

Borderline, Where Are You? A Psychometric Approach to the ICD-11 Personality Domains

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This study was not pre-registered.

Data and code are available from the first author under reasonable request.

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Abstract

The inclusion of the borderline pattern in the ICD-11 dimensional classification of personality disorders (PD) has caused controversy. Unease about leaving out these clinically challenging patients seems to conflict with the need of an evidence-based and credible diagnostic system. However, the accommodation of borderline within the new diagnostic system has not yet been studied in depth. To this end, we examine in a sample of 1799 general-population and clinical subjects the joint structure of the five initial ICD-11 domains and the borderline pattern. Regression and item-level factor analyses reveal that borderline criteria do not form a separate construct and are indissociable from negative affectivity. Furthermore, borderline adds nothing to the remaining domains when it comes to predict PD severity. The borderline pattern appears as largely superfluous and even misleading, unless their criteria are properly integrated within the structure of personality pathology.

Keywords: personality disorders, dimensional classification, ICD-11, borderline, network analysis.

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The ICD-11 classification of personality disorders (PDs) has been the first one to adopt an empirically-based, dimensional diagnostic model (World Health Organization, 2018). It includes a severity dimension and six optional descriptors of personality pathology. Five of them—negative affectivity, detachment, dissociality, disinhibition, and anankastia—are domains based on the accumulated knowledge on the structure of normal and pathological personality (Mulder et al., 2011; Oltmanns, 2021), are aligned with the five-factor model (Oltmanns & Widiger, 2019), and show convergence with the analogous DSM-5 alternative model of PD (Gutiérrez et al., 2021b).

The abolition of the earlier diagnostic categories was not complete, however. A sixth descriptor, the borderline pattern specifier, which retains the criteria for this disorder such as described in the DSM-5, was included at the eleventh hour. Among the main reasons for this, there was the impression that the initial model was too simplistic and unable to reflect the severe disturbances of these patients, the need of preserving some continuity with broad prior knowledge, and the risk of undermining the access of many patients to the only available evidence-based treatments for PD (Herpertz et al., 2017). In addition, many clinicians see borderline as a valid and distinct clinical entity, supported by decades of research (Gunderson et al., 2018).

Arguments deployed against this decision mostly included doubts about the very existence of the disorder (Tyrer et al., 2019; Zandersen et al., 2019). The borderline construct is based on unsystematic observation and clinical tradition, and it does not emerge in the empirical literature which maps the organization of personality pathology, including that leading to the renewal of ICD-11 (Mulder et al., 2011). Its constituent criteria often do not form a distinct entity, but spread across different domains (Huprich et al., 2010; Muñoz-Champel et al., 2018) or become part of a general psychopathology factor (Gluschkoff et al., 2021; Sharp et al., 2015). Finally, borderline symptoms appear to be well represented in the already established personality domains, which would make this construct unnecessary. For

example, the DSM-5 facets have proven to account for between one and two thirds of the variance of borderline PD across studies (Rojas & Widiger, 2017; Watters et al., 2019).

Despite the drawbacks, it was considered preferable to include borderline into the classification and give to subsequent research the last word (Tyrer et al., 2019). In fact, the aforementioned evidence does not necessarily apply to the ICD-11 diagnostic system. On the one hand, the forgoing of facets lent it greater simplicity and manageability, but might undermine its ability to detect complex clinical presentations such as borderline. On the other, the facts that the classification was not definitively settled until 2018, and that most instruments assessing it do not include a separate borderline specifier (Clark et al., 2021), contribute to a significant scarcity of data to this day. Three studies have examined the relationships between the five initial ICD-11 domains and the borderline construct. The first of them, using respectively the Personality Inventory for the ICD-11 (PiCD; Oltmanns & Widiger, 2018) and the Borderline Pattern Specifier (BPS; Oltmanns & Widiger, 2019), reported BPS correlations in the range of .41 to .77 with the domains of negative affectivity, disinhibition, detachment, and dissociation, pointing to a considerable overlap (Oltmanns & Widiger, 2019). Borderline was also found to be redundant with domains in a sample of 606 depressive patients (Mulder et al., 2020). Conversely, an attempt to predict three already validated measures of borderline PD revealed that the BPS was superior to the PiCD domains (74% vs 65% of variance) but not to the DSM-5 facets (77%), suggesting that the ICD-11 system might not completely account for borderline symptomatology (McCabe & Widiger, 2020).

Thus, the fit of the borderline pattern into the ICD-11 diagnostic system has caused fierce debate (Tyrer et al., 2019), but is still understudied. Some of the mentioned evidence has been gathered in samples of about 300 patients assessed via the Internet (McCabe & Widiger, 2020; Oltmanns & Widiger, 2019), or by estimating the ICD-11 domains through the *Structured Clinical Interview for Personality Disorder-II* (Mulder et al., 2020). Therefore, additional scrutiny is required in on-site clinical and nonclinical subjects and using specifically designed instruments. On the other hand, all analyses have been conducted at the disorder level. Given that borderline is legitimately regarded as "a passport to heterogeneity" (Tyrer, 2009; p. 94), this approach may obscure the potentially diverging behavior of individual symptoms, and an in-depth examination at the criteria level will result more informative.

The aim of this study is to examine the fit of the borderline pattern within the ICD-11 diagnostic system in a large sample of 1770 general-population and clinical subjects. Specifically, we want to know to what extent borderline criteria form an identifiable and homogeneous construct, and whether this construct is at least partially independent from the initial five personality domains and contributes to the prediction of maladaptation.

