Feeling, Thinking, Acting

Three Basic Functions,
a Persistent Tradition, Both?

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Summary

- Classical and contemporary classifications of human activities include well-known "tripartite" models (such as cognitive-behavioral models of affect, cognition, and behavior). Six of these were selected and adapted for the present analysis.
- A more recent 7th model was added: a 3-dimensional psychometric structure, the MMPI-2-RF dimensions of Emotional-Internalizing, Thought, and Behavioral-Externalizing Dysfunction, or EID, THD, BXD, respectively. Serving as a starting point, this model is examined in Part I.
- In Part II, a joint exploratory content analysis of all 7 tripartite models is reported. Its results serve to determine whether and to what extent these diverse classifications combine into one overall tripartite structure. These results may also help gauge the broader significance of the EID-THD-BXD tripartition.

Part I. Analyses Relating to EID, THD, and BXD Indicate *Robustness, Generalizability,* and *Continuity*

- *Robustness* (a): EID, THD, and BXD are replicated higher-order dimensions of the Restructured Clinical (RC) Scales
- *Robustness* (b): EID, THD, and BXD remain replicated higher-order dimensions when the RC Scales are augmented with additional scales
- *Robustness* (c): EID, THD, and BXD are very similar to three other major MMPI dimensions that had been rationally derived
- *Continuity*: The EID, THD, and BXD dimensions are typologically foreshadowed by major and distinctive MMPI "two-point codes" based on the original MMPI Clinical Scales

Robustness(a): EID, THD, and BXD are replicated higher-order dimensions of the RC Scales

- Exploratory factor analyses of the 9 RC scales were conducted on data from both outpatient and inpatient psychiatric samples.

Higher-Order Factor Structure of the RC Scales

Outpatients (N=1020)	"EID"	"THD"	"BXD"
RCd	**.86**	.23	.27
RC1	**.53**	.48	.07
RC2	**.83**	.13	-.12
RC3	.28	**.45**	.36
RC4	.18	.20	**.45**
RC6	.21	**.61**	.25
RC7	**.62**	.38	.38
RC8	.19	**.75**	.33
RC9	-.11	.27	**.86**

Inpatients (N=2452)	"EID"	"THD"	"BXD"
RCd	**.85**	.25	.33
RC1	**.45**	.44	.16
RC2	**.85**	.08	-.07
RC3	.19	**.46**	.41
RC4	.24	.17	**.49**
RC6	.12	**.71**	.19
RC7	**.55**	.54	.47
RC8	.17	**.83**	.28
RC9	-.09	.32	**.94**

Robustness(b): EID, THD, and BXD remain replicated higher-order dimensions when the RC Scales are augmented with additional scales

- The additional scales are 13 of the MMPI-2 Content Scales. This scale set had been derived on the basis of a rationale and using methods quite different from how the RC scales were developed. Exploratory factor analyses of this augmented set of 22 scales were again conducted on data from outpatient and inpatient psychiatric samples.

Higher-Order Factor Structure of the Combined RC Scales and Content Scales

	Outpatients (N=1020)			Inpatients (N=2452)		
	"EID"	"THD"	"BXD"	"EID"	"THD"	"BXD"
RCd	**.85**	.21	.30	**.87**	.20	.32
RC1	.50	**.63**	.07	.48	**.56**	.12
RC2	**.84**	.12	-.05	**.87**	.06	-.06
RC3	.24	.32	**.60**	.19	.34	**.64**
RC4	.17	.05	**.58**	.25	.03	**.59**
RC6	.18	**.52**	.43	.11	**.64**	.33
RC7	**.64**	.42	.47	**.58**	.47	.52
RC8	.15	**.70**	.43	.17	**.76**	.37
RC9	-.08	.17	**.80**	-.04	.27	**.80**
anx	**.73**	.36	.32	**.77**	.31	.34
frs	.31	**.47**	.07	.24	**.50**	.10
obs	**.62**	.35	.42	**.61**	.40	.44
dep	**.80**	.24	.32	**.85**	.17	.34
hea	.49	**.66**	.09	.46	**.57**	.14
biz	.15	**.70**	.47	.13	**.76**	.38
ang	.39	.17	**.67**	.40	.21	**.67**
cyn	.23	.35	**.68**	.19	.40	**.69**
asp	.08	.06	**.78**	.14	.15	**.80**
tpa	.25	.21	**.70**	.21	.34	**.70**
lse	**.79**	.27	.25	**.76**	.30	.30
fam	.45	.30	**.49**	.41	.27	**.55**
sod	**.65**	.15	.07	**.67**	.10	.10

