

The MMPI

Bastion of the Empirical Paradigm

Disease Model of Mental Illness

- Kraepelin was the first to apply a medical model to the world of mental illness
 - His taxonomy is still largely present in today's DSM-IV
- In this categorical view, a disease is a unique combination of symptoms
 - Bipolar vs. schizophrenia
 - Not a little bipolar and a little schizophrenia
- MMPI was developed to help differentiate between categories of diagnosis

Origins of MMPI

- Woodsworth designed the first personality inventory in 1917 using a "rational" approach to test construction
- Very popular method until Strong's "contrasted groups" approach
 - Seen as more empirical, better able to differentiate groups of people

Origins of MMPI

- Humm-Wadsworth Temperment Scale applied this method to psychopathology
 - Also introduced validity scales in the form of a "response bias" measure
 - Construct validity was examined in research studies
- HWTS was highly influential on the development of the MMPI

A response to a personality inventory is an interesting and significant bit of verbal behavior, the non-test correlates of which must be discovered by empirical means.

"The Empirical Manifesto"
Paul Meehl (1945)

Construction of the MMPI

- The MMPI was published in 1943, with a stated purpose to assist in diagnostic assessments
- Hathaway and McKinley drew upon many different sources in assembling the T/F statements on MMPI
 - Textbooks, previously published scales, clinical reports, and clinical experience
 - Pared down over 1000 questions to 504

Construction of the MMPI

- Very concerned about respondents' truthfulness, so validity indices were constructed
 - L (Lie) – Commonly admitted human faults
 - F (Infrequency) – Highly unusual responses
 - K (Correction) – Defensiveness
- Huge change from “rational” test construction, which were easy to answer in a manner that would fool the examiners

Construction of Clinical Scales

- Items from the initial pool were given to both psychiatric controls and visitors to hospitals
 - Items which significantly differentiated between groups were included on those scales
 - Commonly used technique today, radical at the time
- For example:
 - “I like mechanics magazines” was endorsed equally by normals and hypochondriacs – not included on *Hs* scale
 - “I feel weak all over much of the time” was endorsed by significantly more hypochondriacs than normals – included on *Hs* scale

Construction of Clinical Scales

- This method was used for each of the scales, using different criterion groups
- For example
 - D – 50 patients with depression
 - Pd – unspecified number of patients with psychopathy
 - Mf – 13 homosexual men
 - Si – 50 high and 50 low scores on social introversion test

Norming Population

- "Minnesota normals"
 - 724 relatives and visitors of UMinn Hospitals
 - 265 recent high school graduates
 - 265 WPA workers
 - 254 UMinn Hospital patients
- Clinical participants
 - 221 psychiatric patients at UMinn Hospitals

Profiles

- Raw scores are converted to T-scores (mean of 50, standard deviation of 10)
 - Two SDs above and below were seen as clinically significant
- If your scale was elevated, then you most likely fit that diagnostic group

Modified Approach

- In early 1950's, became obvious that the clinical scales were not pure measures of symptoms
- With some use, shifted emphasis to the *shape* of the profiles and towards more neutral scale labels
 - E.g., Schizophrenia went from *Sc* to *Scale 8*

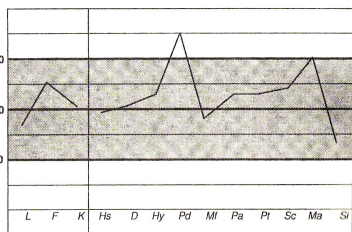
Code Types

- In Welsh's system, scale numbers are presented in
 - Descending order
 - Grouped according to SDs above and below the normative population
 - Scales within 1 T-score point are underlined
 - Configuration of validity scales appears at end

Welsh's Code Types

T-score values	All followed by
90+	*
80-89	"
70-79	'
60-69	-
50-59	/
40-49	:
30-39	#
29 or below	Recorded to the right of #

Welsh's Code Types



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Welsh's Code Types

- Pd is highest, in 80-89 range
- Ma is second highest, in 70-79 range
- 3, 6 are in 60-69, within 1 point of each other
- 7, 2, 1 are in 50-59
- 5, 0 are in 40-49
- F is in 60-69, K is in 50-59

Code Types

- Most other interpretations emphasize “high-point” codes
 - Either 2 or 3 highest elevated scales
- “4-9” profile means spikes on Psychopathic Deviate and Hypomania

Variant Clinical Scales

- Content scales are most popular, first popularized by Harris and Lingoes
 - Divided *Hy* loading questions into different subscales
 - *Hy*₁ – Denial of social anxiety
 - *Hy*₄ – Somatic Complaints
- Became very popular, now exist for all the scales of the MMPI and MMPI-2

Supplementary Scales

- Use of the contrasted-groups strategy to produce new scales has resulted in over 700 *supplemental scales*
 - *Es* (Ego strength) as measure of who will benefit from therapy
 - *Ba* (Success in Baseball)?
 - Tired Housewife?

- Where will the madness end?

Development of the MMPI-2

- Goals for the restandardization of the MMPI were to:
 1. Replace obsolete, potentially offensive, and difficult to understand items
 2. Renorm the MMPI with a more nationally representative sample
 3. Maintain continuity with original clinical and validity scales
 - Done so one could still rely on past research

Development of the MMPI-2

- After seven years of work, the MMPI-2 was published in 1989
 - “What was broke was fixed, what was not broke was left alone”

- Revised manual published in 2001

- Numerous research studies, books, and articles have come out over the past 17 years
 - Over 2800 journal articles

MMPI-2 Validity Scales

- *F, L, K* all retained and viewed the same
- *VRIN* (Variable Response Inconsistency) measures random inconsistency
- *TRIN* (True Response Inconsistency) measures fixed patterns of inconsistency

MMPI-2 Validity Scales

- *Fb* measures random responding towards end of the test, becoming bored or fatigued
- *Fp* measures overreporting of symptoms
- *S* measures presenting one's self as very well-adjusted