Method

Subjects

The sample included 1799 subjects. Of them, 1475 were community subjects of mean age 45.1 years (SD 19.1; range 17-92), 58.8% women, recruited from students and their acquaintances at two universities in Spain. The other 324 were outpatients of average age 39.5 years (SD 13.6; range 16-76), 69.8% women, consecutively referred for assessment or treatment to the mental health units of four Spanish hospitals. With $\alpha = .05$ and $1-\beta = .80$ the combined sample size allows to detect correlation coefficients of $r = .07$. Patients were clinically diagnosed at their respective centers according to the DSM-5 (American Psychiatric Association, 2013), with 39.1% presenting an adjustment disorder, 25.9% an anxiety disorder including phobias, 20.1% a depressive disorder, and 13.8% other diagnoses—eating

disorders, substance-related disorders, impulse-control disorders— each with a frequency of under 5%. No categorial PD diagnoses were made. The study was approved by the ethical committees of the respective centers, and all patients gave their informed consent to participate.

Instruments

The *Personality Inventory for ICD-11* (PiCD; Oltmanns & Widiger, 2018) is a 60-item, Likert-type self-report measuring the five initially proposed domains of the dimensional ICD-11 PD model, that is, negative affectivity, detachment, dissociality, disinhibition, and anankastia (Tyrer et al., 2019). The *Borderline Pattern Scale* (BPS; Oltmanns & Widiger, 2019) is a 12-item, Likert-type self-report developed to accommodate the inclusion of the borderline PD into the ICD-11 classification. The *Screening Questionnaire of the International Personality Disorder Examination* (IPDE-SQ, DSM-IV version; Loranger et al., 1997) consists of 77 true/false items, each reflecting a specific diagnostic criterion of the ten DSM-IV/5 PDs, though only borderline is considered in the present study. Although the IPDE-SQ was designed as a screening and would require diagnostic confirmation through a semi-structured interview, it shows good sensitivity and specificity and has been frequently used as a standalone self-reported measure of PD. It was administered to a subsample of 504 general-population subjects. Finally, the *Standardized Assessment of Severity of Personality Disorder* (SASPD; Olajide et al., 2018) has nine Likert-type items that reflect possible undesired consequences of each of the five ICD-11 domains. Namely, items 4, 6, and 9 are linked to negative affectivity (losing temper, worrying, and feeling helpless); items 1 and 3 to detachment (avoiding people and lacking friends); items 2 and 8 to dissociality (distrusting others and being callous); item 5 to disinhibition (being impulsive); and item 7 to anankastia (being overly organized). The SASPD is closer to the initially proposed definition of severity, which emphasized risk of harm to self and others (Tyrer et al., 2019), than to the final definition. The latter incorporates self and interpersonal dysfunction in line with the DSM-5, and is reflected in other instruments, such as the Personality Disorder Severity Scale (PDS-ICD-11; Bach et al., 2021). However, the SASPD shows good convergence with other scales of personality dysfunction (McCabe & Widiger, 2020; Oltmanns & Widiger, 2019). In this study, it was administered to a subsample of 1170 subjects (966 general-population and 204 clinical). The PiCD, SASPD and IPDE have shown adequate psychometric properties in their Spanish versions (Gutiérrez et al., 2021a; López-Ibor et al., 1996), whereas the BPS was translated into Spanish for the present study in coordination with its authors.

Data Analysis and Results

The borderline pattern specifier (BPS) total score was 23.1 (SD 8.0) in the general population and 33.3 (SD 10.4) in the clinical sample ($t=16.8$, $g=414.8$, $p<.001$). McDonald's omega reliability was high ($\omega = .90$). The BPS showed moderate to strong correlation with the five ICD-11 domains, mainly negative affectivity (.77), but also disinhibition (.51), detachment (.39), and dissociality (.37). After disattenuation for reliability, the correlation between negative affectivity and borderline was .87 (Table 1). This affinity was also manifest when polychoric correlations at the item level were represented in a network graph (Supplementary Figure S1), using R package *qgraph* (Epskamp et al., 2012).

The degree of overlap of borderline symptoms with the ICD-11 domains was examined in two ways. On the one hand, the BPS was regressed into the five PiCD domains, which jointly explained 66.5% of its variance. Negative affectivity was the main predictor ($\beta = .678$), with smaller contributions of dissociality (.121) and detachment (.120). This was also true for each one of the BPS items except item 3 ("lack of empathy") (Supplementary Table

S1). On the other hand, the polychoric correlation matrix of the PiCD and BPS items was factor-analyzed using principal axes extraction and oblimin rotation, in an attempt to isolate the borderline pattern from negative affectivity. Hull test suggested retaining four factors and Velicer's MAP suggested seven. The four-factor solution reproduced what is usually reported in the literature: separate factors for negative affectivity, dissociality, and detachment, and a bipolar factor with disinhibition and anankastia in opposite poles. Again with the exception of item 3, borderline items unambiguously belonged to negative affectivity (Supplementary Table S2). Subsequent solutions until seven factors unfolded the anankastia-disinhibition factor into progressively smaller constructs, but left the borderline/negative affectivity factor untouched (Supplementary Tables S3 to S5). In light of the above, we examined whether the borderline pattern may represent a more extreme stretch of the negative affectivity continuum. Indeed, information curves drawn from a graded response model in *ltm* R package (Rizopoulos, 2006) showed that borderline items are slightly more informative at the higher pole and negative affectivity items at the lower pole (Supplementary Table S6; Supplementary Figure S2).