Robustness (c): EID, THD, and BXD are very similar to three other major MMPI dimensions that had been rationally derived

- The MMPI-2-RF higher-order EID, THD, and BXD scales were compared with Swanson et al.'s (1995) rationally derived MMPI-TRI (Three-scale MMPI short form) Subjective Distress (SDS), Psychosis (PSY), and Acting-Out (ACT) scales, as follows:
- Non-overlapping parcels were assembled from the MMPI-2-RF Higher-Order scales and the corresponding MMPI-TRI scales: 3 from EID and SDS, 3 from THD and PSY and 3 from BXD and ACT. These 9 scales were factor analyzed.

Factor Structure of 9 Non-Overlapping Parcels Assembled from the MMPI-2-RF Higher-Order scales and corresponding MMPI-TRI Scales

Psychological Clinic

	Men (N=332) Factor				Women (N=796) Factor		
	"EID"	"THD"	"BXD"		"EID"	"THD"	"BXD"
EIDandSDS	**.88**	.18	.13	EIDandSDS	**.89**	.17	.12
EIDnoSDS	**.91**	.14	.06	EIDnoSDS	**.87**	.17	.06
SDSnoEID	**.77**	.23	.06	SDSnoEID	**.76**	.19	.16
THDandPSY	.16	**.70**	.14	THDandPSY	.18	**.77**	.12
THDnoPSY	.20	**.79**	.15	THDnoPSY	.18	**.77**	.21
PSYnoTHD	**.50**	.48	.31	PSYnoTHD	**.52**	.51	.28
BXDandACT	.02	.19	**.83**	BXDandACT	.04	.17	**.75**
BXDnoACT	.07	.07	**.71**	BXDnoACT	.10	.09	**.72**
ACTnoBXD	.33	.20	**.43**	ACTnoBXD	.35	.25	**.50**

Continuity: The EID, THD, and BXD dimensions are typologically foreshadowed by major and distinctive MMPI 2-point codes

- Soon after the introduction of the MMPI it was realized that the original goal: using this inventory in a bold and straightforward manner as a paper-and-pencil diagnostic device, had not been achieved.
- Why not? Because of certain interrelated problems with the Clinical Scales, such as the marked heterogeneity, item overlap, high scale inter-correlations, and overly strong "demoralization" saturation of most Clinical Scales.
- Alternative methods had to be developed, designed to be more informative than simply listing correlates of individual Clinical Scales.

- *Dimensional* approaches resulted in the recovery of two higher-order factors from the Clinical Scales and the construction of corresponding *scales*. Best known (and still included in the MMPI-2 Manual): Welsh's A and R scales. Also well known: Jack Block's conceptually related measures of Ego Resilience and Ego Control.
- *Categorical* approaches were implemented with collections of Clinical-Scale "*profile types"* or "*code types"*.

- For several reasons, the original two-factor dimensional framework has not played an important role in MMPI and MMPI-2 interpretive practices. Undoubtedly one reason is that no separate Emotional Dysfunction and Thought Dysfunction dimensions were recovered from the Clinical Scales.
- In contrast, the code-type approach to interpreting test results has been predominant for decades. Using this approach it was feasible to get to some extent around now well-recognized limitations of the Clinical Scales, and to provide informative empirical correlates.

- With the introduction of the RC scales and of the EID, THD, and BXD scales based on them, the dimensional approach has been re-activated. A growing number of empirical studies now supports this new dimensional framework at both the RC and EID-THD-BXD scale levels.
- However, given the empirical validation record of the code-type approach, meaningful continuity with the categorical past was still expected.