MMPI-2 Content Scales

- 15 content scales, very representative of modern conceptions of psychopathology

- | | |
|---------------------------|---------------------------------------|
| ▪ Anxiety (ANX) | ▪ Antisocial Practices (ASP) |
| ▪ Fears (FRS) | ▪ Type A (TPA) |
| ▪ Obsessiveness (OBS) | ▪ Low Self-Esteem (LSE) |
| ▪ Depression (DEP) | ▪ Social Discomfort (SOD) |
| ▪ Health Concerns (HEA) | ▪ Family Problems (FAM) |
| ▪ Bizarre Mentation (BIZ) | ▪ Work Interference (WRK) |
| ▪ Anger (ANG) | ▪ Negative Treatment Indicators (TRT) |
| ▪ Cynicism (CYN) | |

MMPI-2 Supplemental Scales

■ Focus on developing new scales, rather than trying to apply old ones from MMPI

- MacAndrew Alcoholism – Revised
- Addiction Potential
- Addiction Acknowledgement
- Marital Distress
- Hostility

MMPI-2 Administration

- Users must be one of the following
 - Licensed to practice psychology independently
 - Have a graduate degree in psychology or related field
 - Have been granted right to administer tests at this level by their jurisdiction

- Can be administered easily by most anyone, but only interpreted and used by someone with the above qualifications

MMPI-2 Administration

- Test taker qualifications
 - Reading competently at a 6th grade level
 - English or Spanish speaking
 - 18 years or older
 - MMPI-A is available for adolescents
 - No upper age limit
 - May need to break the test into smaller parts or take frequent breaks with some testers

MMPI-2 Administration

- Can be given either individually or in groups
- Typically takes 1-2 hours for people of average intelligence
- Should not be sent home to be completed
- Complete after establishment of rapport and explaining the purpose of the test

MMPI-2 Materials

- Only one form available (MMPI had multiple forms)
- Possible to score standard scales with only the first 370 items completed
 - Unable to do many of the new validity scales and content scales
- Several efforts to develop a short form have proved not as effective as administering the full 567 questions

MMPI-2 Materials

- "Adaptive" computer administration has been found to save some time
- Tape-recorded version of the questions for semiliterate persons or those with disabilities
 - As an examiner, do not read it aloud to the person, as this could confound the results
- Can be given on the computer, no differences found in scores

MMPI-2 Scoring

- Can score by hand or on the computer
- Several options for computer scoring
 - Can scan in answer sheet, input it by hand, or mail the answer sheet into Pearson Assessments
- Hand scoring uses templates for the scales that are overlaid on the answer sheet
 - Not difficult, but must be very precise and careful

Constructing the Profile

- Profile sheets available for all the scales
 - Have both K-corrected and non-K-corrected forms
- Raw scores are transferred to the profile and then visually converted into T-scores

Coding the Profile

- With MMPI-2, less of an emphasis on Welsh's coding system, more of an emphasis on code types
- Clinical scales are identified by their number (e.g. *D-2*)
- Can yield two or three point code types

The MMPI-2

Psychometric Considerations
and Validity Scales

Standardization the MMPI-2

- Efforts were made to stress continuity between the MMPI and MMPI-2
- Some items were deleted or had the wording changed, but the majority of items were unchanged
- Uses uniform T-scores rather than linear ones, but otherwise clinical scales look the same

Norms

- 1138 men, 1462 women with demographics representative of the 1990 census
 - Randomly solicited for participation
 - 3% males and 6% of females were in psychological treatment
- 82% Caucasian, 11% Afro-Am, 3% Hispanic, 3% Native Americans, <1% Asian-Americans
- Age range from 18-85

Norms

- Average education level of 14.72 years
 - Higher than national average, but found to be unrelated to scores on the MMPI-2
- Very little research to support gender, ethnicity, or age effects on MMPI-2
 - Scale 5 (Mf) shows gender differences
 - Separate male and female norms are used, based on raw score differences

To K-correct, or not to K-correct?

- Research doesn't support the use of the K-correction on the MMPI-2
- Little correlation differences between K and non-K corrected and other clinical variables
 - Several have found the K-corrected to be worse at prediction of other clinical variables
- Recommendation: Don't use them

T score Transformations

- MMPI-2 uses uniform T scores, much easier to interpret than linear ones (MMPI)
- Each scale's T-score means the same thing in terms of percentages and deviation from the norm
- Scales 5 and 0 are not transformed linearly

Comparing the Two

- Large amounts of research comparing the original and MMP-2
- Overall, good correspondence between (well defined) code types and T-scores
- Improvements in wording, normative sample

Internal Reliability

- Internal consistency not a concern to the makers, due to test construction approach
- Clinical scales have less IC than content or RC scales
- Even content scales don't appear to be fully homogenous, but still more so than original clinical scales

Test-rest Reliability

- Short-term stability of individual scales (1-2 weeks) is very high
- Long-term (up to 5 years) less so, but still fairly stable
 - RC and PSY-5 scales more so than original clinical scales
- Well-defined code types are also highly stable

Factor Structure

- Scale-level analysis appears to show two major factors
 - General maladjustment (7, 8, -K)
 - Neurotic characteristics (1, 2, 3, 9)
- Item-level analysis shows 10 primary factors for the test
 - Distrust, Self-Doubt, Fitness, Serenity, Rebelliousness, Instrumentality, Irritability, Artistry, Sociability, and Self-Reliance

Validity of the MMPI-2

- The original (L, F, K) and new (Fb, Fp, S, VRIN, TRIN) validity scales all have excellent validity
- Clinical scales show high convergent validity, but low discriminant validity
 - This is due to heterogeneous nature of scales
- Restructured clinical scales have as good convergent, but much better discriminant validity

Validity of the MMPI-2

- Well-defined code types appear to have good convergent, discriminant, and predictive validity
- Content and content component scales show good validity, but there aren't many studies of them
- PSY-5 scales show good correlations with other FFM measures

Profile Invalidity

- A number of different reasons why a profile would be invalidated
 - Over or underreporting of symptoms
 - Lack of reading skills / too confused to follow directions
 - Negativistic attitude towards the assessment
 - Random responding
 - All true or all false responding
- This is why the validity scales were developed

The Validity Scales

- Hathaway and McKinley did several things to make it easier to detect invalid administrations of the MMPI
- This included the empirical construction method and the validity indicators
 - Cannot say (?), Lie (L), Infrequency (F), and Correction (K) scales

Content-Nonresponsiveness Scales

- The CNF scales are used to say if the test taker responded with consideration for content
- This can be either randomly or systematically (e.g., all T or all F)
- If any of these are invalid, remaining scores should not be interpreted at all

Cannot Say (?)