As the borderline construct is not measured the same way by all instruments (Oltmanns & Widiger, 2019), the previous analyses were repeated using the IPDE-SQ borderline scale in a subsample of the general population ($n = 504$). Unlike the BPS—which lacks criteria for chronic emptiness and paranoid/dissociative reactions, and includes others for shame and lack of empathy—the IPDE-SQ reflects the DSM-IV/5 criteria in a one-to-one basis (Supplementary Table S7). The global structure remained basically unchanged (Supplementary Figure S3), though the IPDE-SQ borderline was more heterogeneous ($\omega = .65$) than the BPS. Accordingly, only five items (impulsivity, emptiness, anger, unstable mood, and derealization) clearly coalesced with negative affectivity both in factor analysis (Supplementary Tables S8 to S11) and regression analysis (Supplementary Table S1). Among the remaining four, identity problems was closer to detachment and unstable relationships to dissocial, whereas abandonment fears and suicidal threats were fairly independent. Even so, the variance explained by the PiCD was 47%, and negative affectivity still was the best predictor ($\beta = .503$) of the total borderline score, followed by disinhibition (.167), dissociality (.145), and anankastia (-.132).

Finally, the five PiCD domains and the borderline pattern were examined as for their relationship with severity through regression. Negative affectivity was the best predictor of the SASPD total score ($\beta = .210$), followed by detachment (.177) and borderline (.175), with 25% of variance explained globally. However, when the relationships with severity were plotted through a LOESS curve, negative affectivity and borderline fully overlapped (Supplementary Figure S4). Given that the SASPD items focus on different problem areas, a more fine-grained picture was obtained by each one individually. The PiCD was able to explain between 19% and 55% of item variance (Supplementary Table S1). Importantly, when added in a second step after the five PiCD domains, the borderline pattern only contributed 1% of the variance of the total score, and 0% to 1% in the case of SASPD items—except "temper" (2%)—, suggesting that it is redundant with the domains to this respect.

Discussion

The borderline pattern was a last-minute addendum to the ICD-11 whose accommodation within the diagnostic system of PDs has not yet been studied in depth. In this study we found that the borderline construct is internally consistent and is a good predictor of severity. However, it shares most of its variance with the five initial ICD-11 domains and cannot be factorially uncoupled from negative affectivity. Furthermore, it adds nothing to the

prediction of severity when the other domains are considered. Some of these findings warrant further comment.

The borderline construct is more homogenous than expected, which might indicate a bias of the BPS items towards uniformly reflecting negative affectivity. In accordance with this interpretation, not all IPDE-SQ items load into negative affectivity, and borderline symptoms have tended to scatter across multiple domains in the literature when measured through other instruments (Huprich et al., 2010; Muñoz-Champel et al., 2018). Despite this, borderline PD shows particular affinity with negative affectivity whatever the instrument. In our study, most IPDE-SQ items could not be detached from negative affectivity even when seven factors were retained. Negative affectivity has also repeatedly proven to be at the core of the borderline construct irrespective of whether the ICD-11 or the DSM-5 are concerned, with much smaller contributions of other domains or facets (Fowler et al., 2018; Oltmanns & Widiger, 2019; Rojas & Widiger, 2017).

This does not detract from the finding that borderline symptoms are relevant in two different ways. On the one hand, BPS criteria such as "shifts in feelings" and "emotional instability" are particularly good indicators of negative affectivity, whereas "identity changes", "unstable relationships", "lack of self-control", and "self-harm" fill the upper end of the continuum, indicating an exceptional intensity of negative emotions (Supplementary Figure S2). On the other, despite the PiCD domains account for 66% of the variance of borderline, important symptoms such as self-harm and abandonment fears are not particularly well captured. Together with the reported superiority of the DSM-5 system in accounting for borderline PD (77%; McCabe & Widiger, 2020), this would support the eventual inclusion of narrower facets in future editions of the system. An example is the recently developed Five-Factor Personality Inventory for ICD-11 (Oltmanns & Widiger, 2020), which includes scales for affective dysregulation, rapidly shifting emotions, separation insecurity, dysregulated anger, or suicidality.

The strong association of borderline symptoms with severity would be an additional motive to maintain it into the classification. However, this relationship is not only equal in size, but also strictly coincidental with that of negative affectivity (Supplementary Figure S4). Borderline does not contribute additional variance over the initial five domains to the prediction of severity. This may be partly because the SASPD defines severity as domain-specific difficulties in relevant life areas, whereas definitions based on a general factor of personality pathology or reflecting disturbances in self-direction and identity may be closer to borderline PD. The relative worthiness of each definition, as well as their possible complementarity, are still under discussion (McCabe & Widiger, 2020; Widiger et al., 2019; Zimmerman, Morgan, & Stanton, 2018).

Our findings cannot be generalized without caution. Results are mostly based on two specific measures of the ICD-11 trait system, the PiCD and the BPS, whereas a range of instruments exist that intend to measure the same constructs (Clark et al., 2021). Congruence among these different measures is unknown yet, but they are probably not interchangeable. This is still truer concerning severity, whose final definition was substantially modified with regard to that reflected by the SASPD. Thus, our results need confirmation using a diversity of measures.

In conclusion, if retained in the ICD-11 classification, borderline symptoms should be relocated to their proper place, mostly as a particularly intense expression of negative affectivity. Treating borderline symptoms as if they formed a syndrome separated from the initial domains is superfluous and misleading (Mulder et al., 2020), and undermines the psychometric properties and scientific credibility of the classification (Livesley, 2021). At worst, it will complicate diagnosis, produce ambiguous research, and lead to a misunderstanding of what borderline disorder is.

