Appendix

Integrative Dimensional Personality Inventory for ICD-11: development and evaluation in the Peruvian correctional setting

Appendix A

Characteristics of existing measures for the ICD-11 personality disorder model

Authors (Year)	Measure / N° of Items / Answer Format	Construct	Domain Scales (Initials, N° of Items)	Subscales (N° of Items)	Sample Type: Country (Sample Size)
Zimmermann et al. (2022)	LoPF-Q Screener / 20 / Likert of 5 alternatives	Severity	Identity (ID, 5), Self-Direction (SD, 5), Emphaty (EM, 5), Intimacy (IN, 5)		Community: CH (351) Clinical: CH-AT-DE (415)
Kerber et al. (2022)[b]	PID-5BF+ (original) / 34 / Likert of 4 alternatives	Traits	Negative Affectivity (NA, 6), Detachment (DT, 6), Dissociality (ANT, 6), Disinhibition (DI, 6), Psychoticism (PS, 6), Anankastia (ANAN, 4)	NA Emotional Lability (2), NA Anxiousness (2), NA Separation Insecurity (2), DT Withdrawal (2), DT Anhedonia (2), DT Intimacy Avoidance, (2), ANT Manipulativeness (2), ANT Deceitfulness (2), ANT Grandiosity (2), DI Irresponsibility (2), DI Impulsivity (2), DI Distractibility (2), ANAN Perseveration (2), ANAN Rigid Perfectionism (2), PS Unusual Beliefs and Experiences (2), PS Eccentricity (2), PS Perceptual Dysregulation (2)	Community: DE (1902), US (1684) Clinical: DE (683)
Clark et al. (2021)[a]	ICD-11 PD Model Scales / 246 / Likert of 4 alternatives	Severity	Self-Dysfunction (SD, 30),Interpersonal Dysfunction (ID, 35)	SD Identity Problems (8), SD Low Self-Directedness (7), SD Low Self-Accuracy (8), SD Low Self-Worth (7), ID Relationship Difficulties (21), ID Dysfunctional Engagement (14)	Community: US (383)
		Traits	Negative Affectivity (NA, 30), Detachment (DET, 42), Dissociality (DSL, 46), Disinhibition (DSN, 32), Anankastia (ANK, 31)	NA Emotional Lability (8), NA Negative Outlook (15), NA Mistrust (7), DET Social Detachment (21), DET Emotional Detachment (21), DSL Low Empathy (30), DSL Entitled Superiority (16), DSN Distractibility (19), DSN Impulsive Recklessness (13), ANK Hypercontrol (19), ANK Perfectionism (12)	
Kim et al. (2021)[b]	PAQ-11 / 17 / Likert of 5 alternatives	Traits	Negative Affectivity (5), Detachment (4), Dissociality (2), Disinhibition (2), Anankastia (4)		Community: KR (334) Clinical: KR (75)
		Borderline Pattern	Borderline Pattern (8)		

Authors (Year)	Measure / N° of Items / Answer Format	Construct	Domain Scales (Initials, N° of Items)	Subscales (N° of Items)	Sample Type: Country (Sample Size)
Oltmanns and Widiger (2021)[a]	IPiC (also called PiCD RF) / 60 / Likert of 5 alternatives	Traits	Negative Affectivity (12), Detachment (12), Dissociality (12), Disinhibition (12), Anankastia (12)		Clinical: US (238)
Bach et al. (2021)[a]	PDS-ICD-11 / 14 / Likert of 4 to 5 alternatives	Severity			Community: US (428) Clinical: NZ (87)
Gamache et al. (2021)[c]	SIFS / 24 / Likert of 5 alternatives	Severity	Self-Dysfunction (SD, 12), Interpersonal Dysfunction (ID, 12)	SD Identity (7), SD Self-Direction (5), ID Empathy (6), ID Intimacy (6)	Community: CA (263) Clinical: CA (1977)
Hutsebaut et al. (2021)[c]	STiP 5.1 / 12 / Likert of 5 alternatives	Severity	Self-Dysfunction (SD, 6), Interpersonal Dysfunction (ID, 6)	SD Identity (3), SD Self-Direction (3), ID Empathy (3), ID Intimacy (3)	Community: NL (18) Correctional: NL (30)
Oltmanns and Widiger (2020)[b,d]	FFiCD / 121 / Likert of 5 alternatives	Traits	Negative Affectivity (NA, 40), Detachment (DET, 13), Dissociality (DSL, 22), Disinhibition (DSN, 24), Anankastia (ANK, 22)	NA Anxiousness (6), NA Vulnerability (5), NA Emotional Lability (6), NA Anger (6), NA Depressiveness (8), NA Shame (5), NA Distrust (3), DET Social Detachment (4), DET Emotional Detachment (6), DET Unassertiveness (3), DSL Self-Centeredness (8), DSL Lack of Empathy (8), DSL Aggression (6), DSN Rashness (6), DSN Irresponsibility (10), DSN Disorderliness (5), DSN Thrill Seeking (3), ANK Perfectionism (6), ANK Workaholism (6), ANK Inflexibility (10)	Clinical: US (826)
Bach, Kerber, et al. (2020)[b]	PID-5BF+ (revised) / 36/ Likert of 4 alternatives	Traits	Negative Affectivity (NA, 6), Detachment (DT, 6), Dissociality (ANT, 6), Disinhibition (DI, 6), Psychoticism (PS, 6), Anankastia (ANAN, 6)	NA Emotional Lability (2), NA Anxiousness (2), NA Separation Insecurity (2), DT Withdrawal (2), DT Anhedonia (2), DT Intimacy Avoidance, (2), ANT Manipulativeness (2), ANT Deceitfulness (2), ANT Grandiosity (2), DI Irresponsibility (2), DI Impulsivity (2), DI Distractibility (2), ANAN Perseveration (2), ANAN Rigid Perfectionism (2), ANAN Orderliness (2) PS Unusual Beliefs and Experiences (2), PS Eccentricity (2), PS Perceptual Dysregulation (2)	Community: BE (2007), BR (1178), CZ (341), FR (371), DE (587), IT (1965), NO (495), PL (971), PT (1185), ES (1011), CH (494), US (3375) Clinical: BE (234), BR (103), CZ (125), DK (584), DE (684), PL (117), ES (420), US (80)
Bach and El Abiddine (2020)[b]	PID-5-BF for ICD-11 / 15 / Likert of 4 alternatives	Traits	Negative Affectivity (NA, 5), Detachment (DT, 3), Dissociality (ANT, 3), Disinhibition/Low Anankastia (DLA, 4)	NA Emotional Lability (1), NA Anxiousness (1), NA Separation Insecurity, (1) NA Hostility (1), NA Attention Seeking (1), DT Hostility (1), DT Withdrawal (2), ANT Deceitfulness (1), ANT Manipulativeness (1), ANT Callousness (1), DLA Risk Taking (1), DLA Impulsivity (2), DLA Irresponsibility (1)	Community: DZ (638)

Authors (Year)	Measure / N° of Items / Answer Format	Construct	Domain Scales (Initials, N° of Items)	Subscales (N° of Items)	Sample Type: Country (Sample Size)
Sellbom et al. (2020)[b]	PID-5 for ICD-11 (revised) / 158 / Likert of 4 alternatives	Traits	Negative Affectivity (NA, 47), Detachment (DT, 23), Dissociality (ANT, 25), Disinhibition (DI, 44), Anankastia (ANAN, 19)	NA Emotional Lability (7), NA Anxiousness (9), NA Depressivity (14), NA Hostility (10), NA Suspiciousness (7), DT Withdrawal (10), DT Intimacy Avoidance (6), DT Restricted Affectivity (7), ANT Grandiosity (6), ANT Manipulativeness (5), ANT Callousness (14), DI Attention Seeking (8), DI Impulsivity (6), DI Irresponsibility (7), DI Distractibility (9), DI Risk-Taking (14), ANAN Rigid Perfectionism (10), ANAN Perseveration (9)	Clinical: CA (343)
Oltmanns and Widiger (2019)[a]	BPS / 12 / Likert of 5 alternatives	Borderline Pattern		Affective Instability (3), Maladaptive Self-Functioning (3), Maladaptive Interpersonal-Functioning (3), Maladaptive Regulation Strategies (3)	Clinical: US (396)
Olajide et al. (2018)[b]	SASPD / 9 / Likert of 4 alternatives	Severity			Community: NZ-UK (47) Clinical: NZ-UK (60)
Oltmanns and Widiger (2018)[a]	PiCD / 60 / Likert of 5 alternatives	Traits	Negative Affectivity (12), Detachment (12), Dissociality (12), Disinhibition (12), Anankastia (12)		Clinical: US (544)
Bach et al. (2017)[b]	PID-5 for ICD-11 (original) / 143 / Likert of 4 alternatives	Traits	Negative Affectivity (NA, 40), Detachment (DT, 23), Dissociality (ANT, 25), Disinhibition (DI, 36), Anankastia (ANAN, 19)	NA Emotional lability (7), NA Anxiousness (9), NA Depressivity (14), NA Hostility (10), DT Withdrawal (10), DT Intimacy Avoidance (6), DT Restricted Affectivity (7), ANT Grandiosity (6), ANT Manipulativeness (5), ANT Callousness (14), DI Impulsivity (6), DI Irresponsibility (7), DI Distractibility (9), DI Risk-Taking (14), ANAN Rigid Perfectionism (10), ANAN Perseveration (9)	
Tyrer (2017)[b,e]	PAS ICD-11 / 40 / Likert of 9 alternatives	Traits	Negative Affectivity (NA, 12), Detachment (DT, 9), Dissociality (ANT, 6), Disinhibition (DI, 6), Anankastia (ANAN, 6), Borderline Pattern (BP, 1)	NA Anxiety (3), NA Depressiveness (3), NA Avoidance (3), NA Low Self-Esteem (3), DT Indifference (3), DT Aloofness (3), DT Eccentricity (3), ANT Callousness (3), ANT Irritability or Anger (3), DI Impulsiveness (3), DI Irresponsibility or Recklessness (3), ANAN Excessive Conscientiousness (3), ANAN Rigidity in Thinking and Behavior (3), BP Borderline Pattern (1)	Unknown

Note: ICD-11 PD Model Scales = Scales for ICD-11 Personality Disorder Model; PDS-ICD-11 = ICD-11 Personality Disorder Severity Scale; SASPD = Standardized Assessment of Severity of Personality Disorder; IPiC = Informant-Personality Inventory for ICD-11; PiCD RF = Personality Inventory for ICD-11 Reporter Form; PAQ-11 = Personality Assessment Questionnaire for ICD-11; FFiCD = Five-Factor Inventory for ICD-11; LoPF-Q Screener = Level of Personality Functioning Questionnaire Screener; PID-5BF+ (original) = Personality Inventory for DSM-5-Brief Form-Plus (original); PID-5BF+ (revised) = Personality Inventory for DSM-5-Brief Form-Plus (revised); PID-5-BF for ICD-11 = Personality Inventory for DSM-5-Brief Form scored for ICD-11; PID-5 for ICD-11 (revised) = Personality Inventory for DSM-5 scored for ICD-11 (revised); PiCD = Personality Inventory for ICD-11; PID-5 for ICD-11 (original) = Personality Inventory for DSM-5 scored for ICD-11 (original); PAS ICD-11 = Personality Assessment Schedule for ICD-11; BPS = Self- and Interpersonal Functioning Scale; STiP 5.1 = Semi-structured interview for Personality Functioning DSM-5; AT = Austria; BE = Belgium; BR = Brazil; CA = Canada; CH = Switzerland; CZ = Czech Republic; DE = Germany; DK = Denmark; DZ = Algeria; FR = France; DE = Germany; IT = Italy; NZ = New Zeeland, NL = Netherlands; NO = Norway; PL = Poland; PT = Portugal; ES = Spain; UK = United Kingdom, US = United States.
[a] Implies item pool development; [b] Implies an assembly of items; [c] Implies a validation taking as a criterion the ICD-11 PD nosology; [d] Each facet of FFiCD is composed of one to four nuances (and each nuance is composed of two to three items); [e] It is a semi-structured interview whose validation data has not been reported or is unknown.

Moreover, there are instrumental research that could be considered –although with no empirical evidence– as adoptions of measures from Criteria A and B of the DSM-5 AMPD for the evaluation of (a) the severity of the personality dysfunction of the ICD-11: the Personality Functioning Scale (PFS; Stover et al., 2020), the DSM-5 Levels of Personality Functioning Questionnaire-Short Form (DLOPFQ-SF; Siefert et al., 2019), the Level of Personality Functioning Questionnaire –12-18 (LoPF-Q-12-18; Goth et al., 2019), the Level of Personality Functioning Scale– Brief Form 2.0 (LPFS-BF 2.0; Weekers et al., 2019), the DSM-5 Levels of Personality Functioning Questionnaire (DLOPFQ; Huprich et al., 2018), the Structured Clinical Interview for DSM-5 Alternative Model of Personality Disorders Module I (SCID-5-AMPD Module I; Bender et al., 2018), the Level of Personality Functioning Scale –Self Report (LPFS-SR; Morey, 2017), the Clinical Assessment of the Level of Personality Functioning Scale (CALF; Thylstrup et al., 2016), the Level of Personality Functioning Scale– Brief Form (LPFS-BF; Hutsebaut et al., 2016), and the Level of Personality Functioning Scale (Bender et al., 2011); (b) trait domain qualifiers: the Structured Clinical Interview for DSM-5 Alternative Model of Personality Disorders (SCID-AMPD) Module II (SCID-5-AMPD Module II; Skodol et al., 2018), the Personality Inventory for DSM-5 Short Form (PID 5-SF; Maples et al., 2015), the Personality Inventory for DSM-5 Informant-Report Form (PID 5-IRF; Markon et al., 2013), the Personality Inventory for DSM-5 Brief Form (PID 5-BF; Krueger et al., 2013), and the Personality Inventory for DSM-5 (PID 5; Krueger et al., 2012); and (c) the additional qualifier borderline pattern: an algorithm of the Structured Clinical Interview for DSM-5 Alternative Model of Personality Disorders Module III (SCID-5-AMPD Module III; First et al., 2018).