- The total number of omitted items (or items answered both T and F)
 - Can be due to indecisiveness, to avoid admitting faults, or carelessness/confusion
- "Official" rule is 30+ omitted items = invalid
 - Graham recommends 10 omits = use caution
- If many items are omitted, examine which scales they come from (automatic on computer scoring)

Variable Response Inconsistency (VRIN)

- VRIN was developed for MMPI-2 and indicates tendency to respond inconsistently
- Does so by using 67 pairs of items that ask similar questions, then comparing the answers to those questions
- Tricky to score by hand, must be very careful

Variable Response Inconsistency (VRIN)

- Random responding yields T-scores of 96 (men) and 98 (women)
 - All T/F will show T-score near 50; those "faking bad" will have average scores
- Raw scores of 13+ (T-score 80+) indicate inconsistent responding
- Use to help understand high F scale scores
 - High F and high VRIN support random responding
 - High F and normal VRIN suggest either severely disturbed or "faking bad"

True Response Inconsistency (TRIN)

- Used to identify all true or all false responding patterns
- Uses 20 pairs of items that are opposite in content
- Higher scores indicate indiscriminate true responses, lower indicate indiscriminate false responding

True Response Inconsistency (TRIN)

- Raw scores of 13+ (80+ T-scores in the direction of true) indicate all true responding
- Raw scores of 5 or less (80+ T-scores in the direction of false) indicate all false responding

Content-Responsiveness Scales

- Two primary types of CR scales
- Overreporting scales
 - Infrequency (F)
 - Back Infrequency (Fb)
 - Infrequency Psychopathology (Fp)
- Underreporting scales
 - Lie (L)
 - Correction (K)
 - Superlative Self-presentation (S)

Infrequency (F)

- Developed to detect deviant / atypical ways of responding to test items
- On MMPI-2, 60 items answered by less than 10% of the normal population
 - Associated with elevated scores on clinical scales of 6 & 8
- Used in conjunction with VRIN, TRIN, and Fp to determine whether someone is truly disturbed, just “faking bad”, or answering indiscriminately

Infrequency (F)

- T > 100 (Inpatients); T > 90 (Outpatients); T > 80 (Non-clinical)
 - Scores this high can show severe psychopathology in inpatients
 - Fp scores can help detect malingering when high F scores are present
 - VRIN T-scores >80 to detect random responses
 - TRIN T-scores >80 to detect all T or F responses

Infrequency (F)

- T = 80-99 (InP); 70-89 (OutP); 65-79 (NC)
 - Answering false to all/most items can get a score in this area, so check TRIN score
 - Also suggest exaggeration of symptoms (“cry for help”) or possible severe psychopathology
- T = 55-79 (InP); 55-69 (OutP); 40-64 (NC)
 - Valid scores in general
- Low scores may be “faking good” and minimizing symptoms

Back Infrquency (Fb)

- If the F scale is valid, an elevated Fb could indicate invalid responding on the second half of the test items
 - Can still interpret L, F, and K, but not clinical or content scales
- T-scores above 110 (clinical) and 90 (non-clinical) should invalidate back half of the test
- Same interaction between Fb and other validity scales as with F scale

Infrequency Psychopathology (Fp)

- 27 items answered infrequently by both normals and inpatients
- Less indicative of extreme psychopathology than the F scale
- Fp > 100 and VRIN > 80 indicate likely “faking bad”; Fp raw score >7 is optimal for classification

Lie (L)

- Constructed to detect deliberate, unsophisticated attempts at “faking good”
- 15 items dealing with minor flaws or weaknesses that most people would admit to
- Higher education, intelligent, and SES usually have lower overall scores; average raw scores is 3

Lie (L)

- $T \geq 80$ indicates a lack of honesty and should likely not be scored
 - When instructed to fake good, this level is seen
 - High levels here indicative of artificially lowered clinical and content scores
- $T = 65-79$ (clinical) or $70-79$ (non-clinical) indicate the possibility that test taker is trying to present as highly virtuous and well-adjusted

Lie (L)

- $T = 65-69$ (non-clinical) suggest minimizing symptoms / defensiveness
- $T = 60-64$ (clinical / non-clinical) suggest unsophisticated defensiveness
- $T = 50-59$ are average, and suggest valid protocol
- $T < 50$ may indicate “faking bad” depending on other validity scales

Correction (K)

- 30 items used to detect defensiveness
- Items are more “subtle” than ones on L scale, less likely to be detected and answered in a positive light
- Higher scores may also indicate higher levels of “ego strength and psychological resources,” depending on other information about the person

Correction (K)

- Using the K scale to “correct” scores on other scales has little research support
- Unless test-taker displays very high levels of defensiveness, K and non-K corrected scores will be very similar
- Use of K-corrections varies depending on the purpose and type of person taking the test

Correction (K)

- $T \geq 65$ indicate likely defensiveness
 - In clinical settings, indicative of “faking good” and an invalid profile
 - In non-clinical settings, 65-74 are fairly common but still suggest moderate defensiveness
 - With a 80+ TRIN score (in false direction), suggests answering false to items indiscriminately