- In their comprehensive MMPI-2 code-type study, Archer, Griffin, & Aiduk (1995) single out as one of their most striking findings the relative continuity between MMPI and MMPI-2 code descriptors, as illustrated by what they call the "prototypic" 2-7/7-2 ("neurotic"), 6-8/8-6 ("psychotic"), and 4-9/9-4 ("characterological") profiles.
- Related to this point and directly pertinent to our current concern, for a subset of 420 members of their inpatient sample, their report includes the frequencies of "2-point code" T-score elevations ≥ 65 on any 2 of the 8 Clinical Scales (Hs, D, Hy, Pd, Pa, Pt, Sc, Ma).
- These 420 data points yield an 8 x 8 symmetric matrix of (8 x 7)/2 = 28 possible 2-point code frequencies.

Two-Point Code Frequencies of MMPI-2 Clinical Scales

	1Hs	3Hy	2D	7Pt	6Pa	8Sc	4Pd	9Ma
1 Hypochondriasis	420	**15**	4	0	6	4	2	9
3 Hysteria	15	420	**23**	2	8	6	7	2
2 Depression	4	23	420	**32**	12	26	27	1
7 Psychasthenia	0	2	**32**	420	6	21	10	3
6 Paranoia	6	8	12	6	420	**80**	42	13
8 Schizophrenia	4	6	26	21	**80**	420	26	11
4 Psychop Dev	2	7	27	10	**42**	26	420	22
9 Hypomania	9	2	1	3	13	11	**22**	420

- For the present analysis, the 420 two-point code frequencies were converted into a matrix of relative frequencies to be factor-analyzed.

Two-Point Code Probabilities of MMPI-2 Clinical Scales

	1Hs	3Hy	2D	7Pt	6Pa	8Sc	4Pd	9Ma
1 Hypochondr	1.000	**.036**	.010	.000	.014	.010	.005	.021
3 Hysteria	. 036	1.000	**.055**	.005	.019	.014	.017	.005
2 Depression	.010	.055	1.000	**.076**	.029	.062	.064	.002
7 Psychasthenia	.000	.005	**.076**	1.000	.014	.050	.024	.007
6 Paranoia	.014	.019	.029	.014	1.000	**.190**	.100	.031
8 Schizophrenia	.010	.014	.062	.050	**.190**	1.000	.062	.026
4 Psychop Dev	.005	.017	.064	.024	**.100**	.062	1.000	.052
9 Hypomania	.021	.005	.002	.007	.031	.026	**.052**	1.000

- The specific purpose of the factor-analytic exploration was to determine if Archer et al.'s (1995) 2-7, 6-8, and 4-9 "prototypic" profile constructs would be corroborated by a factor analysis of their two-point code data.
- Such a result would empirically connect these three historical categorical constructs to the current dimensional EID, THD, and BXD constructs, respectively (the topic of this section).
- Four factors were extracted, to accommodate also the 1-3 profile type.

Factor Structure of Two-Point Code Probabilities of MMPI-2 Clinical Scales

	Factor			
	"68"	"49"	"27"	"13"
1Hs	.02	.02	.00	**.12**
3Hy	.00	.02	.06	**.30**
2D	.03	.06	**.36**	.10
7Pt	.04	.00	**.21**	-.02
6Pa	**.41**	.17	.00	.05
8Sc	**.44**	.05	.13	.02
4Pd	.06	**.41**	.10	.01
9Ma	.04	**.12**	.00	.02

Part II. Content Similarity Judgments of 7 Tripartite Models of the Human Mind Indicate an Overarching Tripartite Structure, i.e., *Generality*

- Seven tripartite classifications of basic mental functioning were selected from known and diverse sources (psychological, nosological, traditional, theological, literary).
- The components of each tripartition were thought to describe, from different perspectives, basic Affective (A), Cognitive (C) and Behavioral (B) attributes.
- The 21 descriptors from the 7 tripartite classifications were reviewed and, when necessary, **were reversed** to describe dysfunction.

