MMPI-2/ RF: Introduction & orientation

Internationally most widely used "personality test"
- More a test of psychopathology, really
  - hard to "look good" on the MMPI
- Empirical scale construction
- From diagnosis to "empirical manifesto"

Critical appraisal: Psychometrics
- Psychometric nightmare?
  - Item-overlap across scale
  - Numerous scales of varying reliability
  - Naming of scales: outdated, misleading, multi-factorial
- On the other hand:
  - Psychopathology DSM → lots of symptom overlap
  - Enormous database on "behavior" of scales
  - Know your instrument

Unique Selling Points MMPI-2
- Immense database
  - Worldwide most used in clinical practice and research
    (Butcher & Rouse 1996)
  - Developmental Continuity with MMPI-A
  - International, cross-cultural comparison
  - Validity Scales
    - Validity
    - Approach to testing
  - Clinical Relevance

Leap of faith: Cross-Cultural Robustness
- Dutch norms highly similar to the US normen
  - (Butcher, Derksen, Sloore, Sirigatti; 2003)
  - International continuity in structure of psychopathology (e.g., DSM)
  → Use of "cookbooks" is the leap…
    - Graham (2000, 2006); Butcher & Williams (2000)

Test Use in (rest of) Europe (Evers et al., 2011)
Clinical Relevance: MMPI-2 domains

- Validity and test-attitude
- Distress and Disturbance
- Major symptoms
- Personality and Interpersonal problems
- Treatment implications
- Diagnostic considerations
- Recommendations

Interpretation: means and aims

- Empirical correlates
- These can be assigned to domains:
  - Validity & Approach to testing
  - Major complaints/symptoms
  - Personality and IP Relations
  - Treatment Implications, Recommendations
- Toward a cohesive report, not a list!

Scales & other sources of information from the MMPI-2

- Validity scales
- Clinical scales & Code type
- Harris-Lingoes scales
- Content scales
- Supplemental scales
- Critical items

Lots of scales → know your instrument!!

Validity and Clinical Scales

Uniform T scores
MMPI-2 validity Scales speak to...

- Profile Validity: Yes/No
- Test Attitude: Defensive or open; degree (mild, moderate, severe) and nature (e.g., claiming unusual virtues or playing down; cry for help or self-critical).
- Distress: (none, mild, moderate, severe), look at F and Scales 2 (D) and 7 (Pt)

Validity: some guidelines for cut-offs (Butcher, 1995)

- Duration, (answer sheet)
- Setting, context!!
- CNS > 30
- VRIN, TRIN > 80
- L, S > 80
- F, Fb, Fp > 100;
- Profiles: e.g., “country cousin profile”

L, “Lie scale”
Rationeel ontwikkeld; claimen van buitengewone deugdzaamheid; geen bereidheid tot het toegeven van persoonlijke tekortkomingen

Naief-defensieve benadering:
- lager niveau van defenses (ontkenning, repressie)
- niet erg “psychologically sophisticated”

als L > 65: waarschijnlijk niet goed te interpreteren, L > 80 in niet valide

F, “Infrequency”

"Infrequency scale": composed of items that were so endorsed by <10% of the Minnesota normals
- Extremely heterogeneous group of items
- Problem: items are strongly confounded with distress!
- High scores: unconventional ideas, significant distress, fake bad?
- Low scores: conventional thinking, no significant distress, fake good?

K, “K-correction”

- Social Desirability scale; tendency to deny problems. Items that discriminated between (true) normals and a criterion group that produced a WNL profile in the context of significant psychopathology

- Rationale: psychopathology is inherently socially undesirable – elimination is futile. So: Let’s quantify and correct for it.
- K works, the correction does not → use uncorrected scores!
- “Looking healthy” by understating problems; (“not so bad”).
- Very low scores: self-critical, admits to unusual # of shortcomings
Clinical, Content-, Harris Lingoes-, Supplemental Scales speak to...

- Major symptoms: the major symptoms that the client would report; observable in a short intake
- Underlying personality: personality features, observable when one would know the client extensively; as others might describe him/her
- Behavior in relationships: how does the client deal with boundaries, conflicts, conflict, dependence versus autonomy, intimacy, sexuality?