Correction (K)

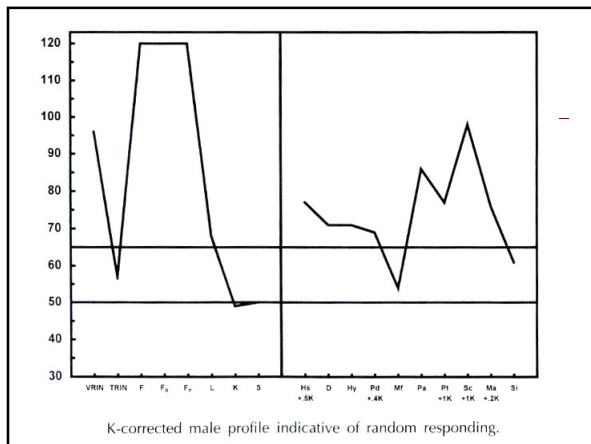
- $T = 40-64$ are average and show a valid profile
- $T < 40$ may indicate “faking bad” or a “cry for help”
 - With 80+ TRIN (in true direction), can show answering true to items indiscriminately

Superlative Self-Presentation (S)

- Not an "official" scale on MMPI-2, developed by Butcher & Han (1995)
- Assesses people trying to present themselves as responsible, psychologically healthy, and have few moral flaws
- 50 items, highly correlated with K scales scores, but unsure if adds more to L and K scales

Random Response Profile

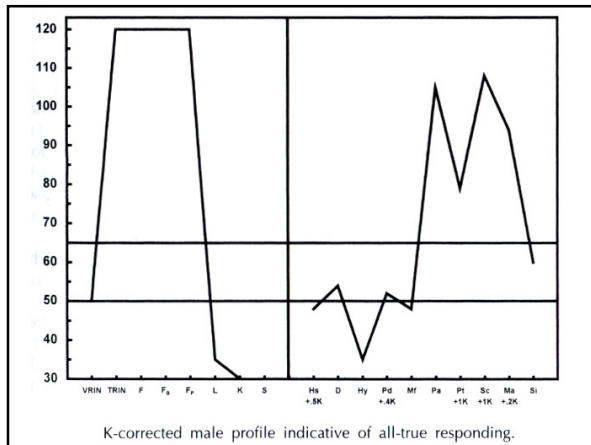
- A completely random response pattern shows
 - F, Fb, and Fp scales very elevated (100+)
 - K & S scales near 50
 - L scale moderately elevated (60-70)
 - Clinical scales generally elevated, with highs on 8 and 6



All-True Responding

- Answering all True will result in a TRIN score of 118 (men) and 120 (women)
 - Extremely elevated F scales
 - L, K, and S below 50
 - Extreme elevations on right side

- Scores >80 (in true direction) should be considered invalid



All-False Responding

- Answering all False will result in a TRIN score of 114 (men) and 118 (women)
 - Extremely elevated L, F, K, S, and Fp scales
 - Fb and VRIN near 50
 - Extreme elevations on left side

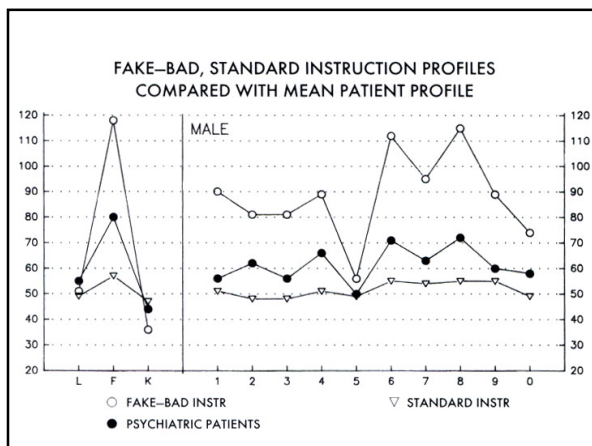
- Scores >80 (in false direction) should be considered invalid



Negative Self-Presentation

■ Faking bad

- Very elevated F, Fp, Fb scales (100+)
- TRIN and VRIN not elevated
- Clinical scales very elevated, particularly 6, 8
- 5, 0 are least elevated



Negative Self-Presentation

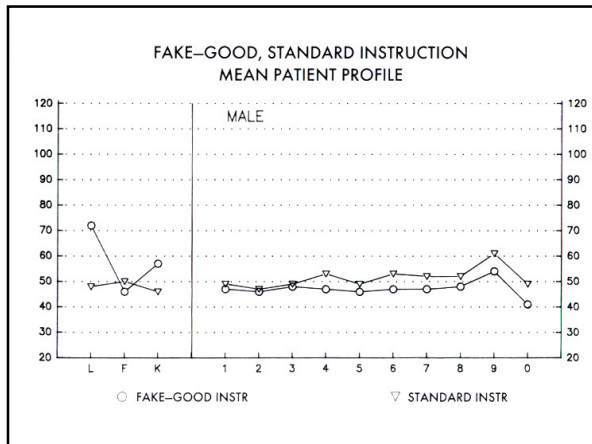
- Steps to determine if someone is faking bad
 1. Check number of omitted items, if less than 30 continue
 2. Check VRIN and TRIN scales, if less than 80 continue
 3. Check F and Fb, if less than 80 consider profile valid; otherwise, go to step 4
 4. Check Fp scale; if 100+ likely malingering; if 80-99 malingering is possible (see external information); if 70-79 validity is indeterminate, interpret cautiously; if less than 70, consider profile valid

Negative Self-Presentation

- F scale has been found to be very effective at determining if someone is trying to
 - Fake a specific disorder
 - Has been coached
 - Is exaggerating symptoms
- Usually (regardless of d/o), show elevations on F and Fp, as well as clinical scales 6 and 8