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Table 1. Pearson's (Upper Half) and Disattenuated (Lower Half) Correlations Between BPS, PiCD Domains, and SASPD.

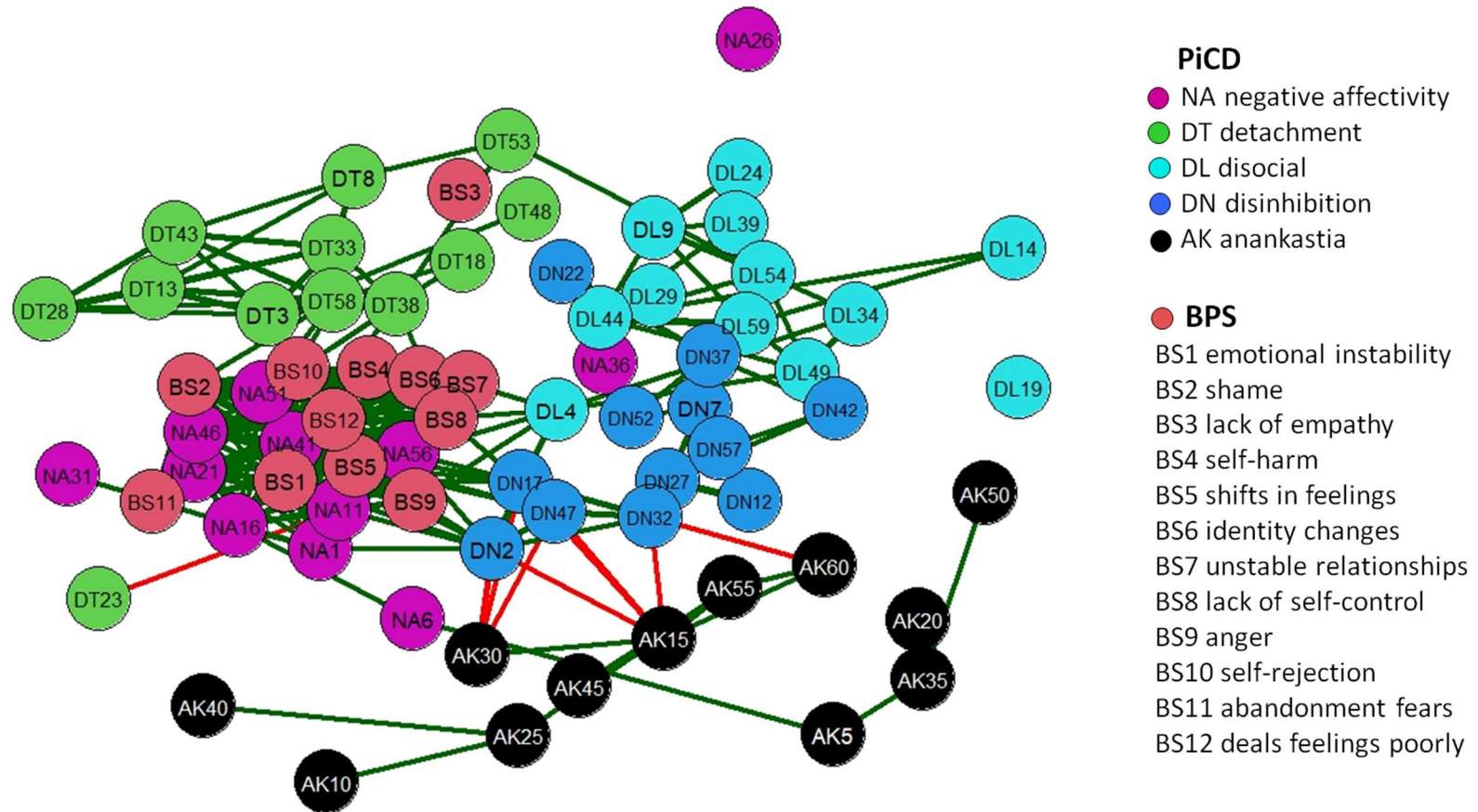
	McDonald's ω	Correlations						
		BPS	Negative affectivity	Detach- ment	Dissocia- lity	Disinhi- bition	Anan- kastia	SASPD
BPS	.90	—	.77**	.39**	.37**	.51**	-.04	.40**
PiCD negative affectivity	.88	.87	—	.33**	.24**	.41**	.14**	.42**
PiCD detachment	.85	.45	.38	—	.30**	.29**	.13**	.33**
PiCD dissociality	.78	.44	.29	.37	—	.48**	-.11**	.23**
PiCD disinhibition	.84	.59	.47	.34	.59	—	-.44**	.25**
PiCD anankastia	.76	-.05	.17	.16	-.14	-.55	—	.04
SASPD	.73	.49	.52	.42	.30	.32	.05	—

Note. Disattenuated correlations are Pearson's correlations divided by the square root of the product of the reliabilities of each pair of variables ($r_c = \frac{r_{xy}}{\sqrt{\omega_x \times \omega_y}}$). BPS: Borderline Pattern Scale, PiCD: Personality Inventory for ICD-11, SASPD:

Standardized Assessment of Severity of Personality Disorder. ** $p < .01$. Correlation coefficients $\geq .40$ are in bold type.

