

Integrated Hierarchical Model of Clinical Syndromes & Personality Pathology



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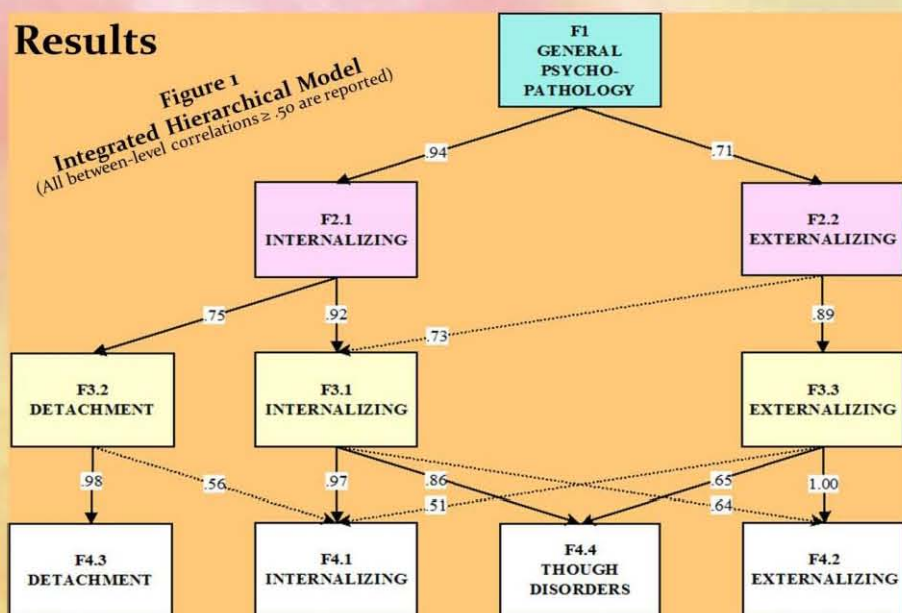
Objective

Examine in a clinical sample the joint hierarchical structure of the 24 scales of Clinical Syndromes (CS) and Personality Disorders (PD) measured by the third edition of the *Millon's Clinical Multiaxial Inventory* (MCMI-III; Millon, Davis, & Millon, 1997; 2007) and the 14 Restructured Clinical (RC) and Pathological Personality scales (PSY-5) of the *Restructured Form of the Minnesota Multiphasic Personality Inventory-2* (MMPI-2-RF; Ben-Porath & Tellegen, 2008; 2009).

Method

The clinical sample was comprised of 377 outpatients (55.7% women), aged 18 to 73 years old ($M = 37.8$; $SD = 11.5$) who were attending various psychiatry and psychology centers from Barcelona (Catalonia, Spain). A series of exploratory factor analyses (EFA) was performed following a "bass-ackwards" approach (Goldberg, 2006) by using Unweighted Least Squares (ULS) as the method for factors extraction and Promax rotations. One to k factors were successively extracted, being k the maximum number of nontrivial factors (three or more loadings per factor above .30 psychologically interpretable). Regression-based factor scores on each level of the hierarchy were computed and subsequently correlated to compute path coefficients between the different hierarchical levels. We also calculated zero-order (r) and disattenuated (r_c) correlations between all scales.

Results



A hierarchical structure of four factors (Figure 1) provided the most clearly interpretable solution (F_1 : Internalizing; F_2 : Externalizing; F_3 : Detachment; F_4 : Thought Disorders) which accounted for 71.9% of the common variance. The fit indexes of this model were acceptable ($\chi^2_{(431)} = 2568.56$; $p < .001$; AGFI = .99) as well as factorial simplicity indices ($S = .9169$; $LS = .3558$) and the root mean square of residuals ($RMSR = .0366$; Kelley's $RMSR = .0516$). This four-factor solution was the lowest one meeting our acceptability criteria, and it is fully shown in Table 1.

Disattenuated correlations (r_c) between the MCMI-III (CS & PD) & MMPI-2-RF (RC & PSY-5) scales (see Figures 2, 3 & 4) show a moderate-high convergence, with some scales of both questionnaires with a corresponding image from good to excellent in the other ($r_c \geq .80$).