Positive Self-Presentation

- Faking good
 - L, K, and S likely to be elevated, with F, Fb, and Fp average/below average
 - Somewhat lower than normal scores on clinical scales
- Not as accurate as for overreporting, but still pretty good



Positive Self-Presentation

- **Defensiveness**
 - Shows similar pattern to faking good, but less elevated L, K, and S scales
- **Coaching to fake good**
 - If suspected, use less-familiar scales (Wiggins Social Desirability, etc) to detect

The MMPI-2

Clinical Scales and Code Types

Reliability & Validity

- Relatively low internal consistency due to empirical construction method
 - Reflects the heterogeneous content of items
- Test-retest show high stability over a one week period
 - 0 (Si) most stable, 6 (Pa) least stable
- Validity research supports the scales as meaningfully constructed and related to external measures of behavior

High & Low Scores

- No truly consistent “high” or “low” T-score level seen in the literature
- Cutoffs differ for each scale in terms of clinically significant levels
- Low scores generally not as interpretable as high scores, usually indicative of lower than average problem levels

Interpretation of Scores

- In general, scores greater than 65 (1.5 SD above the mean) will be considered “high”
- Scales 5 (Mf) and 0 (Si) should be interpreted in a bipolar manner
- The more extreme the score, the more the clinical description will likely fit the person
- Descriptors should be considered a starting point, not an end point

Scale 1 (Hypochondriasis)

- Developed to identify patients with excessive somatic complaints
 - very homogeneous and unidimensional scale
- People with actual physical problems and the elderly tend to score slightly higher than normal sample (around 60)
- High scores are $T \geq 80$; moderate elevations are between 60-79; normal levels are 40-59

Elevated Hs Interpretations

- Have excessive bodily concern
- With high scores and Scale 3 elevations, conversion disorders possible
- With high scores and Scale 8 elevations, somatic delusions possible
- Complain of weakness, lack of energy, fatigue, sleep problems, chronic pain, GI discomfort
- Communicate in a whiny, demanding manner

Scale 2 (Depression)

- Designed to assess symptomatic depression; great index of general life dissatisfaction
- Extreme scores may indicate clinical depression, but moderate scores indicative of a general negative attitude
- The elderly, people in hospitals due to illness, and prisoners show 5-10 point elevations
- High scores are > 70 ; moderate are 60-69; normal are 40-59

Elevated D Interpretations

- Displaying depressive symptoms (T > 70)
- Feel hopeless and pessimistic about future
- Agitated, tense, fearful, poor concentration, prone to worry and fretting
- Lack of self-confidence and feels insecure, useless, acts helpless and gives up easily
- Feel overwhelmed when faced with making decisions

Scale 3 (Hysteria)

- Developed to ID people with hysterical (physical) reactions to stressful situations
- Extreme scores (80+) suggest pathological condition, but chronic pain patients often score in 70-80 range
- High scores are T ≥ 80; moderate elevations are between 60-79; normal levels are 40-59

Elevated Hy Interpretations

- Often feel overwhelmed and react to stress by developing physical symptoms (headaches, stomach problems, weakness) that appear and disappear suddenly
- Report lack of energy, feeling worn-out, sad, depressed, and anxious at times
- Lack insight into reason for symptoms
- Self-centered, narcissistic, and expect large amounts of attention and affection from others; react negatively when not given attention

Scale 4 (Psychopathic Deviant)

- Developed to ID psychopathic, asocial, or amoral personalities
- Younger people score higher than older; whites and Asians scored 5-10 points lower than Hispanics, blacks, and Native Americans
- High scores are $T \geq 75$; moderate elevations are between 60-74; normal levels are 40-59

Elevated Pd Interpretations

- Have opposition to traditional values and standards of society; rebellious
- Have poor relationships with family and blame them for own problems
- Are impulsive, plan poorly, and act without considering consequences of their actions
- Seen by others as immature, selfish, insensitive, self-centered, and cynical

Scale 5 (Masculinity-Femininity)

- Developed to ID level of typical thoughts about gender roles
- High scores reject typical stereotyped gender roles; low scores accept typical gender roles
- High scores are $T \geq 85$; moderate elevations are between 60-74; normal levels are 40-59; low scores are ≤ 39

Elevated Mf Interpretations

- High scores for men
 - Lack stereotypical masculine interests
 - Have artistic interests
 - Are likely to participate in housekeeping and child-rearing more than most men
- High scores for women
 - May be rejecting traditional female role
 - Likely interested in sports, hobbies, etc. of a more “masculine” nature
 - Seen as assertive and competitive

Scale 6 (Paranoia)

- Developed to ID people with paranoid thoughts and behaviors
- Very few false positives on this measure; most people who score high do show paranoia
- High scores are $T \geq 70$; moderate elevations are between 60-69; normal levels are 45-59

Elevated Pa Interpretations

- May exhibit psychotic thought patterns and behaviors
- Feel mistreated, picked on, angry, resentful, and harbor grudges
- Often have diagnoses of schizophrenia or paranoid disorder; history of hospitalizations is common
- Are suspicious, guarded, and tend to rationalize and blame others for their difficulties

Scale 7 (Psychoasthenia)

- Measures obsessive and compulsive types of behaviors, psychological discomfort and turmoil
- High scorers often tend to be neat, organized, orderly, and rigid and moralistic
- High scores are $T \geq 75$; moderate elevations are between 60-74; normal levels are 40-59

Elevated Pt Interpretations

- Experiencing intense psychological discomfort; often given anxiety diagnoses
- Feel anxious, tense, agitated, worried, apprehensive, high-strung, have problems concentrating, and feel pessimistic
- Have obsessions, compulsions, or ritualistic behaviors and tend to be very rigid
- Do not cope well with stress and overreact to it

Scale 8 (Schizophrenia)

- Developed to ID people with schizophrenia
- College students, African-Americans, Native Americans, and Hispanics score about 5 points higher than normal
- High scores are $T \geq 75$; moderate elevations are between 60-74; normal levels are 40-59