SUPPLEMENTARY MATERIAL: Borderline, Where Are You? A Psychometric Approach to the ICD-11 Personality Domains

Supplementary Figure S1. Network Graph of the Item-Level Polychoric Correlations for the PiCD and BPS



Note. PiCD: Personality Inventory for ICD-11, BPS: Borderline Pattern Scale. Correlations are shown as dark green (positive) or red (negative) lines. Proximity between two nodes indicates a higher association. Only coefficients $> |.40|$ are presented.

Supplementary Table S1. Multiple Regressions for PiCD Domains Predicting BPS, IPDE-SQ, and SASPD Scales and Items ^(a).

	PiCD					BPS	R ²
	NA	DT	DL	DN	AK		
BPS	.678	.120	.121	.091	-.102	—	.67
BS1 emotional instability	.704				-.116	—	.51
BS2 shame	.456	.236				—	.34
BS3 lack of empathy		.240	.167		-.060	—	.13
BS4 self-harm	.356	.075	.122		-.102	—	.22
BS5 shifts in feelings	.670		.085		-.110	—	.49
BS6 identity changes	.422	.107	.121	.111	-.077	—	.34
BS7 unstable relationships	.356	.105	.156	.129	-.086	—	.31
BS8 lack of self-control	.407	.117	.106	.114	-.150	—	.34
BS9 anger	.465		.163			—	.30
BS10 self-rejection	.474	.179				—	.32
BS11 abandonment fears	.410	-.047		.112		—	.21
BS12 deals feelings poorly	.545	.094	.047		-.109	—	.37
IPDE-SQ (borderline) ^(b)	.503		.145	.167	-.132	—	.47
i4 identity problems	.112	.235		.143		—	.15
i8 impulsivity	.295			.184	-.168	—	.17
i13 unstable relationships			.263			—	.13
i25 suicidal threats/self-harm				.148		—	.07
i40 emptiness	.531	.151			-.160	—	.33
i43 anger	.394	-.143	.238			—	.27
i53 unstable/capricious mood	.367	-.178	.121			—	.17
i60 derealization	.301				-.115	—	.12
i75 abandonment fears						—	.07
SASPD	.205	.184	.072			.176	.25
saspd1 being with others		.472					.24
saspd2 trusting others		.233	.115		.102	.123	.16
saspd3 friendships		.394					.19
saspd4 temper	.158	-.121	.207			.252	.22
saspd5 acting on impulse	.125	-.176	.122	.217	-.139		.20
saspd6 worrying	.435		-.134		.095	.168	.32
saspd7 being organized					-.084	.145	.04
saspd8 caring about others	-.105	.191	.188	.091			.11
saspd9 self-reliance			-.106	.123			.03

Note. BPS: Borderline Pattern Scale, PiCD: Personality Inventory for ICD-11, IPDE-SQ: Screening Questionnaire of the International Personality Disorder Examination, SASPD: Standardized Assessment of Severity of Personality Disorder, NA: negative affectivity, DT: detachment, DL: dissociation, DN: disinhibition, AK: anankastia.

^(a) Only statistically significant standardized betas were retained in each model.

^(b) IPDE dichotomous items were analyzed through multiple linear regression instead of logistic regression to facilitate comparison (following Hellevik, O. (2009). Linear versus logistic regression when the dependent variable is a dichotomy. *Quality & Quantity*, 43, 59–74. <https://doi.org/10.1007/s11135-007-9077-3>). Explained variances (R²) coincided in all cases with Cox & Snell pseudo-R².

Supplementary Table S2. Four-Factor Solution for PiCD and BPS Items.

	Negative affectivity	Dissociality	Anankastia- Disinhibition	Detachment
bps1	.85	-.09	-.04	-.01
bps5	.83	.00	-.02	-.02
picd41NA	.79	-.03	-.01	.05
picd11NA	.79	-.01	.04	-.04
picd56NA	.78	.07	.04	-.01
picd16NA	.71	-.11	.21	.14
bps12	.70	.01	-.04	.09
picd1NA	.67	.01	.09	-.06
picd21NA	.67	-.09	.11	.17
picd46NA	.66	-.07	.07	.20
bps9	.62	.13	.06	-.05
bps8	.62	.13	-.16	.11
bps6	.61	.17	-.08	.12
bps10	.61	.07	.04	.21
bps2	.61	-.06	.00	.28
picd51NA	.61	.04	.00	.21
picd2DN	.58	.14	-.23	-.29
bps7	.57	.20	-.11	.11
bps11	.55	-.02	.03	.04
bps4	.53	.16	-.06	.08
picd17DN	.53	.18	-.30	-.18
picd36NA	.51	-.43	.18	-.23
picd31NA	.50	-.08	.02	.07
picd23DT	-.47	.14	.08	.17
picd47DN	.47	.14	-.41	-.13
picd6NA	.46	.10	.45	-.06
picd54DL	-.16	.75	-.12	.15
picd59DL	.08	.72	.04	-.11
picd44DL	.15	.66	.09	-.01
picd9DL	-.04	.62	-.02	.20
picd39DL	-.09	.62	-.05	.20
picd14DL	-.04	.61	.21	-.26
picd49DL	.10	.61	.00	-.14
picd24DL	-.10	.58	.00	.17
picd34DL	.05	.53	.03	-.06
picd19DL	.06	.48	.26	-.11
picd4DL	.37	.46	-.07	-.12
picd37DN	.10	.41	-.24	.09
picd52DN	.23	.38	-.26	-.03
picd22DN	.12	.37	-.12	.19
picd48DT	.03	.36	-.08	.35
bps3	.08	.32	-.06	.24
picd29DL	.24	.31	.02	-.05