Scale Construction & …
consequences for communication/feedback

- Clinical Scales: Empirical keying
  - Known groups: which items discriminate?
- Content Scales: Rational scale construction
  - Experts: what operationalizes [X; construct]?
    - Statistical optimization
Consequences: CS Scale construction

- CS:
  - assess symptoms and associated personality features/dynamics
  - hard to look good, high scores only
  - probabilistic statements
  - “individuals with these scores often exhibit…”
  - often heterogeneous
  - Patient may not be aware (feedback!)
  - overlapping (as does psychopathology…)
  - CS names: outdated, misleading, confounded

Empirical keying/ Radical empiricism

“every item finally chosen differentiates between criterion and normal groups and that is the reason for acceptance or rejection of the items. Frequently the authors can see no possible rationale to an item in a given scale; it is nevertheless accepted if it appears to differentiate”

Scale 1, Hs: degree of somatic complaints,

- Homogenous scale; “scalable” \(\rightarrow\) no HL
  - low: quite healthy, full of energy
  - high: lots of somatic symptoms, physical preoccupation
  - very high: probable psychological pay-off
- Medical disorders: cause moderate elevation, typically \(< T = 65\)
- Items tap several rather independent “systems”
- Associated personality features:
  - tendency to convert psychological problem into physical complaints;
  - described as “Egocentric; complaining; rigid; boring”

Scale 2, D: Depression

Less Homogenous, less a “scale” \(\rightarrow\) HL

- Mild elevation: esp. dysphoria
- Higher elevations: more likely involvement of vegetative Sxs
- Nature of depression can be modified by other scales
  - F \(\rightarrow\) chronic vs acute
  - T \(\rightarrow\) characterological
  - B \(\rightarrow\) agitated vs lethargic

Scale 3, Hy: “Hysteria”

- 2 major domains:
  - (1) “diffuse” somatic complaints
  - (2) denial of anxiety and anger; overly positive (“infantile”; immature); defensive denial of emotional & interpersonal problems
- In normals, these are relatively independent domains, but in “hysteric” they go together.
- Both elevations needed for \(T > 65\).

Scale 4, Pd: Psychopathic deviation

- Moderately homogeneous \(\rightarrow\) HL
- Assesses social adjustment: alienation of family, social insensitivity, trouble at school or with authorities, alienation of self and society
- When (major) elevation, associated with:
  - acting out, especially when under stress
    - substance use, addiction
    - criminal activities
    - sexual promiscuity
  - and with:
    - family conflict (ever or current)
    - narcissism
    - anger
Schaal 5, Mf: Masculin/ feminin: Genderrole stereotypic (of 50s)?

- Very heterogeneous...
- Original intent (1945): to identify men with problems of homosexuality and gender-identity
- Diverse domains (Martin & Finn, 1995), including:
  - hypersensitivity (inferiority)
  - narcissism
  - confounded met education

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Scale 6, Pa; Paranoia
- Moderately homogeneous $\rightarrow$ HL
- Designed to identify paranoid states. Items assess ideas of external influence, delusional thoughts, suspicion, interpersonal rigidity.
  - Mild elevation: some paranoid features; interpersonal sensitivity; suspicion, on guard, blaming easily hurt/insulted
  - Major elevation: true paranoid ideation, delusions

Scale 7, Pt: “Psychasthenia”
- Relatively homogenous $\rightarrow$ no HL
- Nevertheless two domains:
  - (1) anxiety
  - (2) cognitive hyperactivity (most often related to anxiety): worry, rumination, difficulty with concentration
- Index of:
  - psychological distress; feelings of inferiority, guilt
  - obsessional features, perfectionism; difficulty making decisions, insecurity

Scale 8, Sc: “Schizophrenia”
- Rather Heterogeneous $\rightarrow$ HL
- Domains:
  - (1) unusual ideation and thought processes
  - (2) social isolation; perception being "outcast", "misfit"
- Elevated 8 NE Psychosis!!

Scale 9, Ma: “Mania”
- Not homogenous; 3 highly intercorrelated domains:
  - (1) grandiosity
  - (2) immorality
  - (3) level of energy
- These 3 components go together in a typical hypomanic episode
  - $T = [70 - 75]$: somewhat agitated/ hyperactivated
- "energizes" other scales (bv. 49/94; 89/98; 69/96); "catalyst"; e.g. moderates 2
Schaal 0, Si:
Social Introversion
- Homogenous, low scores mean something
- P trait like:
  - Social withdrawal
  - Anxiety in social situations
  - "Nervous"
- Low scores:
  - Absence of anxiety/ tension in social situations
  - Sociable

Content Scales
Rational Scale construction →
- Like most other self-report symptom lists (BDI; SCL 90)
- Psychometrically superior (to CS)
- Homogenous
- Compare elevation to CS "nephew" scale:
  - To what extent is the patient aware of this problem?
  - Consequences for feedback!

Harris-Lingoes scales
- for "fine-tuning" of the interpretation of the (CS) source scale
- Rational subdivision of the heterogeneous scales
- Rule of thumb: interpret only when CS and HL GE 65

Supplemental scales
Supplemental Scales

- Incremental validity generally modest
- Often lack specificity (e.g. PS)
- Some good indices for Substance use disorder

Critical Items

- At face value; not relevant for interpretation
- Clinically relevant: topics like
  - violence
  - suicidality
  - substance abuse
- Salient, unexpected findings → check!!