Elevated Sc Interpretations

- May have a psychotic disorder ($T > 75$) or history of inpatient psych treatment
- May be confused, have unusual thought patterns, show poor judgment, and report unusual symptoms
- Feel alienated, misunderstood, unaccepted and not a part of society
- May have difficulty separating fantasy from reality, or withdrawn into daydreams and fantasies when stressed

Scale 9 (Hypomania)

- Developed to ID those with hypomanic symptoms
- Ethnic minorities show slight elevations, as do younger people
- High scores suggest other scale elevations will be acted out and expressed overtly
- High scores are $T \geq 80$; moderately high are between 70-79; moderate are 60-69; normal levels are 40-59

Elevated Ma Interpretations

- If 80+, may exhibit manic episodes
- Are overactive, have unrealistic self-image, are highly talkative, and do not use their energy wisely
- Have many projects going at once, but do not see them through and become bored easily
- Have low frustration tolerance and may become irritable and hostile when frustrated
- Seen as likable and create good impressions, but come to be seen as manipulative, deceptive, and unreliable

Scale 0 (Social Introversion)

- Assess a person's tendency to withdraw from social contacts and responsibilities
- High scores are insecure and lack self-confidence; low scores tend to be sociable and extroverted
- High scores are $T \geq 75$; moderate elevations are between 60-74; normal levels are 40-59

Elevated Si Interpretations

- High scorers
 - Are socially introverted, shy, reserved, and timid
 - Feel most comfortable alone or with a few friends
 - Do not participate in many social activities
 - Are reliable, dependable, and overly accepting of authority
- Low scorers
 - Outgoing, friendly, talkative
 - Mix well socially
 - Seen as expressive and verbally fluent

Code Types

- Focus on clinical scales that are above T-score of 65, while all other clinical scales are below 65
- Can have one (high point), two, or three point code types
- Exclude scales 5 and 0 when determining code types
- Same descriptors apply to high-scorers as high-point code types

Code Types

- Two-point tell which two are the highest ones in the profile; three-point are the three highest scores
 - Scores seen as interchangeable (2-7 vs. 7-2)
- Well-defined types have a difference of at least five points between lowest code type scale and next highest clinical scale
- Interpret code types when the scales are above a 60 T-score

The MMPI-2

Content Interpretation

Harris-Lingoes Subscales

- Developed to systematically analyze subgroups of items on the standard clinical scales
- Seen as more homogeneous measures of specific types of problems within the clinical scales
- Subscales developed for all clinical scales except 1 (Hs) and 7 (Pt)
 - 5 and 0 not considered true clinical measures, so also excluded

H-L Reliability & Validity

- Most scales have very high internal consistency, with the exception of Hy5

- Adequate test-retest stability

- Strong evidence for construct validity and that H-L add to information obtained from the MMPI-2

When to use the H-L?

- Do not interpret independently of parent scales and only interpret if parent scale is ≥ 65

- Use them to
 1. Help to explain MMPI-2 elevations that do not make sense given patient's history
 2. Help in interpreting clinical scales that are marginally elevated
 3. Help understand extra-test correlates for future behavior

Scale 2 (Depression)

- D1 – Subjective Depression
 - Feeling unhappy, avoiding interactions with people, lack of interest in activities

- D2 – Psychomotor Retardation
 - Lack of energy, feeling immobilized and withdrawn

- D3 – Physical Malfunctioning
 - Usually in poor health or extremely concerned with their health; wide variety of somatic symptoms

Scale 2 (Depression)

- D4 – Mental Dullness
 - Lack of energy or ability to cope with life, problems concentrating, poor memory, lack of enjoyment of life

- D5 – Brooding
 - Ruminating style, crying, feel inferior, easily hurt by criticism, feel like they are losing control of their thoughts

Scale 3 (Hysteria)

- Hy1 – Denial of Social Anxiety
 - Cannot obtain higher than 65, don't use

- Hy2 – Need for Affection
 - Seek attention and affection from others, but fear they won't have those needs met if they are honest about their feelings

- Hy3 – Lassitude-Malaise
 - Not in good health, feel weak and fatigued, but have no specific complaints, problems concentrating, feel unhappy

Scale 3 (Hysteria)

- Hy4 – Somatic Complaints
 - Have numerous somatic complaints, pain in chest or heart, dizzy spells, nausea, shakiness

- Hy5 – Inhibition of Aggression
 - No hostile or aggressive impulses, very sensitive to how others respond to them, decisive
 - Very poor internal consistency, do not use to understand high scale 3 scores

Scale 4 (Psychopathic Deviant)

- Pd1 – Familial Discord
 - See home and family as highly unpleasant, want to leave those situations
- Pd2 – Authority Problems
 - Resent standards and customs and not easily influenced by others, often in trouble with the law, stand up for their beliefs
- Pd3 – Social Imperturbability
 - Cannot obtain higher than 65, don't use

Scale 4 (Psychopathic Deviant)

- Pd4 – Social Alienation
 - Feel isolated, that others do not understand them, and they are unloved; see others are responsible for their shortcomings
- Pd5 – Self-alienation
 - Uncomfortable, unhappy, have problem concentrating, experience regret over past, have problems settling down

Scale 6 (Paranoia)

- Pa1 – Persecutory Ideas
 - View the world as threatening, feel misunderstood, feel unfairly blamed or punished
- Pa2 – Poignancy
 - High-strung and sensitive, feel lonely, look for risky activities
- Pa3 – Naiveté
 - Have very optimistic attitudes about people, are trusting, see others as honest and altruistic

Scale 8 (Schizophrenia)

- Sc1 – Social Alienation
 - Feel others don't understand them and treat them unfairly, that other people have it in for them, have few loving relationships
- Sc2 – Emotional Alienation
 - Depressed and despairing, may wish they were dead, apathetic, have sadistic/masochistic needs
- Sc3 – Lack of Ego Mastery, Cognitive
 - Feel they might be losing their minds, have strange thought processes, have problems with concentration or memory