Appendix B

Limitations of existing measures

Table B.1

Assessment of limitations of existing test development studies for the ICD-11 personality disorder model

| N°	Measure (Authors)	Sample Characteristic	Methodological	Psychometric	Qualitative Research	Missing Data	Lack of Detection of Invalid Responses	Item	Brevity of the Scale	Difficulty to Control All Variables	Lack of a Manualized Instructions
1	LoPF-Q Screener (Zimmermann et al., 2022)	Yes	Yes	Yes	NA	No	Yes	Unclear	NA	No	Yes
2	PID-5BF+ (original) (Kerber et al., 2022)	Yes	Yes	No	NA	No	No	Yes	No	No	Yes
3	ICD-11 PD Model Scales (Clark et al., 2021)	Yes	Yes	Yes	NA	No	No	Unclear	No	Unclear	Yes
4	PDS-ICD-11 (Bach et al., 2021)	Yes	Yes	No	NA	No	No	No	NA	No	Yes
5	IPiC (Oltmanns & Widiger, 2021)	Yes	Yes	No	NA	No	Yes	Yes	No	Unclear	Yes
6	PAQ-11 (Kim et al., 2021)	Yes	Yes	Yes	NA	No	Yes	No	Yes	Unclear	Yes
7	SIFS (Gamache et al., 2021)	Yes	Yes	Yes	NA	No	Yes	No	No	Yes	Yes
8	STiP 5.1 (Hutsebaut et al., 2021)	Yes	Yes	Yes	NA	Yes	Yes	Unclear	Yes	Yes	No
9	FFiCD (Oltmanns & Widiger, 2020)	Yes	Yes	Yes	NA	No	No	Yes	Unclear	No	Yes
10	PID-5BF+ (revised) (Bach et al., 2020)	Yes	Yes	Yes	NA	No	Unclear	Yes	Unclear	Unclear	Yes
11	PID-5-BF for ICD-11 (Bach & El Abiddine, 2020)	Yes	Yes	Yes	NA	No	Yes	Yes	Yes	Unclear	Yes
12	PID-5 for ICD-11 (revised) (Sellbom et al., 2020)	Yes	Yes	Yes	NA	No	No	Yes	No	Unclear	Yes
13	BPS (Oltmanns & Widiger, 2019)	Yes	Yes	No	NA	No	No	Yes	Unclear	No	Yes
14	SASPD (Olajide et al., 2018)	Yes	Yes	Yes	NA	No	Yes	No	Unclear	Unclear	Yes
15	PiCD (Oltmanns & Widiger, 2018)	Yes	Yes	Yes	NA	No	No	Yes	No	Yes	Yes
16	PID-5 for ICD-11 (original) (Bach et al., 2017)	Yes	Yes	No	NA	No	No	Yes	No	Unclear	Yes
17	PAS ICD-11 (Tyrer, 2017)	Unclear	Unclear	Unclear	Unclear	Unclear	Unclear	Unclear	No	No	Unclear

Note: ICD-11 PD Model Scales = Scales for ICD-11 Personality Disorder Model; *PDS-ICD-11* = ICD-11 Personality Disorder Severity Scale; *SASPD* = Standardized Assessment of Severity of Personality Disorder; *IPiC* = Informant-Personality Inventory for ICD-11; *PiCD RF* = Personality Inventory for ICD-11 Reporter Form; *PAQ-11* = Personality Assessment Questionnaire for ICD-11; *FFiCD* = Five-Factor Inventory for ICD-11; *LoPF-Q Screener* = Level of Personality Functioning Questionnaire Screener; *PID-5BF+ (original)* = Personality Inventory for DSM-5-Brief Form-Plus (original); *PID-5BF+ (revised)* = Personality Inventory for DSM-5-Brief Form-Plus (revised); *PID-5-BF for ICD-11* = Personality Inventory for DSM-5-Brief Form scored for ICD-11; *PID-5 for ICD-11 (revised)* = Personality Inventory for DSM-5 scored for ICD-11 (revised); *PiCD* = Personality Inventory for ICD-11; *PID-5 for ICD-11 (original)* = Personality Inventory for DSM-5 scored for ICD-11 (original); *PAS ICD-11* = Personality Assessment Schedule for ICD-11; *BPS* = Borderline Pattern Scale.

Rating icons represent the following: ＋ = Yes; ? = Unclear; − = No; NA = Not applicable. *Sample characteristic* limitations include convenience sampling OR small sample size (<1:10).

Methodological limitations include cross-sectional methodology OR self-reporting methodology OR web-based survey. *Psychometric* limitations include lack of a more robust demonstration of the construct validity/reliability OR inadequate choice of the instruments/variables to be correlated with the variable of the study OR factor analysis errors. *Qualitative research* limitations include lack of deductive approach to scale development OR lack of a more robust literature review OR subjective analysis OR content validity was not formally assessed OR recruitment and training of a qualified number of interviewers. *Missing data* limitation include the absence of enough information about grouped OR added OR rounded OR censored OR truncated numbers. *Lack of detection of invalid responses* refers to not administering and measuring validity scales. *Item* limitations include ambiguous OR not reversed items. *Brevity of the scale* limitation refers to including a few quantity of items if Cronbach alpha is used to test realibility. *Difficulty to control all variables* refers to those important variables that were not considered within the construct. Finally, *lack of manualized instructions* includes not to consider instructions on application conditions OR administration mode OR response mode OR rating mode, OR giving an example. This table was developed according to 10 main limitations proposed by Morgado et al. (2017) and taking into account the guidelines of the QUADAS bias assessment tool for Diagnostic Test Accuracy studies (QUADAS-C; Yang et al., 2021).

Figure B.1

Limitations in developing scales for ICD-11 PD nosology at a glance
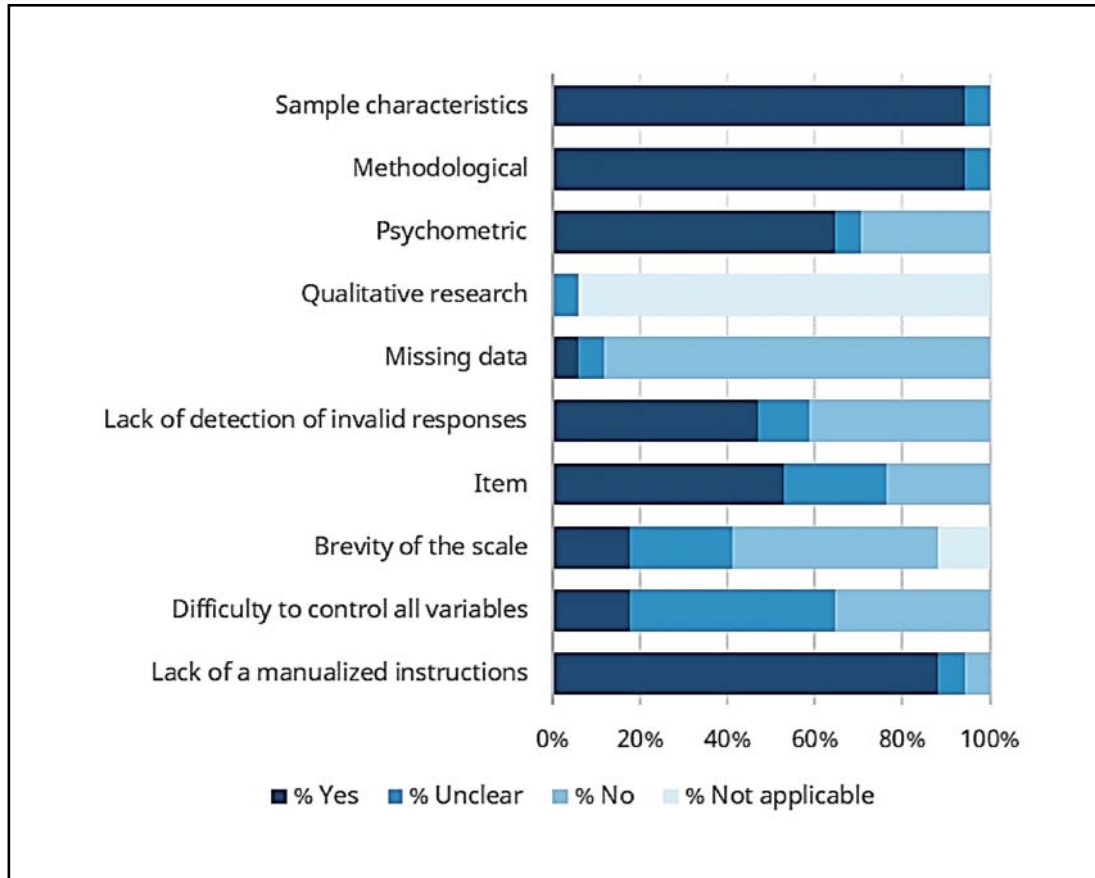
Note: This chart was developed based on the proposal by Morgado et al. (2017) and taking into account the guidelines of the QUADAS bias assessment tool for Diagnostic Test Accuracy studies (QUADAS-C; Yang et al., 2021).

Appendix C

Brief description of the IDPI-11 scales

Response Styles		**Brief Description**
R1	Invalidity	Lack of openness to evaluation
R2	Inconsistency	Random and acquiescent responses
R3	Dissimulation	Infrequent answers that show a «good image»
R4	Simulation	Infrequent answers that show a «bad image»

Mental Health Factors		**Brief Description**
F1	Healthy Habits	Lifestyles that promote physical wellness
F2	Self-Esteem	Positive and assertive self-assessment
F3	Meaningful Activities	Occupations that favor personal development
F4	Openness to Treatment	Willingness toward psychological change
F5	Childhood Abuse	Abuse perceived as painful during childhood
F6	Suicidal Tendency	Self-lytic attitudes
F7	Health Concern	Fear about a disease process
F8	Lack of Social Support	Social support perceived as absent or low

Psychopathology		**Brief Description**
S1	Major Depression	Acute and disruptive dysphoric symptoms
S2	Post-Traumatic Stress	Range of reactions and symptoms of post-traumatic stress disorder
S3	Alcohol Consumption	Recent or recurrent alcohol use problems
S4	Generalized Anxiety	Range of reactions and symptoms of generalized anxiety disorder
S5	Social Phobia	Anxiety symptoms produced by social evaluation
S6	Agoraphobia	Anxiety symptoms produced by being in public places
S7	Schizophrenia Spectrum	Psychotic symptoms of schizophrenia and related disorders
S8	Dysthymia	Symptoms of chronic dysphoria
S9	Panic	Anxiety symptoms produced by sudden terror episodes
S10	Obsessive-Compulsive Disorder	Symptoms produced by obsessions and compulsions

Personality		**Brief Description**
PF	Functioning	Level within the positive-maladaptive spectrum of «Self» and «Interpersonal» functioning of the personality
A	Serenity vs. Negative Affectivity	Relatively stable set of dispositional characteristics of emotionality in the positive-maladaptive behavioral spectrum
B	Humanity vs. Detachment	Relatively stable set of dispositional characteristics of openness to experience in the positive-maladaptive behavioral spectrum
C	Integrity vs. Dissociality	Relatively stable set of agreeableness dispositional characteristics in the positive-maladaptive behavioral spectrum
D	Moderation vs. Disinhibition	Relatively stable set of dispositional characteristics of lack of responsibility in the positive-maladaptive behavioral spectrum
E	Psychological Flexibility vs. Anankastia	Relatively stable set of dispositional characteristics of responsibility in the positive-maladaptive behavioral spectrum
PL	Borderline Pattern	Prolonged patterns of turbulent emotions

Trait Facets

Serenity vs. Negative Affectivity		**Brief Description**
a.1	Calm vs. Anxiety	Situational internalizing intrapersonal characteristics within the Calm - Anxiety spectrum
a.2	Fortitude vs. Vulnerability	Situational internalizing intrapersonal characteristics within the Fortitude - Vulnerability spectrum
a.3	Emotional Stability vs. Emotional Lability	Situational internalizing intrapersonal characteristics within the Emotional Stability - Emotional Lability spectrum
a.4	Patience vs. Anger	Situational externalizing intrapersonal characteristics within the Patience - Anger spectrum
a.5	Humor vs. Depressiveness	Situational internalizing intrapersonal characteristics within the Mood - Depressive spectrum
a.6	Initiative vs. Shame	Situational internalizing interpersonal characteristics within the Initiative - Shame spectrum
a.7	Faith in Others vs. Distrust	Situational internalizing interpersonal characteristics within the Faith in Others - Distrust spectrum