Table 1. Promax-Rotated Factor Loadings for the Four-Factor Solution of the Hierarchical Model

Scales	Internalizing	Externalizing	Detachment	Thought Disorders
MMPI-RC1. Somatic complaints	.99	-.23	-.21	-.10
MMPI-A. Anxiety	.96	-.19	-.08	-.01
MMPI-NEGE-r. Negative Emotionality	.93	.05	-.18	-.15
MCMI-H. Somatoform	.90	-.22	.10	-.07
MMPI-RCd. Demoralization	.81	.08	.26	-.15
MCMI-CC. Major Depression	.81	-.04	.19	-.06
MCMI-SS. Thought Disorder	.80	.08	.11	.00
MMPI-RC7. Dysfunctional Negative emotions	.74	.06	.01	.11
MCMI-R. Post-Traumatic Stress Disorder	.70	-.07	.01	.19
MCMI-D. Dysthymia	.68	.01	.31	.03
MCMI-2B. Depressive	.63	.03	.28	.11
MMPI-RC8. Aberrant Experiences	.59	-.05	-.28	.40
MCMI-N. Bipolar-Manic	.50	.23	-.33	.19
MCMI-C. Borderline	.55	.41	.15	-.00
MCMI-8A. Passive-Aggressive (Negativistic)	.44	.31	.08	.22
MCMI-3. Dependent	.42	.10	.28	.12
MCMI-8B. Masochistic (Self-Defeating)	.40	.14	.33	.28
MCMI-6. Antisocial	-.10	1.05	.02	-.08
MCMI-T. Drug Dependence	-.22	.88	-.02	.01
MMPI-RC4. Antisocial Behavior	-.15	.80	-.02	.03
MCMI-B. Alcohol Dependence	.05	.80	.06	-.05
MMPI-DISC-r. Disconstraint	-.29	.77	-.17	.13
MCMI-7. Compulsive	-.17	.74	-.02	.47
MCMI-6B. Sadistic (Agressive)	.26	.55	-.12	.17
MCMI-4. Histrionic	.17	.02	-.88	-.23
MMPI-INTR-r. Introversion	-.13	-.06	.76	.00
MMPI-RC2. Low Positive Emotions	.33	.08	.68	-.27
MCMI-5. Narcissistic	-.22	.17	.67	.33
MCMI-2A. Avoidant	.07	.05	.66	.40
MMPI-AGGR-r. Aggressiveness	.01	.15	-.60	.31
MCMI-1. Schizoid	.11	.03	-.57	.34
MMPI-RC9. Hypomanic Activation	.40	.35	-.49	.21
MCMI-PP. Delusional Disorder	-.17	-.05	-.02	.97
MCMI-PP. Paranoid	-.03	-.08	.13	.93
MMPI-RC6. Ideas of Persecution	.14	-.09	-.13	.73
MMPI-PSYC-r. Psychoticism	.53	-.20	-.23	.59
MCMI-S. Schizotypal	-.27	.02	.27	.55
MMPI-RC3. Cynicism	.21	.03	-.05	.48

Loadings $\geq .30$ are shown in bold type and the largest loadings of each factor underlined

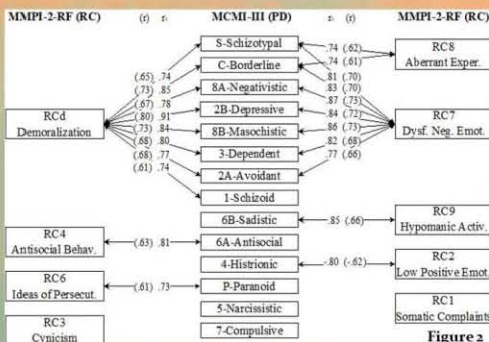


Figure 2

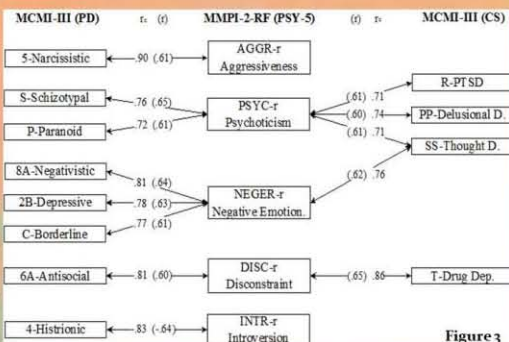


Figure 3

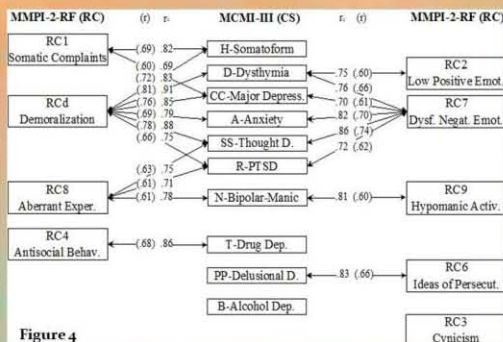


Figure 4

All correlations $r_c \geq .70$ and ($r \geq .60$) are shown

Conclusions

The hierarchical structure resulting from this study integrates into the same four-factors model the Clinical Syndromes and Personality Pathology evaluated with the MCMI-III and the MMPI-2-RF, providing support to previous studies proposing between three and five major domains of Psychopathology that affect the regulation of *emotions* (Internalizing disorders), *thoughts* (Thoughts disorders), *behaviors* (Externalizing disorders) and *interpersonal relationships* (Detachment disorders).

The authors declare no potential conflicts of interest



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