Scale 8 (Schizophrenia)

- Sc4 – Lack of Ego Mastery, Conative
 - Feel life is a strain, have problems with coping and worry, respond to stress by withdrawing
- Sc5 - Lack of Ego Mastery, Defective Inhibition
 - Feel lack of control over their emotions and impulses, restless and irritable, have laughing / crying episodes
- Sc6 – Bizarre Sensory Experiences
 - Have odd auditory / physical / auditory hallucinations

Scale 9 (Hypomania)

- Ma1 – Amoral
 - See others as selfish, dishonest and feel justified in behaving in similar ways
- Ma2 – Psychomotor Acceleration
 - Accelerated speech, thoughts, and motor activity, feel tense and restless, have dangerous impulses

Scale 9 (Hypomania)

- **Ma3 – Imperturbability**
 - Have low social anxiety, feel comfortable around others, but show lack of concern about others' opinions, values, and attitudes
- **Ma4 – Ego Inflation**
 - Feel very important, are resentful of others putting demands on them, and feel they have been treated unfairly

Subscales for 5 & 0

- Not developed by Harris and Lingoes
- Scale 5 subscales developed for MMPI, but not included with MMPI-2
- For scale 0, good reliability and validity for subscales

Scale 0 (Social Introversion)

- **Si1 – Shyness / Self-consciousness**
 - Socially uncomfortable, easily embarrassed, doesn't like new situations (high scores)
- **Si2 – Social Avoidance**
 - Avoid getting involved in groups, shy, have low achievement goals (high scores)
- **Si3 – Self / Other Alienation**
 - Low self-esteem, lack interest in activities, external locus of control, interpersonally sensitive (high scores)

MMPI-2 Content Scales

- Used items from the entire MMPI-2, rather than within each scale
- Very high internal consistency and short-term stability on the scales
- 12 of the 15 content scales also have a component scale
 - Only interpret if parent content scale is > 60 **and** one component scale is > 10 greater than others

Content Scales

- Anxiety (ANX)
 - Nervous, worried, concentration problems, feel hopeless
- Fears (FRS)
 - Feel uneasy and fearful, not very competitive, report high amounts of phobias
- Obsessiveness (OBS)
 - Hard time making decisions, are rigid, ruminate over small things, have OCD symptoms

Content Scales

- Depression (DEP)
 - Feel despondent, fatigued, lack of interest in activities, have sleep problems
- Health Concerns (HEA)
 - Deny good health, preoccupied with bodily functioning, have somatic stress symptoms
- Bizarre Mentation (BIZ)
 - May have psychotic thought processes, unusual thought content, be disorientated, have psychotic diagnoses

Content Scales

- **Anger (ANG)**
 - Feel very hostile, seen as irritable, grouchy, impatient, aggressive, critical, are impulsive
- **Cynicism (CYN)**
 - See others are dishonest, uncaring, are suspicious of others, demanding on others
- **Antisocial Practices (ASP)**
 - Have frequent trouble with authorities, generally cynical attitudes, manipulative, cold-hearted, self-centered

Content Scales

- **Type A Behavior (TPA)**
 - Hard driving, work-orientated, impatient, easily irritated, increased heart problems risk
- **Low Self-Esteem (LSE)**
 - Very poor self-concepts, give up easily, feel unable to do things, very passive
- **Social Discomfort (SOD)**
 - Shy, awkward around groups, are nervous, have limited interests

Content Scales

- **Family Problems (FAM)**
 - Lots of familial discord, resent demands of family, feel getting a "raw deal" from life
- **Work Interference (WRK)**
 - Have attitudes and behaviors that contribute to poor work performance, question career choice
- **Negative Treatment Indicators (TRT)**
 - Negative attitudes towards mental health providers, give up easily, poor problem solvers, show poor judgment

The MMPI-2

Restructured Clinical Scales and
Personality Psychopathology Five

Why RC Scales?

- Developed in 2003 to help improve the distinctiveness of each clinical scales
- Higher levels of reliability than OG clinical scales; measure similar but not identical concepts as the OGs
- RCs are less “saturated” with Demoralization than OGs, show greater discriminant validity

RC Interpretation

- Generally, only interpret T-scores > 65
1. If neither OG/RC is high, make no interpretations
 2. If both are high, can interpret both
 3. If OG high, but RC is not, high score may be more due to Demoralization than core construct of scale
 4. If OG not high but RC is, inferences about core is likely appropriate (Demoralization may be low)

RC Scales

- **Demoralization (RCd)**
 - Indicator of general emotional distress and turmoil; feel discouraged, have poor self-esteem
- **Somatic Complaints (RC1)**
 - Very similar to Scale 1 and HEA
- **Low Positive Emotions (RC2)**
 - Likely unhappy and at increased risk for depression (and anxiety, but not as much)

RC Scales

- **Cynicism (RC3)**
 - Assesses "avowal of excessive trust of others"; sees others as untrustworthy
- **Antisocial Behavior (RC5)**
 - Fairly "pure" measure of antisocial tendencies
- **Ideas of Persecution (RC6)**
 - Tend to feel targeted or controlled by outside forces; very high scores associated with schizophrenia symptoms

RC Scales

- **Dysfunctional Negative Emotions (RC7)**
 - Experience excessive negative emotions and have intrusive ideation, very insecure and brooding
- **Aberrant Experiences (RC8)**
 - Suggestive of psychotic disorders and related perceptual / behavioral problems
- **Hypomanic Activation (RC9)**
 - Manic behaviors and thought patterns, impulsive, very risk taking, very high scores indicative of bipolar problems

Personality Psychopathology Five

- Constructed to assess broad personality factors relevant to both psychopathology *and* normal functioning
- Similar to NEO-PI-R's scales, but with more focus on maladaptive traits
- Acceptable psychometric qualities for both reliability and validity

