Structured Personality Tests

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Some Definitions

- Personality
  - the relatively stable and distinctive patterns of behavior that characterize an individual and his or her reactions to the environment.
- Personality tests attempt to measure personality traits, states, types, and other aspects of personality (such as self concept).

Some Definitions

- Personality Traits
  - relatively enduring dispositions
  - tendencies to act, think, or feel in a certain manner under *any given circumstance*
  - distinguish one person from another
- Personality States
  - predominantly emotional reactions that vary from one situation to another.

Some Definitions

- Personality Types
  - refer to general descriptions of people
  - e.g., avoidant, depressive
- Self-Concept
  - a person's self-definition; an organized set of assumptions one has about him or herself.
- Most structured personality tests attempt to assign a *personality type* based upon measurements of someone's *personality traits*.

Strategies to Structured Tests

- In general, subject is asked to respond to an objective, written statement that is designed to minimize ambiguity.
  - Different from *projective tests,* where subjects respond to purposely ambiguous stimuli.
- Two approaches to structured tests
  - Deductive
  - Empirical

Strategies to Structured Tests

Deductive	**Empirical**
Logical Content	**Criterion Group**
Content Approach	Contrasted-Group
Intuitive Approach	External strategy
Rational Approach	Empirical strategy
Theoretical	Criterion-keying
	Factor Analytic

Deductive Strategies

- Two types
  - Logical-content
    - Uses reason and deductive logic in the development of personality measures.
    - Test designer attempts to logically deduce the type of question that should be asked to measure the hypothetical concept.
      - e.g.,
        - I frequently worry about my weight. T/F
        - I feel bad after I've eaten a good meal. T/F
    - Relies heavily on face validity.

Deductive Strategies

- Two types
  - Theoretical
    - Start with a theory
    - Ask questions that are consistent with the theory.
    - Assume that every item in a scale is related to a characteristic that you are measuring.
      - Attempt to create homogeneous scales
      - Frequently use item analyses to confirm

Empirical Strategies

- Criterion-group strategy
  - start with a group of people who share a common characteristic (e.g., aggressiveness, depression)
  - select and administer a group of items to everybody in the criterion-group and a control group
  - choose those items that distinguish between the criterion and control groups; which items best contrast the groups

Empirical Strategies

- Factor Analytic Strategy
  - uses factor analysis to derive empirically the basic dimensions of personality
  - asks a large number of questions
  - looks for correlations among questions
  - if groups of questions correlate with each other, this is evidence of an underlying latent factor

Logical Content Tests

- Woodworth Personal Data Sheet
  - The first personality inventory
  - Based on faulty assumption that responses can be taken on face value
  - Produced a single score

Logical Content Tests

- First multidimensional scales
  - Bell Adjustment Inventory
    - Assessed adjustment in different areas of life (e.g. home life, social life, emotional functioning)
  - Bernreuter Personality Inventory
    - Items pertaining to six personality traits (e.g. introversion, confidence, sociability)
- Mooney Problem Checklist (1950)
  - One of few still in use
  - Much like the Woodworth

Criterion-Group Tests

- Minnesota Multiphasic Personality Inventory (MMPI; originally developed in 1943)
  - More detail to come
- California Psychological Inventory (CPI; originally developed in the late '50s; circa '56/ '57)
  - Originally developed to identify personality traits of normally adjusted individuals
  - Uses criterion groups for some of the subscales
    - Compared (men and women, homosexual men and heterosexual men)
    - Produces personality continuums (e.g. intro-extroverted, conventional vs. unconventional, etc.)

The MMPI

- MMPI: Minnesota Multiphasic Personality Inventory (MMPI, MMPI-2, MMPI-A)
  - MMPI: original MMPI 1943
  - MMPI - 2: first revision in 1989
  - MMPI - A: adolescent form
- Purpose - to distinguish "normals" from "abnormals"

The MMPI

- MMPI - 2 requires an 8th grade reading level
  - original MMPI required a 6th grade reading level (!)
    - Reading skills since 1943 have dropped.
    - 8th grade 1989 reading level = 6th grade 1943 level
  - average reading difficulty for the MMPI-2 items is approximately 5th grade although
  - 90% of the items require less than a 9th grade education.
  - Auditory or interview forms are available.

The MMPI

- Original MMPI began with a pool of 1000 questions drawn from case histories, psychological reports, textbooks, and existing tests of
  - Starke Hathaway - medical psychologist
  - Jovian McKinley - neuropsychiatrist
  - both of the University of Minnesota Hospitals
- Narrowed pool down to 504 items thought to be relatively independent.

The MMPI

- These 504 questions were administered to 800 patients representing the following psychopathologies:
  - Hypochondriacs: patients who are overly oncerned with bodily symptoms and express conflicts through bodily (somatic) symptoms.
  - Depressives: patients with depressed mood, loss of appetite, anhedonia, suicidality
  - Psychopathic Deviates: patients who are antisocial and rebellious & exploit others without remorse or anxiety.

