

# 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 discriminant 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)

## Developing the RC Scales

- 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

Restructured Scales			Clinical Scales		
Scale Name	Abbreviation	Items	Scale Name	Abbreviation	Items
Demoralization	RCdem	24			
Somatic Complaints	RC1som	27	Hypochondriasis	Hs	32
Low Positive Emotions	RC2lpe	17	Depression	D	57
Cynicism	RC3cyn	15	Hysteria	Hy	60
Antisocial Behavior	RC4asb	22	Psychopathic Deviate	Pd	50
Ideas of Persecution	RC6per	17	Paranoia	Pa	40
Dysfunctional Negative Emotions	RC7dne	24	Psychasthenia	Pt	48
Aberrant Experiences	RC8abx	18	Schizophrenia	Sc	78
Hypomanic Activation	RC9hpm	28	Hypomania	Ma	46

Total = 192

Total = 257

## 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  $\geq 75$ , 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  $\geq$  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 $\geq$ 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  $\geq$  75, active manic or hypomanic episode may be present.