Humanity vs. Detachment		**Brief Description**
b.1	Sociability vs. Social Detachment	Situational internalizing interpersonal characteristics within the Sociability - Social Detachment spectrum
b.2	Love vs. Emotional Detachment	Situational internalizing interpersonal characteristics within the Love - Emotional Detachment spectrum
b.3	Assertiveness vs. Lack of Assertiveness	Situational internalizing interpersonal characteristics within the Assertiveness - Lack of Assertiveness spectrum

Integrity vs. Dissociality		**Brief Description**
c.1	Altruism vs. Egocentrism	Situational externalizing intrapersonal characteristics within the Altruism - Egocentrism spectrum
c.2	Sensitivity vs. Lack of Empathy	Situational externalizing interpersonal characteristics within the Sensitivity - Lack of Empathy spectrum
c.3	Kindness vs. Aggressiveness	Situational externalizing interpersonal characteristics within the Agreeableness - Aggressiveness spectrum

Moderation vs. Disinhibition		**Brief Description**
d.1	Prudence vs. Temerity	Situational externalizing interpersonal characteristics within the Prudence - Temerity spectrum
d.2	Commitment vs. Irresponsibility	Situational externalizing interpersonal characteristics within the Commitment - Irresponsibility spectrum
d.3	Planning vs. Disarray	Situational externalizing intrapersonal characteristics within the Planning - Disarray spectrum
d.4	Emotional Plenitude vs. Emotion Pursuit	Situational externalizing intrapersonal characteristics within the Emotional Plenitude - Emotion Pursuit spectrum

Psychological Flexibility vs. Anankastia		**Brief Description**
e.1	Tolerance to Frustration vs. Perfectionism	Situational internalizing intrapersonal characteristics within the Frustration Tolerance - Perfectionism spectrum
e.2	Availability for Leisure vs. Work Addiction	Situational internalizing characteristics within the Frustration Tolerance - Perfectionism spectrum
e.3	Docility vs. Inflexibility	Situational internalizing intrapersonal characteristics within the Docility - Inflexibility spectrum

Appendix D

Methods for the development and evaluation of the IDIP-11 scales

Table D.1

Phases and steps followed to develop and validate each IDPI-11 scale

Scale	Preliminary		Ph1	Ph2									
				Sec. 1				Sec. 2					Sec. 3
			O1	o1	o2	o3	o4	o5	o6	o7	o8	o9	o10
	St1	St2	St3	St4	St5	St6	St7	S8	St9	St10	St11	St12	St13
Response Styles (Group R)													
Validity Indices													
R1: Invalidity				A✔	✔								
R2: Inconsistency			C✔		✔	✔	✔	✔		✔	✔		✔
Response Distortion Indices													
R3: Dissimulation	R✔	✔	I✔		C✔	✔	✔	✔		✔	✔		✔
R4: Simulation	R✔	✔	I✔		C✔	✔	✔	✔		✔	✔		✔
Mental Health Factors (Group F)													
Protective Factors													
F1: Healthy Habits	R✔	✔	I✔		C✔	✔	✔	✔		✔	✔		✔
F2: Self-Esteem	R✔	✔	I✔		C✔	✔	✔	✔		✔	✔		✔
F3: Meaningful Activities	R✔	✔	I✔		C✔	✔	✔	✔		✔	✔		✔
F4: Openness to Treatment	R✔	✔	I✔		C✔	✔	✔	✔		✔	✔		✔
Risk Factors													
F5: Childhood Abuse	R✔	✔	I✔		C✔	✔	✔	✔		✔	✔		✔
F6: Suicidal Tendency	R✔	✔	I✔		C✔	✔	✔	✔		✔	✔		✔
F7: Health Concern	R✔	✔	I✔		C✔	✔	✔	✔		✔	✔		✔
F8: Lack of Social Support	R✔	✔	I✔		C✔	✔	✔	✔		✔	✔		✔
Psychopathology (Group S)													
Frequent Syndromes													
S1: Major Depression	R✔	✔	I✔		C✔	✔	✔	✔		✔	✔		✔
S2: Post-Traumatic Stress	R✔	✔	I✔		C✔	✔	✔	✔		✔	✔		✔
S3: Alcohol Consumption	R✔	✔	I✔		C✔	✔	✔	✔		✔	✔		✔
S4: Generalized Anxiety	R✔	✔	I✔		C✔	✔	✔	✔		✔	✔		✔
S5: Social Phobia	R✔	✔	I✔		C✔	✔	✔	✔		✔	✔		✔
Uncommon Syndromes													
S6: Agoraphobia	R✔	✔	I✔		C✔	✔	✔	✔		✔	✔		✔
S7: Schizophrenia Spectrum	R✔	✔	I✔		C✔	✔	✔	✔		✔	✔		✔
S8: Dysthymia	R✔	✔	I✔		C✔	✔	✔	✔		✔	✔		✔
S9: Panic	R✔	✔	I✔		C✔	✔	✔	✔		✔	✔		✔
S10: Obsessive-Compulsive Disorder	R✔	✔	I✔		C✔	✔	✔	✔		✔	✔		✔

Scale	Preliminary		Ph1	Ph2									
				Sec. 1				Sec. 2					Sec. 3
			O1	o1	o2	o3	o4	o5	o6	o7	o8	o9	o10
	St1	St2	St3	St4	St5	St6	St7	St8	St9	St10	St11	St12	St13
Personality (Group P)													
Severity													
PF: Functioning			C ✔	✔	✔	✔	✔	✔		✔	✔	✔	✔
Traits													
A: Serenity vs. Negative			S ✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔
Affectivity													
B: Humanity vs. Detachment			S ✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔
C: Integrity vs. Dissociality			S ✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔
D: Moderation vs. Disinhibition			S ✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔
E: Psychological Flexibility vs. Anankastia			S ✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔
Additional Qualifier													
PL: Borderline Pattern			C ✔	✔	✔	✔	✔	✔		✔	✔	✔	✔
Trait Facets (Group P.2)													
Serenity vs. Negative Affectivity													
a.1: Calm vs. Anxiety	R ✔	✔	I ✔		C ✔	✔	✔	✔		✔	✔		✔
a.2: Fortitude vs. Vulnerability	R ✔	✔	I ✔		C ✔	✔	✔	✔		✔	✔		✔
a.3: Emotional Stability vs. Emotional Lability	R ✔	✔	I ✔		C ✔	✔	✔	✔		✔	✔		✔
a.4: Patience vs. Anger	R ✔	✔	I ✔		C ✔	✔	✔	✔		✔	✔		✔
a.5: Humor vs. Depressiveness	R ✔	✔	I ✔		C ✔	✔	✔	✔		✔	✔		✔
a.6: Initiative vs. Shame	R ✔	✔	I ✔		C ✔	✔	✔	✔		✔	✔		✔
a.7: Faith in Others vs. Distrust	R ✔	✔	I ✔		C ✔	✔	✔	✔		✔	✔		✔
Humanity vs. Detachment													
b.1: Sociability vs. Social Detachment	R ✔	✔	I ✔		C ✔	✔	✔	✔		✔	✔		✔
b.2: Love vs. Emotional Detachment	R ✔	✔	I ✔		C ✔	✔	✔	✔		✔	✔		✔
b.3: Assertiveness vs. Lack of Assertiveness	R ✔	✔	I ✔		C ✔	✔	✔	✔		✔	✔		✔
Integrity vs. Dissociality													
c.1: Altruism vs. Egocentrism	R ✔	✔	I ✔		C ✔	✔	✔	✔		✔	✔		✔
c.2: Sensitivity vs. Lack of Empathy	R ✔	✔	I ✔		C ✔	✔	✔	✔		✔	✔		✔
c.3: Kindness vs. Aggressiveness	R ✔	✔	I ✔		C ✔	✔	✔	✔		✔	✔		✔

Scale	Preliminary		Ph1	Ph2									
				Sec. 1				Sec. 2					Sec. 3
			O1	o1	o2	o3	o4	o5	o6	o7	o8	o9	o10
	St1	St2	St3	St4	St5	St6	St7	S8	St9	St10	St11	St12	St13
Moderation vs. Disinhibition													
d.1: Prudence vs. Temerity	R✔	✔	I✔		C✔	✔	✔	✔		✔	✔		✔
d.2: Commitment vs. Irresponsibility	R✔	✔	I✔		C✔	✔	✔	✔		✔	✔		✔
d.3: Planning vs. Disarray	R✔	✔	I✔		C✔	✔	✔	✔		✔	✔		✔
d.4: Emotional Plenitude vs. Emotion Pursuit	R✔	✔	I✔		C✔	✔	✔	✔		✔	✔		✔
Psychological Flexibility vs. Anankastia													
e.1: Tolerance to Frustration vs. Perfectionism	R✔	✔	I✔		C✔	✔	✔	✔		✔	✔		✔
e.2: Availability for Leisure vs. Work Addiction	R✔	✔	I✔		C✔	✔	✔	✔		✔	✔		✔
e.3: Docility vs. Inflexibility	R✔	✔	I✔		C✔	✔	✔	✔		✔	✔		✔

Note: Ph1= phase 1 (study 1); Ph2 = phase 2 (study 2); O1= objective of study 1; o1 = 1st specific objective of study 2; o2 = 2nd specific objective of study 2; o3 = 3rd specific objective of study 2; o4 = 4th specific objective of study 2; o5 = 5th specific objective of study 2; o6 = 6th specific objective of study 2; o7 = 7th specific objective of study 2; o8 = 8th specific objective of study 2; o9 = 9th specific objective of study 2; o10 = 10th specific objective of study 2; Sec. 1 = section 1 of study 2 (development); Sec. 2 = section 2 of study 2 (evaluation); Sec. 1 = section 1 of study 2 (normalization); St1 = *step 1:* identification of constructs and generation of items; St2 = *step 2:* item revision by a panel of five experts; St3 = *step 3:* item calibration (selection) with CTT and IRT; St4 = *step 4:* item designation for the floating scales; St5 = *step 5:* formulation of differentiated item scores for scales according to their prototypicality; St6 = *step 6:* content validity of scales; St7 = *step 7:* item-level analysis from CTT and IRT; St8 = *step 8:* structural validity of scales of the Trait subgroup; St9 = *step 9:* convergent and discriminant validity of the scales within their own groups; St10 = *step 10:* validity of differentiation by groups of the scales; St11 = *step 11:* criterion validity of Personality group scales; St12 = *step 12:* reliability of scales; St13= *step 13:* typification of raw scores of the scales. The methods used for developing IDPI-11 scales were **R** = rational theoretical method; **I** = Item response theory (IRT); **A** = a priori designation based on 5% or more blank or null answers; **S** = sequential system of construct-oriented scale development; **C** = content grouping with statistical refinement method. Inside the table, group names are shown in **bold** and subgroups names, in *italics*.

Table D.2

Considerations used to develop solid and floating scales in step 1 and step 6

N°	Consideration
1	The Facets of Traits group was conceived as an additional group from which the items of the scales of the Traits subgroup were derived to allow a nuanced evaluation of the characteristics of the examinee. In this sense, the scales of the Traits subgroup (scales A, B, C, D, and E) were formed preliminarily by all the items of each scale (of their corresponding subgroup) located in the Facets of Traits group.
2	Dissimulation (scale R3) and the scales of the Protective Factors subgroup (Healthy Habits [scale F1], Self-Esteem [scale F2], Significant Activities [scale F3], and Openness to Treatment [scale F4]) were conceived with a focus on health; the scales of the Validity Indices subgroup (Invalidity [scale R1] and Inconsistency [scale R2]) were not considered with a specific direction; and the rest of the scales were conceived towards psychopathology (considered as clinical scales).
3	The scales R1, R2, Functioning (scale PF), Serenity vs. Negative Affectivity (scale A), Humanity vs. Detachment (scale B), Integrity vs. Dissociality (scale C), Moderation vs. Disinhibition (scale D), Psychological Flexibility vs. Anankastia (scale E), and Borderline Pattern (scale PL) were considered «floating scales» since they did not have their items and were calculated from logarithms of items from other scales.
4	The scale R1 did not have specific items since it was only scored based on the sum of blank and null responses. In addition, the scale R2 consisted of pairs of similar items (extracted from the scales F2, Health Concern [scale F7], Post-Traumatic Stress [scale S2], Agoraphobia [scale S6], and Panic [scale S9]) or pairs of opposite items (extracted from the items of the positive and maladaptive variants of all the scales of the Facets of Traits group).
5	The PF scale was composed of four indicators: identity, self-direction, empathy, and intimacy, similar to the alternative model of PD of the DSM-5 (DSM-5 AMPD; APA, 2022). These indicators were composed of the following scale items: Fortitude vs. Vulnerability (scale a.2), Emotional Stability vs. Emotional Lability (scale a.3), Humor vs. Depressiveness (scale a.5), Initiative vs. Shame (scale a.6), Prudence vs. Temerity (scale d.1), Commitment vs. Irresponsibility (scale d.2), Planning vs. Disarray (scale d.3), Frustration Tolerance vs. Perfectionism (scale e.1), Availability for Leisure vs. Work Addiction (scale e.2), Docility vs. Inflexibility (scale e.3), Sensitivity vs. Lack of Empathy (scale c.2), Sociability vs. Social Detachment (scale b.1), and Love vs. Emotional Detachment (scale b.2).
6	The PL scale, following the model of the nine main criteria established by DSM-5 and ICD-11, was made up of items with specific characteristics of the maladaptive variants of the scales Calm vs. Anxiety (scale a.1), a.3, a.2, c.2, d.1, a.5, Emotional Plenitude vs. Emotion Pursuit (scale d.4), Faith in Others vs. Distrust (scale a.7), and of specific items of the scales F2, Suicidal Tendency (scale F6), Schizophrenia Spectrum (scale S7), and Dysthymia (scale S8).

