The MMPI-2 Restructured Clinical (RC) Scales

Introduction

• The nine RC Scales constitute a new set of scales and include:
  – A measure of “Demoralization”
  – Eight scales representing distinctive core features of Clinical Scales.
    • Related to, but distinct from the Clinical Scales
  – RC scales are non-overlapping (no shared items across the nine scales)
Why Restructure the Clinical Scales?

- Strengths of Clinical Scales:
  - Empirical keying
  - Extensive empirical validation
  - Extensive practical experience

- Questions about Clinical Scales:
  - Higher than expected scale intercorrelations
  - Extensive item overlap
  - Questionable “subtle” items
  - Problems of convergent and discriminant validity
  - Lack of theory

Criticism of the MMPI/MMPI-2

- Item overlap and shared variance across the clinical scales
  - Leads to multiple scale elevation and attenuated discriminate validity especially in settings marked by high levels of psychopathology.

- Factor analysis of the clinical scales revealed a large first factor variously attributed to
  - Acquiescence or social desirability
  - Welsh’s first factor “general distress” or “general maladjustment”.

- The shared factor is an artifact of empirical scale construction.
Developing the RC Scales

Steps in RC Scale construction:
1. Capturing Demoralization
2. Identifying distinctive “core” components of Clinical Scales
3. Constructing Seed Scales for each core component
4. Deriving final RC Scales

Developing the RC Scales

• Step 1: Capturing Demoralization
  – Related to “MMPI-2 first factor”
  – Welsh’s A
  – General Maladjustment
Developing the RC Scales

• Hypotheses about Demoralization:
  – Many Demoralization items in MMPI-2 Clinical Scales
  – Clinically significant, worth measuring
  – Equivalent to general Pleasant-Unpleasant or Sad-Happy dimension of self-reported affect
  – Shared by most clinical conditions, but not distinctive of any one emotional/psychological disorder.

Developing the RC Scales

• Hypotheses about Demoralization (continued):
  – Positively correlated with Negative Activation, including anxiety
  – Negatively correlated with Positive Activation: increasing risk for depression
  – Recoverable through factor analyses of combined items of Clinical Scales 2 and 7
Developing the RC Scales

• Completion of Step 1:
  – Identification of set of Demoralization items

• Factor analysis of items from clinical scales 2 and 7 revealed one large factor of items from both scales (demoralization) and items unique to scale 2 and unique to scale 7, the core components of the respective scales.

Developing the RC Scales

• Hypotheses about distinctive core components:
  – Demoralization not distinctive core of any Clinical Scale
  – Removal of Demoralization items from Clinical Scales necessary to obtain more convergently and discriminantly valid measures
Developing the RC Scales

• Working hypotheses about distinctive core components (continued):
  - Item factor analyses of each individual Clinical Scale combined with Demoralization items will reveal Demoralization factor and factor representing distinctive core of Clinical Scale in question

Developing the RC Scales

• Completion of Step 2:
  Identification of distinctive core components (factors) in each Clinical Scale by combining the items from each scale with the demoralization items in a factor analysis.
Developing the RC Scales

• Distinctive core of Clinical Scale 1: Somatic Complaint items

• Distinctive core of Clinical Scale 2: Low Positive Emotion or anhedonia items

Developing the RC Scales

• Distinctive core of Clinical Scale 3: Cynicism items
  – Reversed scored naiveté items
  – Scale 3 heterogeneous and other components were identified.

• Distinctive core of Clinical Scale 4: Antisocial Behavior items
Developing the RC Scales

• Distinctive core of Clinical Scale 6: Items reflecting paranoid and persecutory ideation items.

• Distinctive core of Clinical Scale 7: items associated with Dysfunctional Negative Emotions such as tension, anxiety, and nervousness.