picd26NA	.00	.17	-.10	.15
picd35AK	.15	.19	.68	-.13
picd5AK	.13	.15	.63	-.07
picd45AK	.18	-.02	.60	.19
picd15AK	-.20	-.04	.60	.25
picd20AK	.19	.26	.59	-.12
picd55AK	-.05	-.21	.56	.22
picd12DN	.18	.06	-.49	.15
picd60AK	-.09	-.16	.48	.08
picd27DN	.22	.11	-.47	.11
picd50AK	.09	-.06	.47	-.19
picd57DN	.18	.12	-.45	.17
picd7DN	.15	.22	-.45	.18
picd25AK	.01	-.11	.42	.32
picd32DN	.25	.26	-.40	-.13
picd42DN	.08	.26	-.32	.13
picd40AK	.18	.01	.27	.18
picd43DT	.06	-.03	-.01	.73
picd13DT	.13	-.03	.00	.72
picd28DT	.12	-.15	.04	.66
picd33DT	.12	.23	-.02	.60
picd58DT	.27	.16	-.03	.58
picd3DT	.32	.14	.01	.49
picd8DT	.02	.30	.03	.45
picd38DT	.30	.16	-.05	.44
picd53DT	-.09	.38	-.03	.43
picd18DT	.12	.34	-.06	.40
picd30AK	-.37	-.03	.31	.38
picd10AK	-.01	-.14	.20	.30

Note. BPS: Borderline Pattern Scale, PiCD: Personality Inventory for ICD-11, NA: negative affectivity, DT: detachment, DL: dissociality, DN: disinhibition, AK: anankastia.

Supplementary Table S3. Five-Factor Solution for PiCD and BPS Items.

	Negative affectivity	Dissociality	Detachment	Anankastia	Disinhibition
bps5	.84	.00	.00	-.07	-.03
bps1	.84	-.09	-.01	-.04	.03
picd56NA	.78	.08	.00	.01	.00
picd41NA	.78	-.03	.04	.02	.05
picd11NA	.76	.00	-.07	.08	.06
bps12	.72	-.01	.12	-.09	-.03
picd16NA	.69	-.08	.09	.26	.01
picd1NA	.66	.03	-.08	.10	.03
picd21NA	.65	-.08	.13	.16	.04
bps9	.65	.12	-.01	-.06	-.10
bps6	.63	.13	.16	-.13	-.01
picd46NA	.63	-.07	.15	.16	.09
bps8	.62	.09	.15	-.17	.05
bps10	.62	.05	.23	.00	-.03
picd51NA	.59	.02	.20	.05	.07
bps2	.59	-.08	.25	.08	.07
bps7	.58	.16	.15	-.13	.04
picd2DN	.56	.13	-.27	-.22	.12
bps4	.55	.13	.12	-.11	-.01
bps11	.51	.00	-.01	.13	.11
picd17DN	.51	.16	-.15	-.24	.19
picd23DT	-.50	.14	.13	.18	.09
picd31NA	.47	-.07	.04	.10	.09
picd6NA	.46	.15	-.08	.35	-.16
picd36NA	.46	-.35	-.34	.30	.05
picd47DN	.43	.11	-.12	-.28	.27
picd59DL	.06	.71	-.10	.07	.16
picd54DL	-.12	.66	.25	-.21	.03
picd14DL	-.08	.65	-.29	.24	.11
picd44DL	.14	.64	.01	.08	.09
picd49DL	.11	.58	-.09	-.07	.04
picd9DL	-.04	.56	.24	-.04	.07
picd39DL	-.08	.55	.26	-.09	.06
picd24DL	-.08	.53	.23	-.06	.01
picd34DL	.08	.50	.01	-.08	-.03
picd19DL	.09	.48	-.06	.10	-.15
picd4DL	.39	.43	-.05	-.17	.01
picd37DN	.04	.38	.06	-.02	.37
picd52DN	.18	.35	-.04	-.09	.32
picd22DN	.08	.33	.17	.02	.24
picd29DL	.21	.31	-.07	.09	.13
picd43DT	.05	-.09	.71	.12	.09
picd13DT	.12	-.09	.69	.13	.09
picd33DT	.13	.15	.63	.01	.03
picd28DT	.10	-.19	.61	.19	.09
picd58DT	.27	.09	.59	.04	.07

picd53DT	-.05	.30	.50	-.09	-.04
picd3DT	.32	.09	.49	.06	.05
picd8DT	.03	.24	.47	.03	.02
picd38DT	.31	.10	.47	-.04	.03
picd18DT	.15	.27	.46	-.10	.00
picd48DT	.05	.29	.41	-.10	.03
bps3	.12	.25	.32	-.17	-.07
picd26NA	.00	.13	.17	-.06	.08
picd45AK	.14	.05	.09	.64	-.09
picd15AK	-.23	.02	.15	.63	-.12
picd55AK	-.06	-.15	.14	.54	-.19
picd25AK	-.02	-.07	.23	.50	-.04
picd60AK	-.11	-.09	-.01	.49	-.12
picd50AK	.06	.03	-.27	.45	-.11
picd35AK	.19	.26	-.12	.42	-.38
picd30AK	-.39	-.02	.31	.40	-.01
picd40AK	.14	.04	.10	.38	.06
picd32DN	.25	.21	-.08	-.35	.20
picd10AK	-.04	-.12	.23	.31	.04
picd12DN	.03	.03	.02	.05	.74
picd27DN	.08	.08	-.02	.05	.72
picd57DN	.08	.07	.09	-.05	.56
picd42DN	-.02	.23	.06	.03	.51
picd7DN	.07	.16	.13	-.11	.50
picd5AK	.20	.20	-.03	.29	-.48
picd20AK	.24	.31	-.08	.31	-.38

Note. BPS: Borderline Pattern Scale, PiCD: Personality Inventory for ICD-11, NA: negative affectivity, DT: detachment, DL: dissociality, DN: disinhibition, AK: anankastia.