Seven Tripartite Classifications of Basic (Dysfunctional) Mental Functioning

1. A1 Emotionally Dysfunctional
   C1 Thinking Dysfunctionally
   B1 Behaviorally Dysfunctional
   Source: Tradition
2. A2 Neurotic
   C2 Psychotic
   B2 Conduct-Disordered
   Source: P. E. Meehl
3. A3 Emotionally Disturbed, Upset
   C3 Having Irrational Beliefs
   B3 Behaviorally Maladaptive, Self-Defeating
   Source: A. Ellis
4. A4 Dysfunctional in the Area of Affect (of feeling, pain, pleasure)
   C4 Dysfunctional in the Area of Cognition (of knowing, understanding)
   B4 Dysfunctional in the Area of Conation (of action, desire, willing)
   Source: I. Kant (reversed)
5. A5 Sad
   C5 Mad, Insane
   B5 Bad, Behaving Badly
   Source: R. Browning
6. A6 Without Hope, Hopeless
   C6 Without Faith, Not Believing
   B6 Unloving, Not Charitable
   Source: St. Paul (reversed)
7. A7 Powerless, Impotent
   C7 Uniformed, Ignorant
   B7 Indifferent, Uncaring
   Source: Christian Affirmation of Faith (reversed)

Content Analysis

- Six judges sorted blindly the 21 descriptors (presented in random order) into groups of terms they considered to be similar in content. They also completed a second sort by merging as many groups of their first sort as they chose to, again on the basis of perceived similarities.
- The 12 sorts of the 21 descriptors were combined to form a 21 x 21 matrix of pairwise co-occurrence frequencies, with each cell of the matrix containing a number ranging from 0 to 12, indicating how many of the 12 sorts included the pair of descriptors corresponding to that cell. In all, 508 pairwise co-occurrences were generated.

Co-occurrence Frequencies Based on Judged Similarities of the 21 Descriptors

		A1	A2	A3	A4	A5	A6	A7	C1	C2	C3	C4	C5	C6	C7	B1	B2	B3	B4	B5	B6	B7
1	A1	508	**12**	**12**	**8**	**6**	**6**	2	2	0	0	2	0	0	0	0	0	2	1	0	2	2
2	A2	**12**	508	**12**	**7**	**6**	**6**	2	2	0	0	2	0	0	0	0	0	2	0	0	2	2
3	A3	**12**	**12**	508	**6**	**6**	**6**	2	2	0	0	2	0	0	0	0	0	2	1	0	2	2
4	A4	**8**	**7**	**6**	508	**11**	**11**	**5**	2	0	0	2	0	1	0	0	0	1	4	0	2	4
5	A5	**6**	**6**	**6**	**11**	508	**12**	**5**	2	0	0	2	0	2	0	0	0	0	4	0	2	4
6	A6	**6**	**6**	**6**	**11**	**12**	508	**5**	2	0	0	2	0	2	0	0	0	1	4	0	2	4
7	A7	2	2	2	**5**	**5**	**5**	508	0	0	0	0	0	2	0	1	1	3	**8**	1	2	4
8	C1	2	2	2	2	2	2	0	508	**10**	**10**	**9**	**10**	2	3	0	0	0	0	0	0	0
9	C2	0	0	0	0	0	0	0	**10**	508	**12**	**7**	**12**	2	3	0	0	0	0	0	0	0
10	C3	0	0	0	0	0	0	0	**10**	**12**	508	**7**	**12**	2	3	0	0	0	0	0	0	0
11	C4	2	2	2	2	2	2	0	**9**	**7**	**7**	508	**7**	2	**6**	0	0	0	0	0	0	0
12	C5	0	0	0	0	0	0	0	**10**	**12**	**12**	**7**	508	2	3	0	0	0	0	0	0	0
13	C6	0	0	0	1	2	2	2	2	2	2	2	2	508	3	0	0	1	2	0	0	1
14	C7	0	0	0	0	0	0	0	3	3	3	**6**	3	3	508	0	0	0	0	0	0	0
15	B1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	508	**12**	**6**	**5**	**12**	**6**	4
16	B2	0	0	0	0	0	0	1	0	0	0	0	0	0	0	**12**	508	**6**	**5**	**12**	**6**	4
17	B3	2	2	2	1	0	1	3	0	0	0	0	0	1	0	**6**	**6**	508	**5**	**6**	1	1
18	B4	1	0	1	4	4	4	**8**	0	0	0	0	0	2	0	**5**	**5**	**5**	508	**5**	4	**6**
19	B5	0	0	0	0	0	0	1	0	0	0	0	0	0	0	**12**	**12**	**6**	**5**	508	**6**	4
20	B6	2	2	2	2	2	2	2	0	0	0	0	0	0	0	**6**	**6**	1	4	**6**	508	**10**
21	B7	2	2	2	4	4	4	4	0	0	0	0	0	1	0	4	4	1	**6**	4	**10**	508

- The co-occurrence frequencies were converted into a matrix of relative frequencies.
- Exploratory factor analysis was applied to this matrix. In keeping with the tripartite conjecture, 3 factors were extracted.