Note: The rational theoretical method (used in step 1) and content grouping with statistical refinement method (used in step 2) took into account these considerations to write items for the solid scales and to designate items for the floating scales, respectively.

Appendix E

Supplemental information of study 2 results

Table E.1

Derivation of non-prototype items using Spearman's rho

Target Scale	Item Number (Original Scale; rho)
F1: Healthy Habits	18 (S1; -.59), *109 (b.2; -.47)
F2: Self-Esteem	1 (S8; -.60), 20 (a.5; -.56), *44 (a.2; -.43), *135 (a.5; -.42), 163 (a.2; -.41)
F3: Meaningful Activities	*114 (c.1; -.53), 188 (c.1; -.45)
F4: Openness to Treatment	54 (e.3; -.58), *74 (e.3; -.68)
F5: Childhood Abuse	37 (a.7; .41), *50 (a.7; .54), 61 (a.4; .62), 89 (a.3; .52), *127 (a.7; .52), 156 (d.4; .61)
F6: Suicidal Tendency	2 (a.5; .64), 56 (S1; .66), *137 (F7; .62)
F7: Health Concern	18 (S1; .55), 19 (a.5; .56), 45 (S4; .54), 84 (S9; .43), 182 (S4; .62)
F8: Lack of Social Support	26 (a.7; 57), 52 (a.6; .65), *75 (a.7; .45), *149 (b.2; .58), 170 (b.2; .46)
S1: Major Depression	110 (F6; .65), 171 (F1; -.58)
S2: Post-Traumatic Stress	45 (S4; .62), 182 (S4; .48)
S3: Alcohol Consumption	63 (d.4; .43), 132 (a.4; .53), 166 (a.3; .44), 122 (R3; -.40)
S4: Generalized Anxiety	34 (a.1; .56), 43 (F7; .52), 77 (S4; .41), 120 (a.4; .63), 138 (F7; .50)
S5: Social Phobia	*85 (a.1; .44), *159 (b.1; .62), 175 (b.1; .61)
S6: Agoraphobia	45 (S4; .40), 144 (a.1; .57), 182 (S4; .45)
S7: Schizophrenia Spectrum	64 (S8; .54), 97 (S1; .49), 140 (R4; .58), 142 (d.3; .60), 165 (d.3; .47), 185 (R4; .56), 190 (d.3; .61)
S8: Dysthymia	2 (a.5; .48), *44 (a.2; .43), 60 (a.2; .62), 102 (b.2; .45), *135 (a.5; .57), 161 (F2; -.45)
S9: Panic	30 (S2; .53), 134 (S4; .49)
S10: Obsessive-Compulsive Disorder	123 (e.1; .64), 162 (F5; .51), *184 (e.1; .59)
a.1: Calm vs. Anxiety	79 (S6; .42), 104 (S5; .40), 124 (S5; .45), 134 (S4; .54)
a.2: Fortitude vs. Vulnerability	22 (S6; .41), 95 (S6; .48), 131 (S6; .42), 152 (c.1; -.41)
a.3: Emotional Stability vs. Emotional Lability	*21 (a.4; .63), 132 (a.4; .50)
a.4: Patience vs. Anger	53 (c.3; .49), 177 (S4; .55), 180 (c.3; .45)
a.5: Humor vs. Depressiveness	145 (S8; .54), 174 (F6; .59)
a.6: Initiative vs. Shame	4 (S9; .53), 62 (S5; .60), 147 (S5; .56), *176 (F8; .45), 108 (c.1; -.45), 118 (F2; -.60)
c.1: Altruism vs. Egocentrism	40 (R3; .62), 168 (R3; .42)
c.2: Sensitivity vs. Lack of Empathy	151 (S5; -.44)
c.3: Kindness vs. Aggressiveness	83 (e.1; -.53), 178 (R3; -.58)
d.1: Prudence vs. Temerity	47 (S3; .55)
d.2: Commitment vs. Irresponsibility	71 (S3; .43), 128 (R4; .58), 42 (e.2; -.54)
d.3: Planning vs. Disarray	23 (R4; .52)
d.4: Emotional fullness vs. Thrill Seeking	115 (e.3; -.48)
e.1: Tolerance to frustration vs. Perfectionism	49 (R3; .64), 79 (S6; .58), 107 (S7; .55), 16 (c.3; -.55)
e.2: Availability for leisure vs. Work Addiction	51 (d.2; -.46), 65 (d.2; -.41)

Note: Items with negative correlations were designated as inverse non-prototype items for the target scale (F = 1; T = 0); while those with positive correlations, as direct non prototype items (F = 0; T = 1).

*These items correspond to items inverted with respect to their original scale; however, as they were also scored inversely, their composition on the target scale does not affect directionality.

Table E.2

Item-level analysis from CTT and IRT

	Item	λ_1	λ_2	b_1	a_1
1.	Hace algunos años empecé a sentirme un fracasado.	.84	.52	.6	2.4
2.	He pensado en el suicidio desde hace varios años.	.78	.35	1.4	1.1
3.	Estoy pensando seriamente en terminar con mi vida.	.82	.38	5.3	.4
4.	Evito realizar actividades que me causen nuevamente algún ataque de terror.	.75	.49	3.6	2.2
5.	Como la comida nutritiva que mi familia me trae cuando me visitan.	.66	.46	.5	1.9
6.	Creo que es mejor afrontar los miedos sin buscar ayuda profesional.	.60	.67	.3	2
7.	Me gusta estar sin tener amigos.	.83	.32	1.9	1.2
8.	Se me hace difícil aceptar lo que los demás opinan.	.69	.36	.4	1.5
9.	Mi familia no me ayuda cuando los necesito.	.92	.56	1.2	3.1
10.	Siempre trato de hacer las cosas sin dañarme ni dañar a otros.	.70	.37	2.2	.1
11.	Tengo que hacer las cosas de una misma manera para sentirme bien.	.62	.45	.2	1.6
12.	Me siento satisfecho con lo que hago diariamente.	.70	.43	3.7	2.7
13.	Controlo mis emociones adecuadamente ante una discusión.	.79	.53	.8	3.0
14.	Después de tanto tiempo, todavía tengo pesadillas sobre un hecho que puso en peligro mi vida.	.86	.34	.2	1.3
15.	Dedico mi tiempo a la familia cuando me visitan.	.61	.63	2.6	3.3
16.	Desobedezco las reglas que ponen las autoridades.	.63	.31	2.9	2.7
17.	Me gusta ayudar a mis compañeros.	.86	.43	.8	3.1
18.	Últimamente mi apetito ha bajado y se me hace difícil poder dormir.	.76	.44	2.4	2.7
19.	Siento que el futuro no tiene nada bueno para mí.	.84	.66	.3	1.1
20.	Se me dificulta hacer las cosas por mí mismo.	.76	.41	2.2	3.1
21.	Me calmo fácilmente cuando estoy enojado.	.69	.36	2	1.4
22.	Evito participar en actividades en donde hay mucha gente.	.75	.56	.4	1.8
23.	No sé dónde nací.	.73	.74	2.3	3.6
24.	Muchas veces me siento muy frágil y desprotegido en este mundo.	.88	.44	.5	1.2
25.	Pienso que la vida me brinda muchas oportunidades.	.86	.32	1.7	2.6
26.	Se me hace difícil confiar en los demás y esto me impide realizar cosas que necesito hacer.	.71	.67	-.2	1.5
27.	Creo que soy una persona igual de valiosa a la mayoría de la gente.	.92	.51	1.2	2.8
28.	Cumplo respetuosamente con las normas que las autoridades establecen.	.84	.55	3.6	2.7

Item	λ_1	λ_2	b_1	a_1
29. He sufrido de abuso sexual en mi niñez.	.62	.38	3	2.5
30. Siento miedo de que pueda volver a pasar algo terrible.	.76	.40	-.4	2
31. Siempre busco que todo lo que hago sea perfecto.	.72	.68	2.7	1.2
32. Me he sentido tan tranquilo en la vida que no he necesitado hacer nada arriesgado.	.75	.57	.3	1.6
33. Muchas veces era golpeado cuando era niño.	.81	.66	-.4	1.5
34. Me preocupo mucho por lo que pueda pasar.	.60	.48	3.3	2.4
35. Realizo actividades que me hacen sentir útil.	.87	.60	2	1.4
36. Me siento relajado, ya que no le doy mucha importancia a lo que va a pasar más adelante.	.78	.31	3.1	1.6
37. Me doy cuenta cuando las personas tienen malas intenciones.	.71	.33	-.3	2.3
38. Siento mucho miedo en algunos momentos.	.69	.63	.5	1.8
39. Incluso en mis horarios libres paro haciendo mis trabajos.	.73	.76	2	1.8
40. Tengo el don de saber lo que los demás piensan.	.91	.37	2.3	1.3
41. Me siento nervioso y preocupado al pensar que puedo tener más ataques de terror.	.65	.47	3.1	1.5
42. Pienso más en el trabajo que en mi familia.	.73	.48	4.9	2
43. Me preocupa que haya bajado de peso y no pueda dormir bien.	.63	.34	-1.3	2.3
44. Soy consciente de las habilidades que tengo y de mi valor en la sociedad.	.77	.71	3.1	.2
45. Me cuesta poder relajarme.	.67	.32	2.3	.6
46. Creo que, en ciertas ocasiones, las reglas pueden cambiar.	.65	.53	1.9	1.4
47. Me es difícil dejar de beber.	.78	.39	-.3	2.1
48. La gente piensa que soy una persona bastante seria y callada.	.60	.78	2.7	1.5
49. Jamás dije una mentira.	.63	.41	2.5	2.4
50. Confío en las buenas intenciones de las demás personas.	.66	.63	3.3	1.7
51. Suelo tener problemas por no cumplir mis tareas.	.79	.63	1.7	2.7
52. Odio que las personas se metan en mi vida.	.65	.75	-.6	1.3
53. Las personas recién hacen las cosas cuando se las amenaza.	.75	.47	-.5	1.4
54. Me molesta que las personas no entiendan bien cómo se tienen que hacer las cosas.	.64	.58	1.7	2.1
55. Muchas veces me arriesgo para lograr lo que quiero.	.85	.49	.4	1.5
56. Me siento profundamente triste.	.76	.59	2	2.9
57. Juzgar a las personas sin conocerlas bien me ha traído problemas.	.91	.75	.1	1.4
58. Muchas veces evito recordar esas situaciones traumáticas de mi pasado.	.76	.69	1.7	1.7

Item	λ_1	λ_2	b_1	a_1
59. En mis horarios libres, despejo mi mente del trabajo.	.87	.65	1.9	1.5
60. La verdad es que ya no sé quién soy realmente.	.78	.68	3.3	2
61. Me lastimo cuando estoy molesto.	.72	.74	1.8	2.7
62. Evito hablar con personas desconocidas para no hacer el ridículo.	.77	.55	2.9	1.2
63. Me gusta participar en actividades peligrosas.	.80	.45	2.9	2.5
64. Ya no tengo energía para concentrarme en mis actividades diarias.	.84	.63	1.1	1.7
65. Me rindo fácilmente cuando algo sale mal.	.60	.65	2	1.2
66. Suelo tomar los problemas sin tanta preocupación.	.72	.67	2.9	3.4
67. Muchas veces paro tan preocupado en mis problemas que he descuidado otras actividades.	.68	.61	1.7	1.6
68. Las personas me han llamado manipulador.	.61	.73	2.5	2.3
69. Las cosas se deberían pedir con amabilidad.	.61	.68	1.7	2
70. Me lavo tanto las manos hasta dañarme.	.78	.54	2.3	1.3
71. He tenido problemas en mi trabajo a causa del alcohol.	.70	.59	1.7	2.2
72. Acepto y agradezco que las personas me hagan dar cuenta de mis errores para poder mejorar.	.62	.69	3	2.5
73. He pensado en formas de suicidarme.	.89	.36	2.6	3
74. A menudo tomo en cuenta las opiniones de los demás.	.72	.41	2.4	2.1
75. Puedo realizar varias actividades porque tengo personas de confianza que me apoyan.	.85	.66	1.7	2.3
76. Creo que todos tenemos nuestra propia belleza interior.	.67	.40	.6	1.9
77. Últimamente sudo mucho y me siento muy nervioso.	.83	.69	1.1	1.5
78. Estaría dispuesto a recibir ayuda psicológica más adelante si fuera necesario.	.79	.44	1.6	1.3
79. Siento miedo cuando estoy cerca de muchas personas.	.91	.60	2.7	2.1
80. Acepto cada uno de mis defectos y virtudes.	.73	.43	2.4	2.3
81. Las demás personas no suelen apoyar mis ideas.	.81	.60	2.9	3.1
82. Mis emociones pueden cambiar rápidamente sin que me dé cuenta.	.73	.40	.4	2.5
83. Creo que siempre se tiene que seguir estrictamente las reglas.	.88	.60	3.5	1.3
84. Ya no puedo ni trabajar ni reunirme con mis compañeros por mis crisis de terror.	.78	.31	.4	1.4
85. Cuando estoy solo, puedo hacer lo que más me gusta.	.82	.70	.2	2
86. Muchas veces me han felicitado por cumplir bien con mis labores.	.71	.69	1.6	3.6
87. Siento que muchas cosas buenas están por venir.	.78	.45	3.4	1.1
88. Para los demás soy una persona muy alegre y entusiasta.	.91	.32	1.3	2.3
89. Mis relaciones tienden a ser muy intensas y problemáticas por mis cambios de humor.	.61	.47	3.2	2.5