Supplementary Table S4. Six-Factor Solution for PiCD and BPS Items.

	Negative affectivity	Dissociality	Detachment	Anankastia- Disinhibition	Disinhibition	Anankastia
bps1	.86	-.08	-.08	.04	.03	-.03
bps5	.85	.01	-.07	.08	-.03	-.03
picd41NA	.77	-.04	.01	.04	.05	.03
bps10	.72	.10	.09	-.10	-.02	-.09
bps12	.72	.01	.06	.08	-.04	-.07
picd56NA	.72	.04	.01	.12	.00	.11
picd11NA	.70	-.04	-.04	.08	.06	.15
bps6	.69	.18	.04	.04	-.01	-.13
picd46NA	.66	-.06	.11	-.11	.09	.08
bps8	.66	.12	.05	.10	.04	-.15
bps7	.63	.20	.04	.05	.03	-.12
bps2	.62	-.05	.20	-.07	.07	-.01
picd16NA	.61	-.13	.15	-.04	.02	.25
bps4	.61	.17	.00	.02	-.01	-.11
picd21NA	.60	-.11	.15	-.03	.04	.14
picd51NA	.60	.03	.16	-.02	.06	.01
bps11	.59	.01	-.09	-.13	.13	.05
bps9	.55	.08	.02	.19	-.11	.08
picd23DT	-.51	.13	.18	-.11	.09	.12
picd1NA	.50	-.05	.05	.18	.02	.25
picd31NA	.39	-.11	.11	.07	.08	.14
picd54DL	-.04	.73	.11	.06	.02	-.17
picd59DL	.06	.68	-.12	.06	.16	.18
picd44DL	.20	.64	-.06	-.03	.09	.12
picd9DL	.08	.62	.10	-.08	.07	-.08

picd24DL	.06	.60	.06	-.11	.02	-.12
picd39DL	-.01	.60	.16	.00	.05	-.08
picd14DL	-.12	.57	-.23	.01	.12	.36
picd49DL	.01	.53	-.04	.24	.02	.14
picd36NA	.34	-.45	-.18	-.01	.06	.33
picd34DL	-.06	.44	.10	.26	-.05	.13
picd37DN	.14	.42	-.04	-.04	.36	-.06
picd19DL	-.02	.41	.03	.13	-.15	.26
picd4DL	.25	.37	.02	.33	-.02	.09
picd22DN	.13	.36	.10	-.04	.23	-.01
picd52DN	.14	.33	-.03	.17	.30	.02
bps3	.15	.30	.23	.05	-.08	-.16
picd29DL	.14	.26	-.01	.09	.12	.18
picd26NA	.04	.17	.11	-.01	.07	-.10
picd43DT	-.05	-.09	.80	-.03	.05	.01
picd13DT	.00	-.10	.80	-.02	.05	.03
picd28DT	.01	-.19	.70	-.09	.07	.05
picd33DT	.03	.16	.69	.07	-.01	-.02
picd3DT	.19	.07	.58	.09	.02	.07
picd58DT	.25	.12	.58	-.03	.05	-.05
picd8DT	-.09	.22	.56	.10	-.01	.07
picd53DT	-.02	.36	.42	-.02	-.06	-.14
picd48DT	.00	.31	.40	.10	.00	-.07
picd38DT	.35	.16	.38	-.05	.02	-.13
picd18DT	.19	.33	.37	-.01	-.02	-.15
picd2DN	.17	-.04	.04	.69	.07	.25
picd17DN	.17	.02	.10	.62	.14	.16
picd15AK	-.05	.05	.07	-.62	-.07	.29
picd30AK	-.13	.08	.13	-.61	.03	.00
picd47DN	.16	.01	.08	.56	.22	.06

picd32DN	.01	.14	.08	.54	.15	-.02
picd45AK	.26	.04	.04	-.52	-.04	.38
picd25AK	.07	-.06	.21	-.43	-.01	.24
picd60AK	-.03	-.10	-.01	-.41	-.08	.28
picd55AK	-.02	-.18	.18	-.41	-.16	.33
picd10AK	.06	-.09	.17	-.35	.06	.08
picd12DN	.00	.01	.08	.07	.70	.02
picd27DN	.03	.06	.05	.09	.69	.05
picd57DN	.08	.08	.10	.08	.53	-.06
picd42DN	.00	.24	.05	.02	.48	.00
picd7DN	.10	.19	.09	.07	.47	-.13
picd5AK	.14	.13	.04	-.09	-.45	.34
picd50AK	-.13	-.12	-.03	-.02	-.09	.56
picd35AK	.02	.13	.06	-.03	-.36	.54
picd6NA	.30	.03	.08	.02	-.15	.46
picd20AK	.10	.20	.05	.01	-.36	.43
picd40AK	.14	.01	.14	-.21	.08	.27

Note. BPS: Borderline Pattern Scale, PiCD: Personality Inventory for ICD-11, NA: negative affectivity, DT: detachment, DL: dissociation, DN: disinhibition, AK: anankastia.