The MMPI

- These 504 questions were administered to 800 patients representing the following psychopathologies:
  - Paranoids: patients who show extreme suspicions and delusions
  - Psychasthenics: patients plagued by excessive self-doubts, obsessive thoughts, anxiety, and low energy
  - Schizophrenics: patients who are disorganized, highly disturbed, out of contact with reality, hallucinating, and have poor relatedness skills

The MMPI

- These 504 questions were administered to 800 patients representing the following psychopathologies:
  - Hypomanics: patients who are in a highenergy, agitated state with poor impulse control, inability to sleep, and poor judgment.
- In addition, 700 controls - visitors and relatives of patients at the University of Minnesota Hospital - were also administered the same 504 questions.

The MMPI

- After an item analysis, items that separated the patients from the non-patients were included on one or more of the clinical scales.
- The items were then cross-validated on independent samples of the criterion and control groups (administered again).
- Those items that discriminated between the two groups significantly were retained.

The MMPI

- In addition to the eight clinical scales, two additional scales were later added:
  - Masculinity-Femininity (MF): containing items differentially endorsed by men and women.
  - Social Introversion (Si): measures introversion and extraversion.

The MMPI

- Finally, three validity scales were also included, to address concerns regarding the logical-content approach.
  - Lie (L)
  - Infrequency (F)
  - Defensiveness (K)

The MMPI

- Lie (L)
  - designed to detect individuals who attempt to present themselves in a favorable light (fake good).
  - *Not empirically constructed but logically constructed.*
- Infrequency (F)
  - designed to detect individuals who attempt to present themselves in an unfavorable light (fake bad)

The MMPI

- Defensiveness (K)
  - Measured test-taking attitude
  - Designed to detect those who were trying to "fake normal"
  - To create the K scale, Hathaway & McKinley examined protocols of disturbed individuals who produced normal MMPI patterns.
  - Those items "left over" that differentiated between the two groups were included in the K scale.

MMPI Scales

1.	Hypochondriasis	**(Hs)**
2.	Depression	**(D)**
3.	Hysteria	**(Hv)**
4.	Psychopathic Deviant	**(Pd)**
5.	Masculinity-Femininity	**(Mf)**
6.	Paranoia	**(Pa)**
7.	Psychasthenia	**(Pt)**
8.	Schizophrenia	**(Sz)**
9.	Hypomania	**(Ma)**
0.	Social Introversion	**(Si)**
A	Lie	**(L)**
B	Infrequency	**(F)**
C	Defensiveness	**(K)**

Scoring the MMPI

- Questions that contribute to each scale are added up to obtain raw scores.
- Raw scores are then converted to McCall's T scores (mean 50, SD 10) based upon scores from the control group.
- Scores above T=65 are considered clinically significant.

Scoring the MMPI

- Original goal - a single "spike" in a patients scores will lead to a clinical diagnosis.
  - E.g Schizophrenics would show a spike on the schizophenia scale
  - E.g. histerics would show an elevation on the hysteria scale
  - This assumption turned out to be false in that in reality most profiles produced multiple "spikes"
  - Sometimes a person would show elevated levels on all of the scales (????)

Interpreting the MMPI

- Single scale interpretation is therefore generally not possible.
- Configural Interpretation (pattern analysis)
- Meehl (1951): Two-Point Code
  - Started research looking for common characteristics of individual profiles with common two highest T-score scales.
- General strategy: if there is a defined "spike", interpret it first. Then look for two-point codes.

MMPI-2

- The MMPI was re-standardized in 1982 and what resulted was the 2nd version
- Purpose
  - Revise the norms

MMPI Psychometrics

- Median split-half reliability coefficients run in the .70s, some as high as .96, most lower.
- Median test-retest reliability coefficients range between .50 and .90 (median .80s).
- Factor analytic coefficients running in the high .90s.
- Reliability is generally considered adequate for a psychological measure.

MMPI Psychometrics

- Tens of thousands of validity studies point to diagnostic specificity for a range of problems including
  - substance use, alcoholism, post-traumatic stress, delinquent behaviors.
- Probably the most widely studied personality test world wide.

Factor Analytic Strategy

- Cattell's 16PF
  - Began with all adjectives applicable to humans
  - 4504 "real" traits (Allport and Odbert, 1936)
  - Cattell reduced to 171 items he believed accounted for all the other items
  - The 171 items were administered and came back with 36 *surface traits*
  - Subsequent factor analysis produced 16 distinct factors that accounted for all the variables

Factor Analytic Strategy

- Problems with the factor analytic strategy
  - The subjective nature of naming factors
  - Since the main goal factor analysis is to identify common variance, what is identified as common as opposed to unique may be a product of which items are being utilized, the extraction, the rotation, etc.