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Why restructure the CS?

Auke Tellegen

It is generally the case that correlations between measures of adjustment tend to be substantial, giving rise to a large -- sometimes very large -- general demoralization or subjective discomfort factor in such inventories as the MMPI... One challenge in developing new self-report scales is to find ways of not measuring this general factor (p. 692).

Jerome D Frank

"Only a small proportion of persons with psychopathology come to therapy: apparently something else must be added that interacts with their symptoms. This state of mind, which may be termed 'demoralization', results from persistent failure to cope with internally or externally induced stresses... Its characteristic features, not all of which need to be present in any person, are feelings of impotence, isolation, and despair" (p.271).
Empirical keying/
Radical empiricism

"every item finally chosen differentiates between criterion and normal groups and that is the reason for acceptance or rejection of the items. Frequently the authors can see no possible rationale to an item in a given scale; it is nevertheless accepted if it appears to differentiate"

Consequences...
The MMPI-2 has...
- Strongly elevate correlations between scales
- Considerable item overlap
- Heterogeneous content per CS

Problems in convergent and divergent validity

Highly prevalent, then what...?

CS and severe psychopathology

Depressed Inpatients
Addiction inpatients

The RC Manual and (some of) its authors


What are the RC scales?

A set of 9 additional scales, including:
- One index of Demoralization
- Eight scales that measure the distinctive core aspect of each of the 8 CS
  (i.e. CS 1, 2, 3, 4, 6, 7, 8, 9)
Demoralization?

Catching Demoralization

Sample Items:
- 'Most of the time I feel blue' (T)
- 'I am happy most of the times' (F)
- 'I certainly feel useless at times' (T)

Hypotheses:
- Lots of Demoralization items in CS
- Clinically valuable to assess (in 1 scale)
- Similar to a Happy-Sad dimension/ Pleasant-Unpleasant affect
- Positive correlation with NA, Negative with PA; MMPI proxies are CS2 en CS7

Determining the distinctive core component of each CS

Hypotheses:
1. Demoralization is NOT the core of the CS
2. Removing Demoralization will help to find the core items

Determining the distinctive core component of each CS - II

Factor analyses of each CS with the DEM itemset yielded:
- A Demoralization factor
- A factor representing the core specific component of that CS: 'the Seed scales'

Finalizing the RCs using correlational analyses

Item correlations with Seed scales and all other MMPI-2 items, searching for:
- Maximal correlations with specific Seed scale of adequate size (convergence)
- Low correlations with other items (divergence)
MMPI-2-RF: RC Scales

- RCd: Demoralization – General unhappiness and dissatisfaction
- RC1: Somatic Complaints – Diffuse physical health complaints
- RC2: Low Positive Emotions – Lack of positive emotional responsiveness
- RC3: Cynicism – Non-self-referential beliefs expressing distrust and a generally low opinion of others
- RC4: Antisocial Behavior – Rule breaking and irresponsible behavior

MMPI-2-RF: RC Scales

- RC6: Ideas of Persecution – Self-referential beliefs that others pose a threat
- RC7: Dysfunctional Negative Emotions – Maladaptive anxiety, anger, irritability
- RC8: Aberrant Experiences – Unusual perceptions or thoughts
- RC9: Hypomanic Activation – Over-Activation, aggression, impulsivity, and grandiosity

From RC Scales to Restructured Form

Van RC → RF

- What other meaningful variance is contained within these 567 items?
- Special problem Scales: cf Content Scales
- Total of 338 items in use
- What is the higher order structure?
  - Higher Order Scales (Krueger, Achenbach)

CS profile Patient A

Two cases...
CS profile Patient B

RC profile Patient A

RC profile Patient B

CS and RCs for patients with and without comorbid Axis-II conditions

The RCs & divergent validity

Patient A

Patient B

(Kindt, Ben-Porath, Arizzi, McNulty, Eur J of Psych Assess, 2008)
MMPI-2-RF Overview

51 Scales:
- 9 Validity Scales
- 3 Higher-Order Scales
- 9 RC Scales
- 23 Specific Problems Scales
  - 5 Somatic/Cognitive
  - 9 Internalizing
  - 4 Externalizing
  - 5 Interpersonal
- 2 Interest Scales
- 5 PSY-5 Scales

MMPI-2-RF: Higher-Order Scales

- EID – Emotional/Internalizing Dysfunction – Problems associated with mood and affect
- THD – Thought Dysfunction – Problems associated with disordered thinking
- BXD – Behavioral/Externalizing Dysfunction – Problems associated with under-controlled behavior

Patient A + Higher Order Scales

Patient B + Higher Order Scales

RF: New whistles and bells!