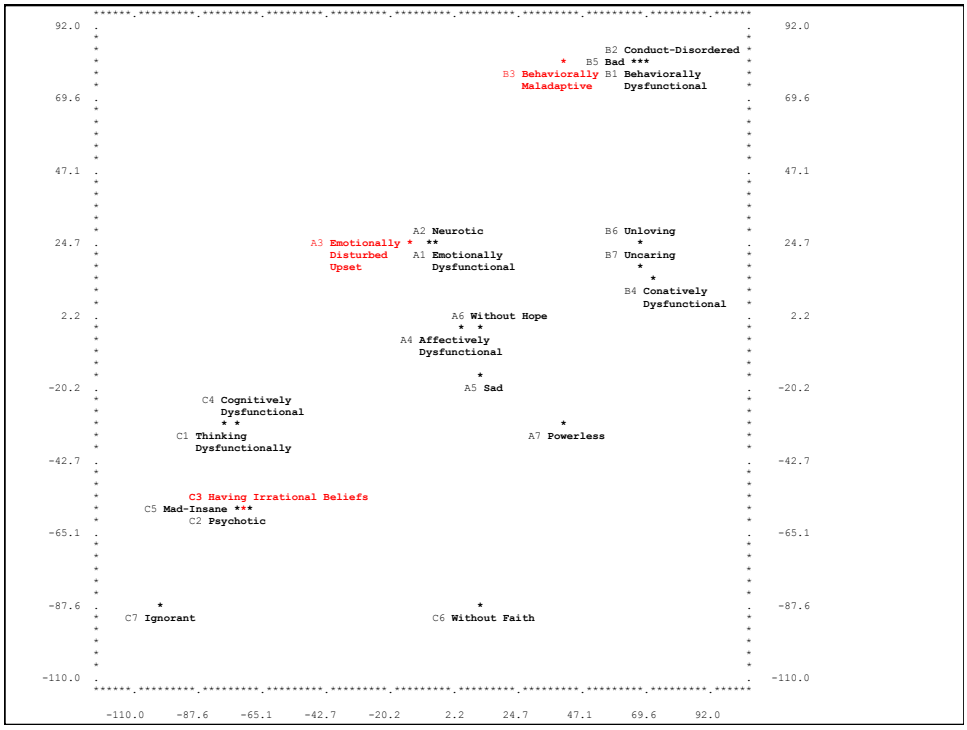
Co-occurrence Probabilities of the 21 Descriptors Based on Judged Similarities