PSY-5 Scales

- Aggressiveness (AGGR)
 - Uses verbal and physical aggression to dominate and control others, have history of antisocial activities
- Psychoticism (PSYC)
 - Experience disconnect from reality, have unusual perceptual experiences, are alienated from self and others
- Negative Emotionality / Neuroticism (NEGE)
 - Focus on problems, have few friends, are highly self-critical and worry / feel guilty excessively

PSY-5 Scales

- Disconstraint (DISC)
 - High scorers are impulsive, take risks, seek excitement
 - Low scorers are very controlled, have high tolerance for boredom
- Introversion / Low Positive Emotionality (INTR)
 - High scorers have little ability to experience pleasure, feel pessimistic, and are socially awkward
 - Low scorers have very sociable, have lots of energy, and experience joy frequently

PSY-5 Scale Interpretations

- All five scales are interpretable for high (65+) scores
- Low scores (≤ 40) interpretable on DISC and INTR scales

The MMPI-2

Interpretation and Feedback

A “Good Cookbook”

1. What was the test-taking attitude of the examinee, and how should this attitude be taken into account in interpreting the protocol?
2. What is the general level of adjustment of the examinee?
3. What kinds of behaviors can be inferred about the examinee?
4. What are the most appropriate diagnostic labels for the person who produced the protocol?
5. What are the implications for treatment of the examinee?

Test-Taking Attitude

- How did the individual go about taking the test?
 - Observable behaviors such as time taken to complete
 - Overt statements about the test
 - Any other behaviors during the test that might have extra-test correlates
- Examine the validity scales

Adjustment Level

- Overall profile elevation
 - Average the T-scores from the eight clinical scales (exclude scales 5 and 0)
 - Scores of 45-55 are normal, 56-65 seen in general psychiatric patients
 - 66-80 seen in severe psychosis, serious reading problems, confusion, or "faking bad"
 - Above 85 can either be a crude attempt to simulate psychosis or very severe psychosis

Adjustment Level

- Goldberg Index
 - Actuarial formula to determine presence of psychosis
 - $(L + Pa + Sc) - Hy - Pt$
 - > 45 suggests psychotic profile
 - < 45 suggests non-psychotic / normal profile
 - Best used in inpatient settings

Adjustment Level

- Slope of profile
 - The steeper the slope, the greater the implied pathology
 - Positive slope (starts low goes high) indicative of high amounts of pathology and possible psychosis
 - Negative slope (starts high goes low) more indicative of neurotic symptoms

Traits and Behaviors

- Try to describe the following
 - Symptoms
 - Major needs
 - Perceptions of environment / other people
 - Reactions to stress
 - Self-concept
 - Emotional control
 - Typical pattern of interpersonal relationships
 - Psychological resources

Traits and Behaviors

- Goal should be to describe the person's symptoms and how those symptoms are likely to translate into the "real world"
- Use information from clinical scale elevations, code types, and clinical configurations

Traits and Behaviors

- Interpret clinical elevations and code types in relationship to other information about the examinee
 - Interviews, history, other questionnaire results
- Use content scales, H-L subscales, and RC scales to help explain elevations and make inferences about high scores
- If possible, use well-defined code types to describe traits instead of single scales

The Neurotic Triad

- Conversion Valley
 - High on scales 1 and 3, lower on 2, with all > 65
 - Likely to have a very defensive style, translate stressors in somatic problems
 - If 1 and 3 close to 90, likely to say that they “can’t cope any more”
 - The more pronounced the “V”, the more resistant to treatment and higher amount of problems
 - If lower 1 than 3, there’s a more positive prognosis for treatment

The Neurotic Triad

- Descending Pattern
 - Scale 1 highest, 3 the lowest with all > 65
 - Hypersensitive about physical problems, but very vague about those problems
- Inverted V
 - Scale 2 high, 1 and 3 lower with all > 65
 - Typically present as depressed with some somatic complaints

Other Clinical Configurations

- **Scarlet O'Hara V**
 - Scales 4 and 6 are > 65, 5 is < 35
 - Extremely dramatic and feminine, manipulative, present as passive-aggressive, often have marital / family problems
 - Poor prognosis for treatment

Other Clinical Configurations

- **Psychotic V or Paranoid Valley**
 - Scales 6 and 8 are > 80, scale 7 > 65
 - Typical of paranoid schizophrenics if profile is not invalidated
 - If scales 2 and 0 are > 60, more indicative of a thought disorder; if < 55, more likely to be a mood disorder with psychotic features

Diagnostic Impressions

- Based on typical traits and behaviors, move from there to possible diagnoses

- Integrate MMPI-2 results with other instruments, interviews, and history to make a more accurate diagnosis

Treatment Implications

- What do the elevations and code type say about possible treatment outcome?
- Also consider the validity scales and their implications for motivation
- What is the likelihood that treatment will be beneficial for this person?

Giving Feedback

- Ethically, psychologists have to be able to provide clients with test results in an easily understood manner
- This doesn't mean you have to "dumb things down"
- Instead you have to be able to communicate effectively and answer their questions

Feedback Guidelines

- Tailor your speech to the client
 - Some may be able to grasp complex ideas, others will need simple language
- Avoid jargon when talking and be sure to fully explain any terms the client may not understand
 - E.g., T-scores, standard deviation, etc.
- Don't focus solely on negative things, but attempt to present positive findings as well

Feedback Guidelines

- Avoid use of terms such as “deviant” and “pathological”

- Do not overwhelm the client with adjectives
 - Focus on the most important findings from the test and explain those fully

- Encourage open communication and asking questions during feedback

Feedback Guidelines

- Do not argue with clients, as this could increase their defensiveness and hurt rapport
 - Instead, tell them that sometimes the test shows different results from what a person believes

- At the end, ask for the client to summarize what you’ve told them during the feedback
 - This will help ensure that they actually do understand what is happening and avoid misunderstandings
