – e.g., “it’s a butterflower”
Projective Tests: Thematic Apperception Test (TAT)

- "Apperception": Perception influenced by personal attitudes, drives and perspectives, and thereby distorted by them.
- Developed in 1935 by Henry Murray — 31 pictures, mainly of people. Subjects asked to tell stories about some pictures, presumably revealing their personal, individual “apperception” of ambiguous stimuli; Approx. 10 are used to focus on interpersonal relationships
- Subjects asked to tell a story with a beginning, middle and end, and include thoughts and feelings
- More structured than Rorschach, yet requires more complex and meaningfully organized verbal response

TAT Interpretation

Determinants of the Story

- Situational context of testing
- Perceptual Impact – what is/ isn’t noticed?
- Needs and Affects
- "Presses" – What are the environmental forces in the story?
- Defenses – How does the subject cope with stress/anxiety?
Draw-a-Person Test

- Developed in 1949 for personality assessment in conjunction with other tests
- Characteristics of “normal” drawings:
  - Same sex as subject
  - Whole face, head, body, clothed, 6-7” tall
- Warning indicators of mental disturbance:
  - Strange succession of/approach to drawing figure
  - Omission of important parts
  - Nudes
  - Tiny or huge figure

Putting it All Together: The Testing Report

- Report typically broken into five sections:
  - Reason for referral
  - Tests administered
  - Behavioral Observations
  - Cognitive Functioning
  - Personality/Emotional Functioning