16

Item	λ_1	λ_2	b_1	a_1
90. Me gusta tener organizadas mis actividades.	.62	.44	1.8	1.9
91. Todos cometemos errores así que es mejor aprender de ellos y seguir adelante.	.89	.49	2.2	1.1
92. La gente dice que soy frío e insensible.	.74	.55	2.6	2.3
93. Las personas siempre me han dicho que soy ordenado.	.84	.39	2.3	1.4
94. Dicen que soy una persona muy comprensiva con los demás.	.81	.37	3.3	1.6
95. Trato de evitar estar en medio de mucha gente.	.72	.31	.4	2.8
96. Controlo mis emociones cuando estoy con otras personas.	.81	.35	3.5	1.7
97. Me he sentido débil y sin ánimo todos estos días.	.66	.61	1.8	1.6
98. Ya no me importa tener relaciones sexuales.	.87	.63	1.7	2.3
99. Siento que alguien o algo controla mi cuerpo.	.85	.52	2	1.7
100. Las personas me vigilan cuando intento hacer algo.	.91	.60	2.2	1.6
101. Me parece importante ser responsable con las labores que se nos encomiendan.	.73	.31	3	2.3
102. Siento que casi nada me genera placer.	.90	.58	3.6	2.4
103. Me gusta realizar ejercicios físicos.	.66	.61	.4	1.3
104. Me da miedo hacer algo que pueda avergonzarme cuando estoy con los demás.	.74	.58	1.1	1.7
105. Me siento feliz y satisfecho porque tengo todo lo que necesito.	.64	.76	2.9	1.6
106. Las personas dicen que hablo claro y comprensible.	.85	.65	1.8	1.4
107. Hay ideas en mi cabeza, las cuales repito sin razón alguna.	.79	.55	2.2	.6
108. Soy una persona muy guapa y atractiva a diferencia de los demás.	.62	.76	2.6	1.5
109. Disfruto cada momento que me brinda la vida.	.82	.63	1.4	2
110. De alguna manera he tratado de quitarme la vida.	.92	.71	.6	2.4
111. Creo que es importante respetar los derechos de los demás.	.76	.69	2.8	1.6
112. Tengo problemas con el alcohol y he tratado de solucionarlos, pero sin éxito.	.75	.43	2.7	1.3
113. Las actividades que realizo me permiten mostrar mis habilidades.	.86	.47	1.2	2.3
114. Me gusta ayudar a los demás.	.60	.61	1.3	1.7
115. Prefiero no arriesgarme, aunque pierda oportunidades.	.60	.41	1.3	.2
116. Trato de disfrutar mis horarios libres sin tener preocupaciones.	.62	.56	1.8	1.6
117. Puedo dirigir bien un grupo porque valoro la opinión de cada integrante.	.75	.77	2.3	.3
118. Me siento satisfecho conmigo mismo.	.71	.48	3	2.1

Item	λ_1	λ_2	b_1	a_1
119. Los recuerdos de mi pasado me causan pesadillas durante las noches.	.83	.39	2.1	2.4
120. Pierdo la paciencia rápidamente cuando algo me enoja.	.63	.56	3.5	1.2
121. Tengo miedo de caminar más de una cuadra.	.77	.34	2.3	2.2
122. Nunca tomé ni una gota de alcohol.	.62	.77	2	1.6
123. Siempre me frustro cuando algo no sale como yo quiero.	.85	.52	3	2.2
124. Cuando tengo que salir en frente de los demás, empiezo a sentirme muy nervioso.	.90	.41	2.2	1.2
125. Me paro preocupando de cualquier cosa.	.73	.72	2.4	2.4
126. Me siento contento con mis actividades diarias.	.69	.62	2.7	.7
127. Confío en las buenas intenciones de los demás.	.67	.47	2	1.8
128. He olvidado las cosas que hice ayer.	.90	.57	1.4	.7
129. Siento temblores cuando deseo beber.	.81	.46	1.8	1.7
130. Reflexiono sobre mis opciones antes de ejecutar una decisión.	.87	.60	2.8	.6
131. Siento mucho miedo cuanto tengo que estar en alguna ceremonia.	.71	.47	1.4	2.7
132. No puedo controlar mi conducta cuando estoy enojado.	.76	.44	.6	1.4
133. Muchas veces me he sentido muy avergonzado por haber cometido errores.	.78	.76	1.4	2.3
134. Tengo mucho miedo de que algo terrible pudiera pasar.	.76	.71	2.8	1
135. Me siento orgulloso de haber logrado muchas cosas por mí mismo.	.78	.52	2.7	.3
136. Ir al psicólogo es una pérdida de tiempo y dinero.	.89	.76	1.1	1.3
137. Siempre he creído que la vida es hermosa.	.84	.59	2.3	1.8
138. La mayor parte del tiempo me siento débil y cansado.	.74	.32	3.9	3
139. A veces de la nada siento mucho miedo.	.87	.51	2.4	2.1
140. A veces siento que puedo salirme de mi cuerpo y converso conmigo mismo.	.66	.69	2.3	.2
141. Cuando estoy con mis amigos paramos de risa en risa.	.72	.56	3.3	1.4
142. Uso tantas palabras para decir algo que los demás no llegan a entender.	.75	.52	2	2.8
143. Evito las cosas que puedan hacerme recordar el trauma que he vivido.	.61	.36	3.4	1.2
144. A menudo me siento nervioso cuando estoy en un grupo de personas desconocidas.	.76	.33	2.1	.6
145. Desde hace años me he sentido bastante triste y decepcionado de la vida.	.64	.32	1.9	.2
146. Siento que esta vida no es para mí.	.83	.36	.4	1.7
147. Evito las reuniones sociales o hablar en público para no sentirme avergonzado.	.70	.77	2.7	1.4
148. El lavarme las manos a cada rato me quita tiempo para cumplir con mis obligaciones.	.70	.34	1.2	2.2

Item	λ_1	λ_2	b_1	a_1
149. Me gusta formar relaciones estables y duraderas con mis amigos.	.90	.43	1.7	1.2
150. Me aprovecho de las personas para que hagan mi trabajo.	.86	.77	3	1.9
151. Tengo mucho miedo de hablar con personas que tienen autoridad.	.71	.69	3.4	1.1
152. Merezco recibir un trato especial pues soy muy superior a los demás.	.73	.55	.5	2
153. Me he metido en problemas debido a conductas peligrosas que he realizado.	.82	.71	1.2	2.6
154. Si algo me molesta, intento solucionarlo de una buena manera.	.70	.63	1.3	1.4
155. Hace tiempo me siento decaído y sin motivación.	.82	.64	3.1	2.3
156. A menudo he sentido un «gran vacío» en mi vida que he tratado de llenar sin éxito.	.90	.74	3.3	.5
157. En mis horarios libres, paro planificando al detalle como haré cada uno de mis trabajos.	.64	.46	2.5	1.3
158. Trato de tranquilizarme cuando estoy molesto conmigo mismo.	.69	.70	1.7	2.7
159. Disfruto mucho cuando converso y comparto con grupos de personas.	.62	.64	1.3	1.1
160. Me gusta mucho estar con mis amigos.	.74	.34	2.9	1.8
161. Al igual que las demás personas soy importante para mi sociedad.	.76	.31	1.2	2.2
162. Mis padres me maltrataban cuando era niño.	.66	.58	.2	2.3
163. Siento que me importa mucho lo que los demás piensen de mí.	.73	.42	3.3	1.1
164. Escucho sonidos que nadie oye.	.78	.49	2.7	.6
165. Tengo dificultades para organizarme.	.86	.56	1.5	2.3
166. Mis emociones pueden salirse de control.	.64	.73	.7	1.2
167. Suelo tomarme el tiempo necesario para sacar una buena conclusión.	.85	.61	.4	1.4
168. Nadie puede cocinar tan bien como yo.	.72	.41	1.1	1.2
169. Todos tenemos derecho a ser tratados con respeto.	.64	.47	3	2.5
170. Evito formar relaciones muy cercanas con las personas.	.82	.51	2.6	2.3
171. Duermo 7 horas o más la mayoría de las noches.	.83	.36	2.1	.6
172. Prefiero ser un seguidor que ser el líder de un grupo.	.66	.52	1.4	1.8
173. Si tengo problemas iría al departamento de psicología.	.90	.78	1.9	2.3
174. Desde que era adolescente pensé en el suicidio.	.83	.44	2.4	1.6
175. Me siento muy incómodo al estar con otras personas y hago lo posible por evitarlas.	.60	.66	1.9	1.7
176. Mis amigos son un gran apoyo para mí.	.74	.59	1.2	1

Item	λ_1	λ_2	b_1	a_1
177. Me molesto y reniego fácilmente.	.84	.57	2.7	2.7
178. Nunca le hice daño a nadie.	.74	.66	.9	1.5
179. Actuar sin pensar me ha llevado a hacerme daño a mí y a otros.	.91	.48	2	1.7
180. He golpeado a muchas personas para conseguir dinero.	.81	.49	1.3	1.5
181. Tengo un problema con el alcohol que ha creado dificultades en mí y en mi familia.	.89	.71	3.5	2.8
182. Me siento desesperado y ansioso.	.60	.63	2.9	1.1
183. Menciono mis ideas respetando las opiniones de los demás.	.63	.54	3	2.4
184. Estoy tranquilo, aunque algo salga mal.	.65	.50	3.2	1.9
185. Todos los días escucho voces que me piden que haga cosas.	.83	.45	.2	3.4
186. Mi estado de ánimo es estable.	.91	.38	3.3	1.7
187. Tiendo y destiendo mi cama hasta que quede perfectamente ordenada.	.65	.56	2.4	2.6
188. No me importan los problemas ajenos.	.72	.62	1.5	2
189. Mi familia siempre me ayuda.	.76	.73	.1	1.7
190. La gente dice que soy muy desordenado.	.68	.56	3	.4

Note: λ_1 = factor loading of the item according to its original scale; λ_2 = average of the factor loadings according to their target scales; b = average of IRT item difficulty parameter according to its original scale and target scales; a = average of IRT item discrimination parameter according to its original scale and target scales.

Appendix F

Development of uniform T-scores

As known, T-scores –hereinafter traditional T-scores (TT scores)– are linear and often used as standard scores for a scale. Its formula is derived from an equation of a raw score (Equation 1):

$$TT\ score = 50 + [10\ (X - M)]\ /\ SD \qquad (1)$$

Where X is the raw score; M, the mean; and SD, the standard deviation. The disadvantage of the TT scores is that they do not allow a more precise comparison between the scores of the various clinical scales for a differential diagnosis; thus, the same TT score has different percentiles between scales. This shows that TT scores are only applicable to instruments that measure intelligence or non-clinical constructs in which the highest proportion of scores are concentrated in the mean. However, most of the scales with a focus on psychopathology maintain a right-skewed distribution since they depend on a low prevalence.

The method for generating the uniform T score (UT score) –as stated by the authors of the MMPI (Ben-Porath & Tellegen, 2020a)– involves two main steps: (a) a «uniform» distribution (template) is derived to jointly represent the right-skewed scales of the IDPI-11, and (b) a transformation is performed on each individual scale to give it a distribution that approximates this unique template. The purpose of these two steps is to obtain standardized distributions (UT scores) that have a similar shape in all scales and, at the same time, fit the template and deviate minimally from the TT score distributions. If the UT scores achieve these goals, then they will have comparable percentiles in all scales.

Generation of a template distribution

As mentioned before, the distributions of the scales of the Risk Factors subgroup and the Psychopathology, Personality and Trait Facets groups tend to be positively skewed (to have elongated right tails). A representative composite (template) distribution capturing this feature was essentially obtained by combining 41 TT score distributions (R1, R2, F1, F2, F3, and F4 scales do not represent clinical constructs and were not included). The method is described below.

First, the 41 raw score distributions were all transformed into TT score distributions. Then, by interpolation, 101 TT scores, corresponding to percentiles .5, 1, 2, 3… 97, 98, 99, and 99.5, were calculated for each of the 41 distributions. The TT scores shown in Table F.1 for selected percentiles illustrate the results –e.g., for the normative sample–, the first percentile of the PF scale corresponds to a TT score of 27.7.

The TT scores of all 41 scales were averaged for each percentile. For example, the average or composite traditional T score (CTT score) of the 41 first percentile TT scores are 31.8, as shown in the last column. With the complete set of 101 CTT scores corresponding to the 101 percentiles, it was possible to select integer CTT scores –integer composite traditional T scores (ICTT scores)–and the latter are the ones that implicitly define the template distribution of the TT scores. In Figure F.1, the expected template distribution with positive skewness is shown.