		A1	A2	A3	A4	A5	A6	A7	C1	C2	C3	C4	C5	C6	C7	B1	B2	B3	B4	B5	B6	B7
1	A1	1000	**024**	**024**	**016**	**012**	**012**	004	004	000	000	004	000	000	000	000	000	004	002	000	004	004
2	A2	**024**	1000	**024**	**014**	**012**	**012**	004	004	000	000	004	000	000	000	000	000	004	000	000	004	004
3	A3	**024**	**024**	1000	**012**	**012**	**012**	004	004	000	000	004	000	000	000	000	000	004	002	000	004	004
4	A4	**016**	**014**	**012**	1000	**022**	**022**	**010**	004	000	000	004	000	002	000	000	000	002	008	000	004	008
5	A5	**012**	**012**	**012**	**022**	1000	**024**	**010**	004	000	000	004	000	004	000	000	000	000	008	000	004	008
6	A6	**012**	**012**	**012**	**022**	**024**	1000	**010**	004	000	000	004	000	004	000	000	000	002	008	000	004	008
7	A7	004	004	004	**010**	**010**	**010**	1000	000	000	000	000	000	004	000	002	002	006	**016**	002	004	008
8	C1	004	004	004	004	004	004	000	1000	**020**	**020**	**018**	**020**	004	006	000	000	000	000	000	000	000
9	C2	000	000	000	000	000	000	000	**020**	1000	**024**	**014**	**024**	004	006	000	000	000	000	000	000	000
10.	C3	000	000	000	000	000	000	000	**020**	**024**	1000	**014**	**024**	004	006	000	000	000	000	000	000	000
11	C4	004	004	004	004	004	004	000	**018**	**014**	**014**	1000	**014**	004	**012**	000	000	000	000	000	000	000
12	C5	000	000	000	000	000	000	000	**020**	**024**	**024**	**014**	1000	004	006	000	000	000	000	000	000	000
13	C6	000	000	000	002	004	004	004	004	004	004	004	004	1000	006	000	000	002	004	000	000	002
14	C7	000	000	000	000	000	000	000	006	006	006	**012**	006	006	1000	000	000	000	000	000	000	000
15	B1	000	000	000	000	000	000	002	000	000	000	000	000	000	000	1000	**024**	**012**	**010**	**024**	**012**	008
16	B2	000	000	000	000	000	000	002	000	000	000	000	000	000	000	**024**	1000	**012**	**010**	**024**	**012**	008
17	B3	004	004	004	002	000	002	006	000	000	000	000	000	002	000	**012**	**012**	1000	**010**	**012**	002	002
18	B4	002	000	002	008	008	008	**016**	000	000	000	000	000	004	000	**010**	**010**	**010**	1000	**010**	008	**012**
19	B5	000	000	000	000	000	000	002	000	000	000	000	000	000	000	**024**	**024**	**012**	**010**	1000	**012**	008
20	B6	004	004	004	004	004	004	004	000	000	000	000	000	000	000	**012**	**012**	002	008	**012**	1000	**020**
21	B7	004	004	004	008	008	008	008	000	000	000	000	000	002	000	008	008	002	**012**	008	**020**	1000

Factor Analysis of the Pairwise Co-occurrence Probabilities of the 21 Descriptors

	Factor		
	"A"	"C"	"B"
A1	**0.40**	0.03	0.01
A2	**0.39**	0.03	0.01
A3	**0.38**	0.03	0.01
A4	**0.43**	0.03	0.05
A5	**0.41**	0.03	0.05
A6	**0.41**	0.03	0.05
A7	**0.18**	0.00	0.12
C1	0.07	**0.43**	0.00
C2	-0.03	**0.47**	0.00
C3	-0.03	**0.47**	0.00
C4	0.07	**0.33**	0.00
C5	-0.03	**0.47**	0.00
C6	0.04	**0.09**	0.02
C7	0.00	**0.16**	0.00
B1	-0.05	0.01	**0.47**
B2	-0.05	0.01	**0.47**
B3	0.04	0.00	**0.24**
B4	0.13	0.00	**0.27**
B5	-0.05	0.01	**0.47**
B6	0.09	0.00	**0.28**
B7	0.15	0.00	**0.24**

- To project the three-dimensional descriptor configuration onto a *two-dimensional* map, a *multidimensional scaling* procedure, Ekskal (for "Element-Centered Scaling"), was also applied to the co-occurrence data.



Conclusions (1)

- *Within* the MMPI-MMPI-2-MMPI-2-RF domain, the EID-THD-BXD dimensions provide a robust, clinically valid, and useful perspective on basic forms of human (mal)adaptation.

Conclusions (2)

- A more inclusive “extended” family of feeling-thinking-acting may also be recognizable, suggesting a persistent general conception of human strengths and weaknesses.

Conclusions (3)

- To the extent this broader conception is credible, it would connect the reputedly "blind" atheoretical "dustbowl" empiricism associated with the original MMPI to its very opposite, with liberating results.

Conclusions (4)

- Even good functional measures need to remain "works in progress", especially in a rapidly changing environment.

Sources

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"And stood by the rose-wreathed gate, alas.
We loved, sir – used to meet:
How sad, and bad, and mad it was –
But then, how it was sweet."

Sources, cont.

Christian Affirmation of Faith.

"We believe in God the Father, infinite in wisdom, power, and love, whose mercy is over all his works and whose will is ever directed to His children's good."

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Sources, cont.

St. Paul, I Corinthians 13:13

> "So now faith, hope, and love abide, but the greatest of these is love."

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