Developing the RC Scales

• Distinctive core of Clinical Scale 8: items indicating unusual sensory experiences, disordered thinking and Aberrant experiences
• Distinctive core of Clinical Scale 9: items associated with Hypomanic Activation
Developing the RC Scales

• Step 3:
  Deriving Restructured Clinical Seed (S) Scales

Developing the RC Scales

• Purpose of S Scales:
  - Represent identified Clinical Scale core components
  - Maximize Seed Scale distinctiveness
  - Use to develop final RC Scales
Developing the RC Scales

• Completion of Step 3:
  – Identification of Clinical Scale items adequately correlated with core for that scale and minimally correlated with core for other scales (and Demoralization)
  – Development of 12 relatively brief S scales for Demoralization, RC1, RC2, RC3, RC4, RC6, RC7, RC8, RC9, (seed scales also developed for Scale 5 and 0 RC5m, RC5f, RC0)

• Step 4: Deriving final RC Scales
  – To represent identified core component of each Clinical Scale with exception of Scales 5 and 0 (not measures of psychopathology)
  – Obtain correlations of all 567 MMPI-2 items with all 12 S scales in four clinical samples (psychiatric men, psychiatric women, ETOH men, ETOH women)
  – Select item if meet all three criteria in all four samples
    • General: highest correlation across all samples
    • Convergent: Above a threshold correlation with seed scale
    • Divergent: Below a threshold correlation with other seed scales
Developing the RC Scales

• Additional refinements:
  – Special analyses to make core features of RC7 and RC9 more distinctive
  – Internal consistency analyses to identify unsatisfactory items
  – Remove or reassign items on basis of correlations with external criteria

Scale Names, Abbreviations and Number of Items

<table>
<thead>
<tr>
<th>Restructured Scales</th>
<th>Clinical Scales</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scale Name</td>
<td>Abbreviation</td>
</tr>
<tr>
<td>Demoralization</td>
<td>RCdem</td>
</tr>
<tr>
<td>Somatic Complaints</td>
<td>RCsom</td>
</tr>
<tr>
<td>Low Positive Emotions</td>
<td>RC2pe</td>
</tr>
<tr>
<td>Cynicism</td>
<td>RC3yn</td>
</tr>
<tr>
<td>Antisocial Behavior</td>
<td>RC4asb</td>
</tr>
<tr>
<td>Ideas of Persecution</td>
<td>RC6per</td>
</tr>
<tr>
<td>Dysfunctional</td>
<td>RC7dne</td>
</tr>
<tr>
<td>Negative Emotions</td>
<td>RC8ae</td>
</tr>
<tr>
<td>Aberrant Experiences</td>
<td>RC9bs</td>
</tr>
<tr>
<td>Total = 192</td>
<td></td>
</tr>
</tbody>
</table>
RC Scales

- Shorter and more homogenous than component clinical scale
- No item overlap between the RC scales
- RC scale names describe phenomena not diagnoses.

Summary of Findings Reported in Tellegen et al. (2003)

- Reliability
  - Though they are substantially shorter, the RC scales generally have alphas comparable to or better than the clinical scales.
  - Test-retest reliability is higher for many RC scales compared with their clinical scale counter-parts.
  - Removal of common factor variance does not attenuate the RC scales’ reliability.
- RC Scale/Clinical Scale Correlations
  - The RC scales are correlated substantially with their clinical scale counter-parts.
  - The expected exception is Scale 3 and RC3Cyn.
Convergent and Discriminant Validity: Conclusions

- The RC scales (in comparison with the clinical scales) show substantial improvement in their discriminant validity.
- The RC scales often show substantial improvement in their convergent validity as well.
- Discriminant validity is most enhanced for RC scales measuring non-affect variables (i.e., acting out and psychosis).
- Extraction of common variance associated with demoralization substantially reduces inter-correlations among the RC scales.

MMPI-2 RC Scales Interpretation
RC Scale Interpretation: General

• Like content scales, items are very “transparent” – so pay particular attention to the validity scales.
• Standard scores are uniform T scores.
• Clinically significant elevation begins at T-score 65.
• Low scores on RC3 are interpretable.
• For remaining RC Scales little consistent evidence for low score interpretation.