Table F.1
TT scores and CTT scores for percentiles selected from IDPI-11 scales

Pc	…	PF	A	B	C	D	E	PL	…	CTT score
1	…	27.7	28.2	36.2	33.6	29.7	30	37.1	…	*31.8*
2	…	30.3	30.9	38.3	35.8	30.3	30.9	38.3	…	*33.5*
3	…	31.9	32.5	38.7	32.3	32.4	32.5	39.7	…	*34.3*
4	…	33.2	34.1	40.2	38.2	33.2	34.1	40.9	…	*36.3*
5	…	34.9	34.7	41.7	40.5	34.3	32.7	42.7	…	*37.4*
10	…	37.5	37.7	42.4	43.6	37.5	36.2	44.5	…	*39.9*
20	…	41.7	39.3	45.2	45.6	41.2	39.3	45.2	…	*42.5*
30	…	44.7	41.5	46.9	47.1	44.7	43.5	47.2	…	*45.1*
40	…	47.3	45.3	50.1	50.7	45.3	45.3	50.1	…	*47.7*
50	…	49.8	46.1	63.2	52.3	49.2	50.1	63.2	…	*53.4*
60	…	52	47.6	64.1	53.5	51.2	48.6	64.8	…	*54.5*
70	…	54.4	51.2	65.6	60.1	54.8	51.2	65.1	…	*57.5*
80	…	57.8	53.8	67	62.4	55.2	54.8	67	…	*59.7*
90	…	62.3	60.9	69.3	66.6	62.8	61.9	69.3	…	*64.7*
95	…	67.7	68.7	70.8	66.9	67.6	68.5	70.3	…	*68.6*
96	…	69.3	70.2	72.6	70.6	70.3	72.1	73.6	…	*71.2*
97	…	71	73.6	76.2	75.1	74	73.6	76.4	…	*73.3*
98	…	72.9	75.1	78.9	79.4	76.2	75.1	77.3	…	*74.4*
99	…	76.7	77.6	82.4	83.1	76.5	77.6	81.4	…	*75.3*

Note: Pc = percentile; CTT score = composite traditional T score; PF = Functioning; A = Serenity vs. Negative Affectivity; B = Humanity vs. Detachment; C = Integrity vs. Dissociality; D = Moderation vs. Disinhibition; E = Psychological Flexibility vs. Anankastia; PL = Borderline Pattern. Percentiles and CTT scores are shown in *italics*. The other scales with a positive bias are not shown for practicality given their length.

Figure F.1
Template distribution serving as a target in the derivation of UT scores
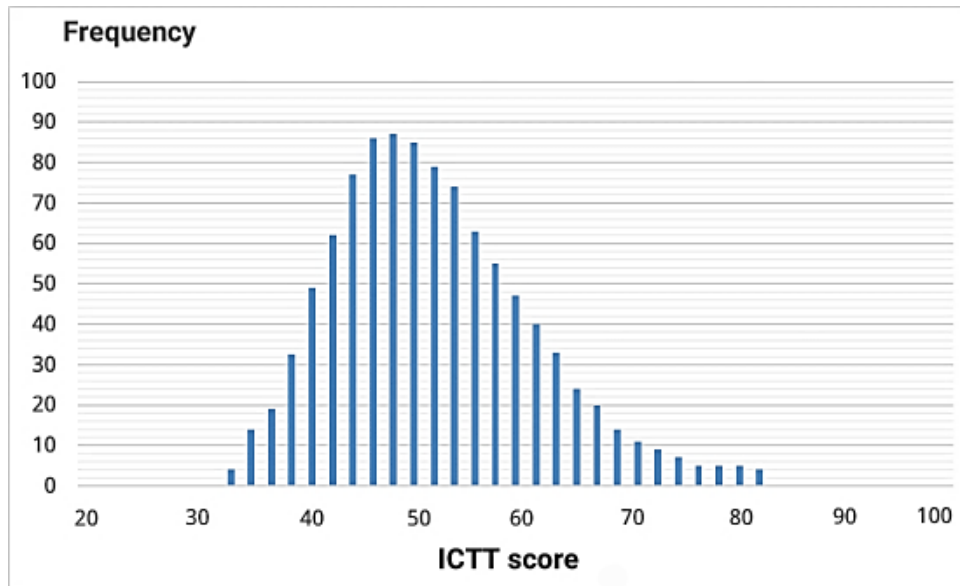
The template distribution is shown for display purposes; it did not enter directly into the derivation of UT scores. For that purpose, the TT scores shown in Table F.1 were first replaced by the corresponding raw score values, because our transformation was intended to be applied directly to the raw scores rather than to the TT scores. Replacement is illustrated for some scale distributions (PF, A, B) and for some percentiles (2nd, 3rd, 4th, 5th) in the rows of Table F.2. For example, the TT score of 30.3 shown in Table F.1 for the second percentile of the PF scale has been replaced by the corresponding raw score of .08 shown in Table F.2.

A round of interpolations was then carried out, resulting in a new set of raw score values for each of the 41 distributions. These new scores correspond to a set of 47 ICTT scores ranging in value from 31 to 77 (this is the range of ICTTs for which these interpolations were feasible given the normative ranges of raw scores.) We complete this round of transformations because we want to use ICTT scores as our target for the transformation formula since ICTT scores are spread out on the underlying scale continuum more evenly than CTT scores. This is because CTTs stack up in the middle region of the scale continuum and move away at the extremes, including the clinically important high extremes, and thus are not a suitable target for UT transformation.

Table F.2
Raw scores and corresponding composite traditional T-scores (CTT scores)

Pc	PF	A	B	CTT score
2	.08	.02	.04	33.5
	.18	*.11*	*.14*	*34*
3	.59	.21	.32	34.3
	.60	*.32*	*.36*	*35*
	.61	.39	.43	36
4	.62	.44	.51	36.3
	.69	*.52*	*.57*	*37*
5	.73	.59	.59	37.4

Note: Pc = percentile; PF = Functioning; A= Serenity vs. Negative Affectivity; B = Humanity vs. Detachment; CTT score = composite traditional T-scores. Raw scores and corresponding CTT scores are shown for selected scales and percentiles. In addition, they are shown in the interpolated raw scores corresponding to traditional integer composite T-scores (ICCT scores). The other scales with a positive bias are not shown for convenience given their length.

As an illustration, Table F.2 shows in its rows in italics the results of four ICTT scores (34, 35, 36, and 37) obtained after the interpolations. For example, the ICTT score of 34 and the corresponding interpolated raw scores of .18, .11, and .14 have values that lie between the 2nd and 3rd percentiles. Table F.3 shows the interpolated raw scores for 7 of the 41 corresponding distributions of the IDPI-11 right-biased scales (see Figure F.2 for more details of the bias of these 41 scales).

Development of UT score tables

For each set of 47 raw scores (41 sets in total, one for each scale included), a separate regression formula was derived to transform the raw scores (including the nine shown in Table F.3) into scores approximating or «predicting» the UT scores. To be successful, the regression equations had to be nonlinear. A variant of a (cubic) polynomial transformation turns out to be more satisfactory. This variant is explained if we first consider a regular cubic transformation:

$$T = B_0 + B_1X + B_2X^2 + B_3X^3 \qquad (2)$$

Where X is the raw score that will be transformed into the «predicted» value T; B_0 is the intercept; and B_1, B_2, and B_3 are the regression weights.

By using higher order polynomials, «predicted» values (UT scores, in this case) can be generated so that they will be similar to the observed target values (the ICCT scores shown partially in Table F.3) with any degree of precision. wanted. However, for raw scores that fall outside the normative range, which require extrapolation rather than interpolation of the corresponding UT score values, the derived UT scores may assume arbitrary values reflecting the influence of nonlinear components (squared, cubed, etc.) of the equation. This

turns out to be a serious problem with very high IDPI-11 scores (outside the normal range) in prisoners with severe psychopathology. For extrapolation, linear regression is less problematic. Therefore, a UT scoring equation that is nonlinear below a designated value of X –that we will call C– but that gradually changes as X approaches C to become a fully linear equation once such X reaches and exceeds C was adopted. This «non-linear -> linear» formula is as follows:

$$UT = B_0 + B_1 X + B_2 D^2 + B_3 D^3 \qquad (3)$$

Where X and the four B parameters are defined as mentioned before and D = (C - X) if X < C, otherwise D = 0, and C is equal to the value of X corresponding to an ICTT score of 60 (which shows all the raw scores in the sixth row of Table F.3). In other words, as X increases, the quadratic and cubic components decrease and disappear when X reaches a value corresponding to an ICTT score of 60, at which point Equation 2 simplifies to the linear regression equation.

Table F.3
Raw scores of the scales corresponding to the selected ICTT scores

…	PF	A	B	C	D	E	PL	…	ICTT score
…	.60	.32	.25	.26	.29	.24	.36	…	**35**
…	5.38	1.26	1.35	1.27	2.12	1.96	3.35	…	**40**
…	6.23	2.37	2.36	2.29	3.45	3.12	5.24	…	**45**
…	12.49	4.89	3.97	3.45	3.95	3.64	8.93	…	**50**
…	13.34	5.16	4.26	4.18	4.13	3.03	9.78	…	**55**
…	15.69	6.98	5.63	4.12	4.98	4.23	10.35	…	**60**
…	16.58	7.23	5.98	4.47	5.02	4.87	12.15	…	**65**
…	17.30	7.45	6.03	4.75	5.61	5.21	13.34	…	**70**
…	18.25	8.33	6.42	5.02	6.92	5.35	14.07	…	**75**

Note: PF = Functioning; A = Serenity vs. Negative Affectivity; B = Humanity vs. Detachment; ICTT score = traditional integer composite T-scores. The columns contain raw scores from the Personality group scales. The other scales with a positive bias are not shown for convenience given their length. ICTT scores are shown in **bold**.

Figure F.2
Skewness of the TT scores and UT scores of the IDPI-11 biased scales
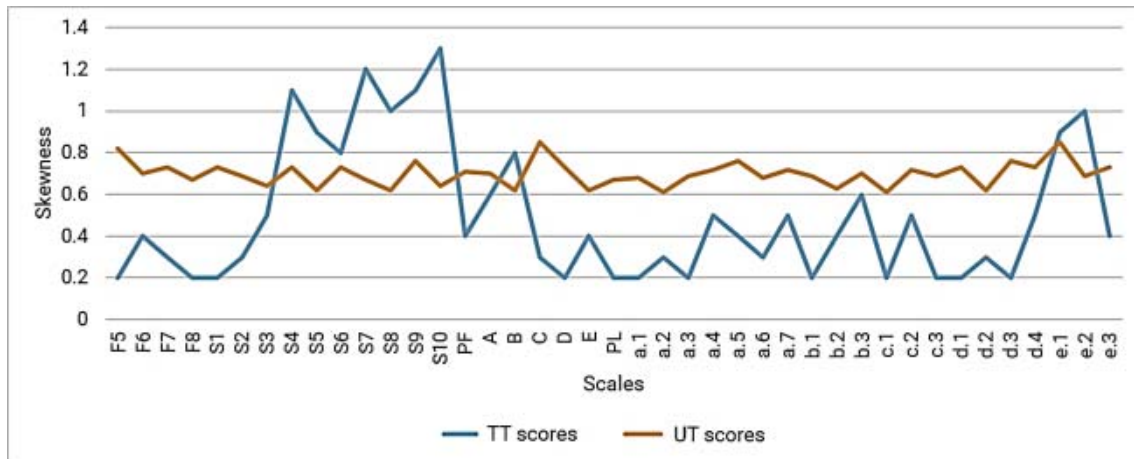
The differences between the distributions of the TT scores and the UT scores are illustrated in Figure F.3 for Borderline Pattern (PL scale) and Schizophrenia Spectrum (S7 scale) of the normative sample. The upper part of Figure F.3 (panel A and B) shows that the distributions of TT scores of the two scales differ quite a bit, while the lower part (panel C and D) shows a greater similarity between the distributions of UT scores of the same two scales. It is evident that the UT transformation allows the scores to be similar by slightly increasing the positive skewness of the PL scale and by decreasing it for the S7 scale (as also shown in Figure F.2).

Figure F.3

Distributions of UT scores and TT scores of the Borderline Pattern (PL) and Schizophrenia Spectrum (S7) scales in the normative sample
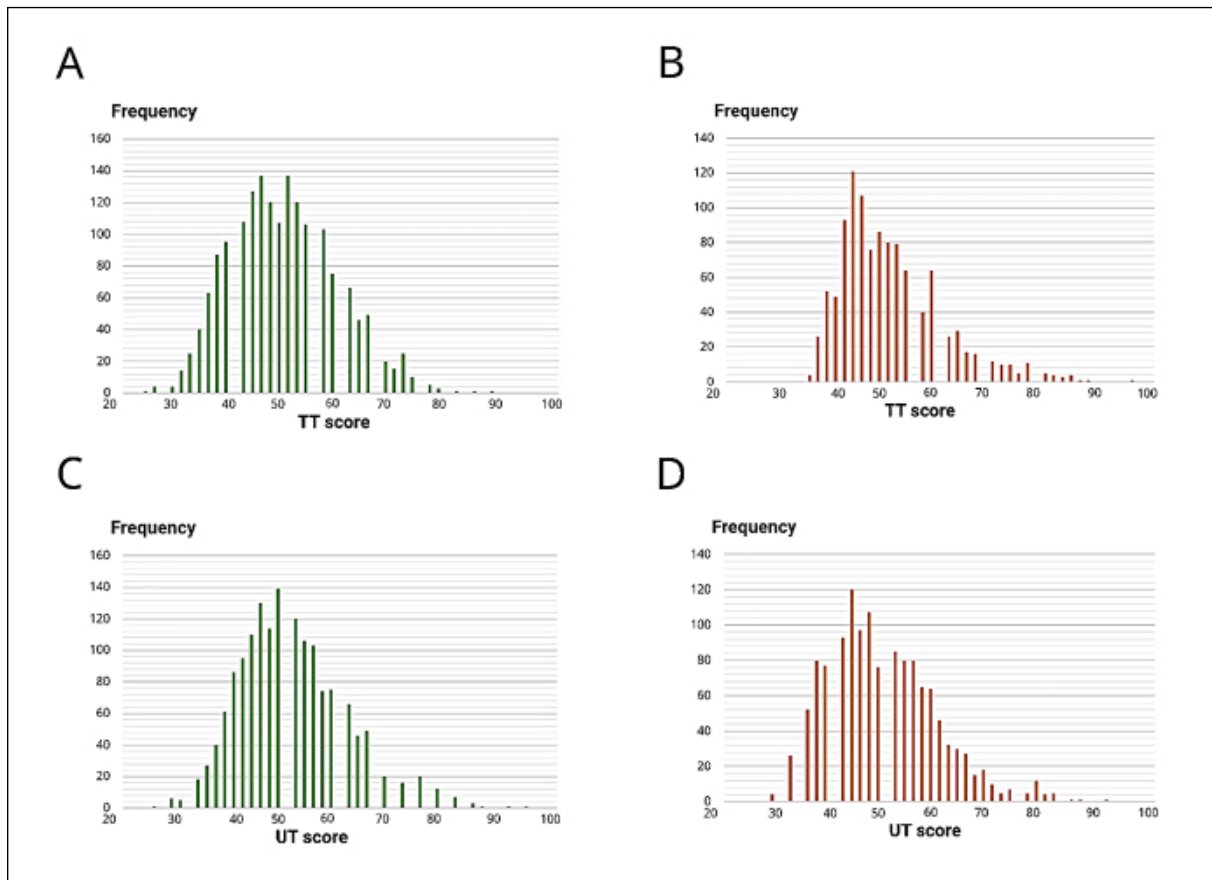
Note: **Panel A** shows the distributions of the traditional T scores (TT scores) of the PL scale in the normative sample. **Panel B** shows the distributions of the TT scores of the S7 scale. **Panel C** shows the distributions of the uniform T scores (UT scores) of the PL scale. **Panel D** shows the distributions of the UT scores of the S7 scale. As shown, UT scores are more comparable across scales than TT scores.

Table F.4 shows the range of UT scores and their percentiles. The table reveals that the UT score values associated with a given percentile value tend to be more similar (fitter) than the corresponding TT scores. The superiority of UT scores is particularly evident at the higher percentile levels. For example, at the 99th percentile level, the TT scores range from 71 to 81, one full standard deviation, while the corresponding UT scores range only from 74 to 76. The score levels corresponding to these high normative percentiles are obviously from great clinical-correctional interest and its percentile comparability between scales is a major concern.

Table F.4

T-score equivalent percentiles, ranges of TT scores and UT scores, and ICTT scores

Pc	Range of TT scores	Range of UT scores	Targeted UT scores (ICTT score)
10	37 - 40	37 - 40	38
20	41 - 42	37 - 40	42
30	43 - 45	44	44
40	45 - 48	46 - 47	46
50	38 - 50	48 - 50	49
60	50 - 52	51 - 52	51
70	53 - 55	54 - 55	54
80	37 - 59	57 - 59	58
90	62 - 64	62 - 64	63
95	66 - 71	67 - 69	68
99	71 - 81	74 - 76	75

Note: TT scores = traditional T scores; ICTT scores = integer composite traditional T scores. The ranges belong to the TT scores and UT scores of the IDPI-11. The ICTT scores are the target scores to which the UT scores fit more precisely.

Table F.5

Percentiles equivalents of uniform T scores

Uniform T score	Percentile Equivalent
30	< 1
35	12
40	14
45	41
50	61
55	73
60	80
65	87
70	98
75	> 99

Note: Percentiles are those of ICTT scores.

Interpretation of UT scores

The above provides the information needed to understand how the UT scores were derived. Table F.5 shows the percentiles associated with a set of UT scores ranging from 30 to 75. The percentiles in Table F.4 are consistent with the template distribution shown in Figure F.1, as they reflect a positively skewed distribution. Thus, the upper end percentile value (which is 98) of a UT of 70 is less extreme than a percentile value (which is less than 1) of a UT of 30, although both UT scores are within two standard deviations of the mean. Table F.5 also reveals that the clinical threshold of interpretation T-score of 65 for scales with a positive bias corresponds to that of a UT score of the 87th percentile.

It is important to emphasize that the transformation of the UT score has been applied only to scales of clinical nature (with a positive bias, $Sk \geq .1$), including the scales of the risk factors subgroup and the scales of the Psychopathology, Personality and Trait Facets groups. This is due to the importance of a comparative interpretation of the scale scores in the IDPI-11 profile for differential diagnosis issues and thus its percentile comparability is of special concern.

The other scales of the IDPI-11 (for example, the scales of the Response Styles group and those of the Protective Factors subgroup) were standardized using linear transformations of T scores (TT scores). However, the current coexistence of UT scores and TT scores in the IDPI-11 profile does not pose any special problems. Therefore, comparing a UT score in one scale with a TT score in another one is not more problematic since it is, in fact, less problematic than comparing two TT scores. Table F.6 shows the types of final score and their interpretation of each of the IDPI-11 scales.

Table F.6

Types of final score and interpretation thresholds of the IDPI-11 scales

Scale	Final Score Type	Interpretation Thresholds
R1	RW score	≥ 10 (5% items): «Invalid»; 1-10: «Questionable»; 0: «Valid»
R2	TT score	≥ 75: «Invalid»; 35-64: «Questionable»; and 20-34: «Valid»
R3; R4; F1; F2; F3; and F4	TT score	≥ 65: «High»; 35-64: «Medium»; 20-34: «Low»
F5; F6; F7 and F8	UT score	≥ 65: «High»; 35-64: «Medium»; 20-34: «Low»
S1; S2; S3; S4; S5; S6; S7; S8; S9; S10; and PL	UT score	≥ 80: «Prominent»; 65-79: «Present»; and 20-64: «Normal»
PF	UT score	≥ 95: «Severe»; 80-94: «Moderate»; 65-79: «Mild»; 50-64: «Difficulty»; 35-49: «Normal»; and 20-34: «Positive»
A; B; C; D; and E	UT score	≥ 65: «Prominent (-) trait»; 50-64: «Present (-) trait»; 35-49: «Normal»; and 20-34: «(+) Trait»
a.1; a.2; a.3; a.4; a.5; a.6; a.7; b.1; b.2; b.3; c.1; c.2; c.3; d.1; d.2; d.3; d.4; e.1; e.2; and e.3	UT score	≥ 65: «Prominent (-) facet»; 50-64: «Present (-) facet»; 35-49: «Normal»; and 20-34: «(+) Facet»

Note: UT score = Uniform T score; TT score = Traditional T score; RW score = Raw score.

Appendix G

Intensity/Comorbidity (IC) adjustment

Taking into account the findings of the WHO working group for the development of the ICD-11 PD model, it is evident that comorbidity between maladaptive traits –even more than the severity of a single maladaptive trait– produces increased deterioration (Tyrer et al., 2019). That is why the Intensity/Comorbidity (IC) adjustment has been developed to be applied to the Functioning scale (PF scale). Although the items of this scale make up the common characteristics of personality functioning (Weekers et al., 2019), evidence has shown that these characteristics (facets) are situational and contextual (McAdams & Pals, 2006) and heterogeneous between the self-measures of severity of personality dysfunction. This is due to individual peculiarities (Oltmanns & Widiger, 2020; Sleep et al., 2021), generating in many cases little stability and low discriminant validity (Sleep et al., 2021). For this reason, an adjustment to the UT score of the PF scale is necessary to consider the other characteristics of each of the traits in order to avoid false negatives (classifying people with the disorder as healthy).

The IC adjustment is only applied if two conditions are met: [UT score$_{(PF)}$] < 65) and [UT score$_{(A)}$ ≥ 65 or UT score$_{(B)}$ ≥ 65 or UT score$_{(C)}$ ≥ 65 or UT score$_{(D)}$ ≥ 65 or UT score$_{(E)}$ ≥ 65 or UT score$_{(PL)}$ ≥ 65], *then automatically the PF scale UT score is raised to UT score = 64, to which C+ and I+ are added* taking into account what is shown in Table G.1.

Table G.1
Calculation of I+ and C+ to adjust the UT score of the PF scale

Calculation of I+	Calculation of C+
• **IF** UT score$_A$ = 65 to 79, **then** i$_1$ = 1 • **IF** UT score$_B$ = 65 to 79, **then** i$_2$ = 1 • **IF** UT score$_C$ = 65 to 79, **then** i$_3$ = 1 • **IF** UT score$_D$ = 65 to 79, **then** i$_4$ = 1 • **IF** UT score$_E$ = 65 to 79, **then** i$_5$ = 1 • **IF** UT score$_{PL}$ = 65 to 79, **then** i$_6$ = 1 • **IF** UT score$_A$ ≥ 80, **then** i$_7$ = 2 • **IF** UT score$_B$ ≥ 80, **then** i$_8$ = 2 • **IF** UT score$_C$ ≥ 80, **then** i$_9$ = 2 • **IF** UT score$_D$ ≥ 80, **then** i$_{10}$ = 2 • **IF** UT score$_E$ ≥ 80, **then** i$_{11}$ = 2 • **IF** UT score$_{PL}$ ≥ 80, **then** i$_{12}$ = 2 $I+ = i_1 + i_2 + i_3 + i_4 + i_5 + i_6 + i_7 + i_8 + i_9 + i_{10} + i_{11} + i_{12}$	• **IF** two of the scales (A, B, C, D, E, or PL), both present a UT score ≥ 65, **then** *C+ = 5* • **OR IF** three of the scales (A, B, C, D, E or PL) have a UT score ≥ 65, **then** *C+ = 10* • **OR IF** four of the scales (A, B, C, D, E or PL) have a UT score ≥ 65, **then** *C+ = 15* • **OR IF** five of the scales (A, B, C, D, E or PL) have a UT score ≥ 65, **then** *C+ = 20* • **OR IF** the six scales (A, B, C, D, E and PL), present a UT score ≥ 65, **then** *C+ = 24*

Note: UT score$_{(A)}$ = Uniform T-score of Serenity vs. Negative Affectivity; UT score$_{(B)}$ = Uniform T-score of Humanity vs. Detachment; UT score$_{(C)}$ = Uniform T-score of Integrity vs. Dissociality; UT score$_{(D)}$ = Uniform T-score of Moderation vs. disinhibition; UT score$_{(E)}$ = Uniform T-score of Psychological Flexibility vs. Anankastia; UT score$_{(PL)}$ = Uniform T-score of Borderline Pattern. The adjusted score of the Functioning (PF scale) is equal to the sum of [64, I+ and C+]. Guideline keywords are shown in **bold**, and the final values of I+ and C+ are shown in *italics*. The Intensity/Comorbidity (CI) adjustment is now automated in the General Profile rating of the IDPI-11 Desktop™.

Appendix H

Composition by IDPI-11 scales items

Table H.1

Composition by items of the IDPI-11 Response Style scales

Scale	Prototype Item	Direct Non-Prototype Item	Inverse Non-Prototype Item
Validity Indices			
R1: Invalidity	It does not have specific items (Only blank and null responses are calculated)		
R2: Inconsistency	Similar pairs = [(14, 119); (22, 95); (27, 161); (38, 139); (58, 143)] Opposite pairs = [(2, *137); (7, *160); (8, *183); (9, *189); (*10, 179); (*13, 166); (*15, 42); (16, *28); (19, *87); (20, *135); (*21, 132); (24, *25); (26, *75); (*32, 153); (34, *36); (37, *50); (39, *59); (*44, 163); (*46, 83); (48, *141); (51, *86); (52, *72); (53, *69); (54, *74); (*55, 115); (57, *167); (60, *80); (61, *158); (63, *126); (65, *101); (*66, 67); (*76, 108); (82, *186); (89, *96); (*90, 165); (*91, 133); (92, *94); (*93, 190); (102, *109); (*105, 156); (*106, 142); (*111, 150); (*114, 188); (*116, 157); (*117, 172); (120, *154); (123, *184); (*149, 170); (152; *169); (*159, 175)]		
Response Distortion Indices			
R3: Dissimulation	49, 122, 178, 40, 168		
R4: Simulation	23, 121, 128, 140, 185		

Note: Inverted items with respect to their original scale are shown preceded by an*.

Table H.2

Composition by items of the IDPI-11 Mental Health Factors scales

Scale	Prototype Item	Direct Non-Prototype Item	Inverse Non-Prototype Item
Protective Factors			
F1: Healthy Hhabits	5, 103, 171		18, *109
F2: Self-Esteem	27, 118, 161		1, 20, *44, *135, 163
F3: Meaningful Activities	12, 17, 35, 113		*114, 188
F4: Openness to Treatment	*6, 78, *136, 173		54, *74
Risk Factors			
F5: Childhood Abuse	29, 33, 162	37, *50, 61, 89, *127, 156	
F6: Suicidal Tendency	3, 73, 110, 174	2, 56, *137	
F7: Health Concern	43, 77, 138	18, 19, 45, 84, 182	
F8: Lack of Social Support	9, *176, *189	26, 52, *75, *149, 170	

Note: Inverted items with respect to their original scale are shown preceded by an*.