RC Scale Interpretation: Demoralization (RCd)

• Should always be starting point for interpretation.
• Overall indication of individual’s current level of emotional (dys)functioning.
• Substantial elevation will likely co-occur with diffuse elevation pattern on Clinical Scales.
RC Scale Interpretation:
Demoralization (RCd)

• Elevated scores indicate:
  – General demoralization
  – Complaints of anxiety and depression
  – Insecurity
  – Pessimism
  – Low self-esteem
  – Tension
  – Demoralization leads to expectations and/or perceptions of failure.
  – If T-score > 75, individual may be experiencing significant emotional turmoil and report feeling overwhelmed and incapable of coping with current circumstances.

RC Scale Interpretation:
Somatic Complaints (RC1)

• Elevated scores indicate:
  – Large number of somatic complaints
  – Preoccupation with bodily concerns
  – Presentation of diffuse somatic concerns
  – Complaints of:
    • Fatigue
    • Weakness
    • Chronic pain
  – Somatic responses to stress or inter-personal difficulties
RC Scale Interpretation:  
Somatic Complaints (RC1)

• If T-score ≥ 75:
  – a highly unusual degree and combination of somatic complaints, even for someone with genuine health problems
  – Individual is highly preoccupied with perceived physical maladies and will likely reject any psychological interpretations of their sources.

RC Scale Interpretation:  
Low Positive Emotions (RC2)

• Elevated scores indicate:
  – Increased risk for depression
  – Insecurity
  – Pessimism
  – Passive social withdrawal
  – Anhedonia
  – Report:
    • Boredom
    • Isolation
    • Low energy
  – Uncomfortable with leadership or decision-making
  – Low need and expectations for achievement
RC Scale Interpretation:
High Scores on Cynicism (RC3)

• Elevated scores indicate:
  – Belief that others:
    • Look out only for self interests
    • Will try to take advantage
    • Therefore, are untrustworthy
  – Individual avoids situations where might be taken advantage of
  – Difficulties forming interpersonal relationships
  – Expect to fail, blame others when this occurs

RC Scale Interpretation:
Low Scores on Cynicism (RC3)

• T-scores < 40:
  – Naïve
  – Gullible
  – Overly trusting
### RC Scale Interpretation: Antisocial Behavior (RC4)

- Elevated scores indicate:
  - Anti-social behavior
  - Interpersonal aggression
  - Critical
  - Angry
  - Argumentative
  - Difficulty conforming to social norms and expectations.
  - Legal difficulties
  - Increased risk for substance abuse and sexual acting out.
  - Conflictual relationships
  - Poor achievement

### RC Scale Interpretation: Ideas of Persecution (RC6)

- Elevated scores indicate:
  - Significant paranoid ideation
  - View others as source of malevolent threat
  - View selves as victims of others’ ill intentions
  - Overtly suspicious and, as a result, experience difficulties forming trusting relationships
  - Feel mistreated, picked upon
RC Scale Interpretation: Ideas of Persecution (RC6)

- If T-score > 75
  - Reports prominent persecutory ideation.
  - Likely experiencing paranoid delusional thinking
  - May be symptomatic of psychotic disorder such as Schizophrenia or Delusional Disorder.

RC Scale Interpretation: Dysfunctional Negative Emotions (RC7)

- Elevated scores indicate:
  - Increased risk for anxiety or anxiety-related disorder
  - Rumination
  - Excessive worry
  - Sensitivity toward criticism
  - Perceive criticism where none intended
  - Brooding
  - Preoccupation with self-perceived failure
  - Guilt
  - Insecurity
  - Intrusive, unwanted ideation
RC Scale Interpretation: Aberrant Experiences (RC8)

- Elevated scores indicate:
  - Report of unusual thought processes and perceptions:
    - Bizarre perceptual experiences up to hallucinations
    - Delusional beliefs such as thought broadcasting
  - Moderate elevations ($T=65-74$) may indicate schizotypal characteristics.
  - Higher elevations ($T>75$) suggest possible schizophrenia, delusional disorder, or schizoaffective disorder.

RC Scale Interpretation: Hypomanic Activation (RC9)

- Elevated scores indicate:
  - Grandiose self-view
  - General excitation
  - Sensation-seeking
  - Risk-taking
  - Poor impulse control
  - Euphoria
  - Decreased need for sleep
  - Racing thoughts
  - Aggressive tendencies
- If $RC9 > 75$, active manic or hypomanic episode may be present.