Table H.3

Composition by items of the IDPI-11 Psychopathology scales

Scale	Prototype Item	Direct Non-Prototype Item	Inverse Non-Prototype Item
Frequent Syndromes			
S1: Major Depression	18, 56, 97, 146	110	171
S2: Post-Traumatic Stress	14, 30, 58, 119, 143	45, 182	
S3: Alcohol Consumption	47, 71, 112, 129, 181	63, 132, 166	122
S4: Generalized Anxiety	45, 125, 134, 177, 182	34, 43, 77, 120, 138	
S5: Social Phobia	62, 104, 124, 147, 151	*85, *159, 175	
Uncommon Syndromes			
S6: Agoraphobia	22, 79, 95, 131	45, 144, 182	
S7: Schizophrenia Spectrum	99, 100, 107, 164	64, 97, 140, 142, 165, 185, 190	
S8: Dysthymia	1, 64, 98, 145, 155	2, *44, 60, 102, *135	161
S9: Panic	4, 38, 41, 84, 139	30, 134	
S10: Obsessive-Compulsive Disorder	11, 70, 148, 187	123, 162, *184	

Note: Inverted items with respect to their original scale are shown preceded by an*.

Table H.4

Composition by items of the IDPI-11 Personality scales

Scale	Prototype Item	Direct Non-Prototype Item	Inverse Non-Prototype Item
Severity			
PF: Functioning		7, 20, 54, 60, *66, 67, *74, 82, 89, 92, *94, *96, 123, *135, *149, *159, *160, 170, 175, *184, *186	
Traits			
A: Serenity vs. Negative Affectivity		34, *36, 82, *85, *91, 120, *133, *154, *186	
B: Humanity vs. Detachment		7, 48, 102, *109 *141, *159, *160, 175	
C: Integrity vs. Dissociality		8, 92, *94, *111, 150, 152, *169	
D: Moderation vs. Disinhibition		*10, *32, 51, 63, *86, *105, *126, *130, 153, 179	
E: Psychological Flexibility vs. Anankastia		31, 54, *66, 67, *74, 123, *184	
Additional Qualifier			
PL: Borderline Pattern		2, 24, 26, 37, 60, 61, 63, 82, 89, 92, 120, 132, 153, 156, 166, 179	

Note: Inverted items with respect to their original scale are shown preceded by an*.

Table H.5

Composition by items of the IDPI-11 Trait Facet scales

Scale	Prototype Item	Direct Non-Prototype Item	Inverse Non-Prototype Item
Serenity vs. Negative Affectivity			
a.1: Calm vs. Anxiety	34, *36, *85, 144	79, 104, 124, 134	
a.2: Fortitude vs. Vulnerability	24, *25, *44, 60, *80, 163	22, 95, 131	152
a.3: Emotional Stability vs. Emotional Lability	*13, 82, 89, *96, 166, *186	*21, 132	
a.4: Patience vs. Anger	*21, 61, 120, 132, *154, *158	53, 177, 180	
a.5: Humor vs. Depressiveness	2, 19, 20, *87, *135, *137	145, 174	
a.6: Initiative vs. Shame	52, *72, *91, *133	4, 62, 147, *176	108, 118
a.7: Faith in Others vs. Distrust	26, 37, *50, *75, *127		
Humanity vs. Detachment			
b.1: Sociability vs. Social Detachment	7, 48, *141, *159, *160, 175		
b.2: Love vs. Emotional detachment	*88, 102, *109, *149, 170		
b.3: Assertiveness vs. Lack of Assertiveness	8, 81, *117, 172, *183		
Integrity vs. Dissociality			
c.1: Altruism and Egocentrism	*76, 108, *114, 152, *169, 188	40, 168	
c.2: Sensitivity and Lack of empathy	68, 92, *94, *111, 150		151
c.3: Kindness vs. Aggressiveness	16, *28, 53, *69, 180		83, 178
Moderation vs. Disinhibition			
d.1: Prudence vs. Temerity	*10, 57, *130, *167, 179	47	
d.2: Commitment vs. Irresponsibility	51, 65, *86, *101	71, 128	42
d.3: Planning vs. Disarray	*90, *93, *106, 142, 165, 190	23	
d.4: Emotional Plenitude vs. Emotional Pursuit	*32, 63, *105, *126, 153, 156		115
Psychological Flexibility vs. Anankastia			
e.1: Tolerance to Frustration vs. Perfectionism	31, *46, 83, 123, *184	49, 79, 107	16
e.2: Availability for Leisure vs. Work Addiction	*15, 39, 42, *59, *116, 157		51, 65
e.3: Docility vs. Inflexibility	54, *55, *66, 67, *74, 115		

Note: Inverted items with respect to their original scale are shown preceded by an*.

Appendix I

Evidence-based treatment for the IDPI-11 scale profiles

Table I.1

General treatment modules for personality dysfunction in the context of mental health

Module	Components to Be Treated	Area of Operation	Interventions
I	**Mental Health Factors[a]:** F6: Suicidal Tendency, F4: Openness to Treatment, F1: Healthy Habits **Trait Facets:** a.1: Calm vs. *Anxiety*, a.3: Emotional Stability vs. Emotional Lability, a.4: Patience vs. *Anger*, a.5: Humor vs. *Depressiveness*, d.1: Prudence vs. *Temerity*, d.3: Planning vs. *Disarray*	Neuropsychological, Somatic, and Emotional Area	a. Medication b. Structure and support c. Containment d. Specific behavioral interventions e. Promotion of the positive facets f. Promotion of openness to treatment and healthy habits
II	**Mental Health Factors[a]:** F7: Health Concern **Trait Facets:** a.1: Calm vs. *Anxiety*, a.3: Emotional Stability vs. Emotional *Lability*, a.4: Patience vs. *Anger*, a.7: Faith in Others vs. *Distrust*, b.2: Love vs. *Emotional Detachment*, c.2: Sensitivity vs. *Lack of Empathy*, d.2: Commitment vs. *Irresponsibility*, d.1: Prudence vs. *Temerity*, d.2: Compromise vs. *Irresponsibility*, d.3: Planning vs. *Disarray*, d.4: Emotional Plenitude vs. *Emotional Pursuit*, e.1: Tolerance to Frustration vs. *Perfectionism*, e.2: Availability for Leisure vs. *Work Addiction*, e.3: Docility vs. *Inflexibility*	Emotional and Cognitive Area	a. Medication b. Cognitive behavioral interventions c. Cognitive restructuring d. Metacognitive interventions e. Narrative interventions f. Promotion of the positive facets

Module	Components to Be Treated	Area of Operation	Interventions
III	**Mental Health Factors[a]:** F5: Childhood Abuse, F8: Lack of Social Support **Trait Facets:** b.1: Sociability vs. *Social Detachment*, b.3: Assertiveness vs. *Lack of Assertiveness*, c.1: Altruism vs. *Egocentrism*, c.3: Kindness vs. *Aggressiveness*, d.2: Commitment vs. *Irresponsibility*, e.1: Tolerance to Frustration vs. *Perfectionism*, e.3: Docility vs. *Inflexibility*	Emotional, Conative, and Cognitive Area	a. Scheme -focused interventions b. Psychodynamic interventions c. Interpersonal interventions d. Metacognitive interventions e. Narrative interventions f. Promotion of the positive facets
IV	**Mental Health Factors[a]:** F3: Meaningful Activities, F2: Self-Esteem **Trait Facets:** a.2: Fortitude vs. *Vulnerability*, a.5: Humor vs. *Depressiveness*; a.6: Initiative vs. *Shame*	Emotional, Conative, and Cognitive area	a. General change interventions b. Metacognitive interventions c. Cognitive interventions d. Psychodynamic interventions e. Analytical cognitive therapy f. Narrative interventions g. Social engineering h. Promotion of the positive facets i. Promotion of self-esteem and meaningful activities

Note: The integrative modular treatment (Livesley, 2018) is based on four modules: **Module I**: Security and Containment, **Module II**: Regulation and Modulation, **Module III**: Exploration and Change, and **Module IV**: Integration and Synthesis.

[a]Because Mental Health Factors are located contiguously with Personality in the integrative dimensional assessment of personality model, the integrated modular treatment includes the appropriate intervention for that profile.

Table I.2

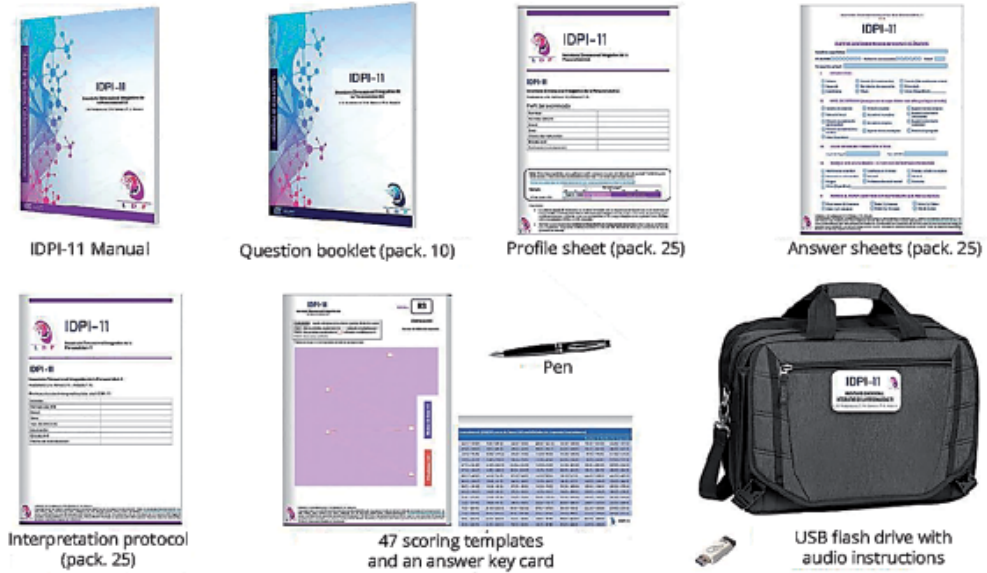*Specialized interventions for Psychopathology scales and/or Borderline Pattern Scale*

Scale	Recommended Evidence-Based Interventions
S1: Major Depression S8: Dysthymia	Cognitive therapy
S2: Post-Traumatic Stress	Exposure therapy (exposure-based interventions, prolonged exposure, trauma management therapy, virtual reality). Cognitive therapy (cognitive processing therapy).
S3: Alcohol Consumption	Treatments based on reinforcement. Motivational interview. Cognitive behavioral therapy. Behavioral couples therapy.
S4: Generalized Anxiety	Uncertainty intolerance therapy. Metacognitive therapy. Behavioral therapy based on acceptance.
S5: Social Phobia	Cognitive behavioral therapy (psychoeducational exercises, cognitive restructuring, attention modification and exposure).
S6: Agoraphobia S9: Panic	Cognitive behavioral therapy (psychoeducational exercises, cognitive restructuring and exposure).
S7: Schizophrenia Spectrum	Cognitive behavioral therapy. Training in social skills and social cognition.
S10: Obsessive-Compulsive Disorder	Exposure and response prevention (ritual). Cognitive therapy. Cognitive behavioral therapy. Acceptance and commitment therapy. Metacognitive therapy.
PL: Borderline Pattern	Dialectical behavioral therapy. Mentalization-based therapy.

Note: Elaborated from «Evidence-Based Psychotherapy: The State of the Science and Practice» (David et al., 2018).
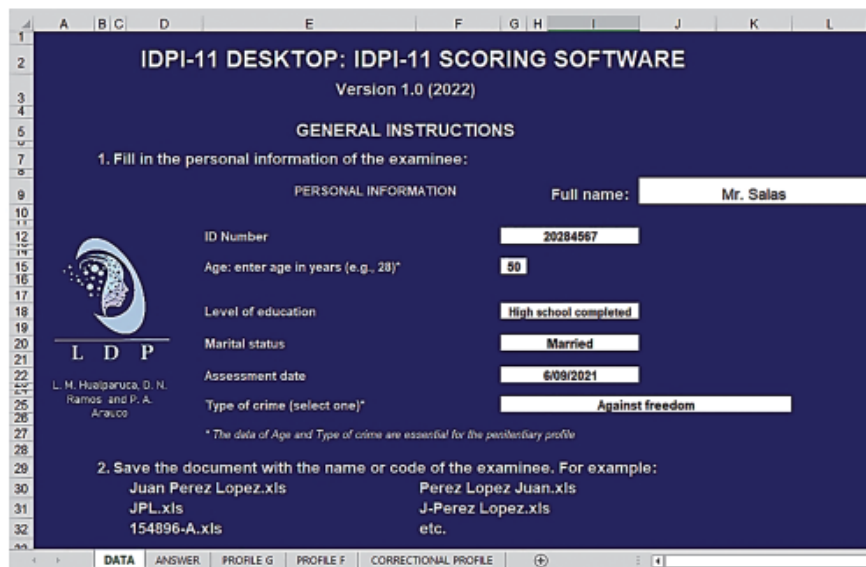
Appendix J

IDPI-11 materials

A

IDPI-11 Manual

Question booklet (pack. 10)

Profile sheet (pack. 25)

Answer sheets (pack. 25)

Interpretation protocol (pack. 25)

47 scoring templates and an answer key card

Pen

USB flash drive with audio instructions

B

Note: **Panel A** shows the IDPI-11 physical materials**. Panel B** shows the initial screen of the IDIP11-Desktop™ (desktop software for scoring). «Mr. Salas» is a fictitious name, replace the term with the full name of the examinee when using the IDPI-11. This software can be accessed from: https://doi.org/10.17605/osf.io/425n3