Supplementary Table S5. Seven-Factor Solution for PiCD and BPS Items.

	Negative affectivity	Detachment	Dissociality	Anankastia- Disinhibition 1	Anankastia- Disinhibition 2	?	Anankastia
bps1	.85	-.05	-.05	.04	.03	-.07	-.02
bps5	.84	-.05	.01	.06	-.03	-.01	-.04
picd41NA	.75	.01	-.01	.07	.04	-.05	.04
bps10	.72	.09	.03	-.10	-.01	.10	.01
bps12	.70	.03	-.06	.10	-.03	.09	.02
picd56NA	.69	.02	.09	.14	-.04	-.06	.02
bps6	.69	.03	.07	.02	.01	.17	-.05
picd11NA	.68	.00	.07	.11	.02	-.17	.03
bps8	.65	.04	.03	.07	.07	.14	-.08
picd46NA	.63	.08	-.04	-.01	.08	-.04	.19
bps7	.63	.03	.10	.04	.05	.17	-.05
bps4	.62	.06	.14	-.06	.00	.05	-.17
bps2	.61	.24	-.02	-.07	.06	-.06	.00
picd51NA	.59	.17	.03	.01	.05	.00	.04
bps11	.57	-.10	.03	-.05	.12	-.03	.16
picd21NA	.56	.11	-.07	.09	.01	-.07	.21
picd16NA	.56	.10	-.05	.11	-.04	-.12	.29
picd23DT	-.55	.06	.04	.06	.09	.18	.34
bps9	.52	-.05	.03	.27	-.13	.10	.11
picd1NA	.46	.06	.07	.24	-.05	-.18	.09
picd31NA	.35	.06	-.08	.18	.05	-.06	.19
picd38DT	.34	.30	-.02	.02	.05	.30	.11
picd13DT	-.01	.84	-.07	-.02	.03	-.05	-.02
picd43DT	-.06	.82	-.09	-.02	.03	.00	.01
picd28DT	.01	.79	-.10	-.11	.04	-.16	-.03

picd33DT	.03	.67	.07	.07	-.02	.16	-.01
picd3DT	.18	.59	.07	.09	-.01	.02	-.01
picd58DT	.24	.56	.04	-.01	.05	.15	.04
picd8DT	-.10	.51	.14	.14	-.04	.18	.06
picd48DT	.01	.39	.19	.08	.01	.23	-.07
picd59DL	.07	-.04	.71	.02	.11	.05	-.08
picd14DL	-.13	-.15	.69	.04	.04	-.10	.05
picd44DL	.21	-.01	.62	-.04	.06	.12	-.02
picd49DL	.01	-.02	.50	.22	-.01	.12	-.07
picd9DL	.09	.07	.43	-.07	.09	.36	.01
picd19DL	-.04	.03	.42	.16	-.21	.05	.05
picd37DN	.16	.03	.41	-.09	.37	.05	-.11
picd34DL	-.06	.10	.40	.24	-.09	.13	-.07
picd39DL	.00	.11	.39	.02	.07	.39	.01
picd29DL	.14	.05	.35	.09	.07	-.10	-.03
picd52DN	.15	.02	.35	.14	.29	.02	-.11
picd22DN	.14	.13	.32	-.04	.23	.11	-.02
picd2DN	.10	-.02	.02	.79	.01	-.09	.03
picd17DN	.11	.03	.03	.71	.10	.00	.03
picd47DN	.11	.01	-.01	.63	.21	.03	.00
picd32DN	-.01	.03	.08	.54	.15	.12	-.11
picd30AK	-.11	.12	.04	-.53	.04	.07	.24
picd15AK	-.06	.08	.15	-.48	-.12	-.13	.37
picd4DL	.23	.01	.32	.33	-.04	.13	-.06
picd12DN	.00	.10	.10	.13	.70	-.14	.06
picd27DN	.03	.09	.17	.13	.67	-.17	.02
picd57DN	.07	.09	.08	.13	.55	.01	.03
picd5AK	.11	.04	.20	-.03	-.53	-.07	.15
picd7DN	.11	.07	.13	.10	.50	.11	-.01
picd35AK	-.02	.10	.33	.06	-.49	-.25	.19

picd20AK	.08	.14	.38	.01	-.48	-.22	.03
picd42DN	.00	.06	.24	.06	.48	.02	.03
picd36NA	.32	-.05	-.09	-.01	-.02	-.62	.01
picd54DL	-.02	.06	.46	.04	.06	.50	-.08
picd53DT	-.02	.30	.09	.05	-.02	.47	.12
bps3	.13	.10	.03	.13	-.04	.46	.11
picd24DL	.07	-.01	.37	-.07	.05	.43	.06
picd50AK	-.17	.01	.16	.11	-.21	-.41	.25
picd18DT	.19	.29	.11	.03	.01	.37	.04
picd26NA	.04	.05	.04	.03	.10	.22	.07
picd25AK	.00	.01	-.13	-.11	-.01	.14	.69
picd40AK	.07	-.04	-.03	.10	.07	.11	.61
picd45AK	.23	.04	.17	-.33	-.11	-.17	.43
picd10AK	.04	.05	-.14	-.16	.07	.09	.41
picd55AK	-.05	.14	-.06	-.23	-.22	-.17	.40
picd60AK	-.05	-.05	-.01	-.24	-.12	-.13	.38
picd6NA	.24	.02	.14	.22	-.25	-.13	.35

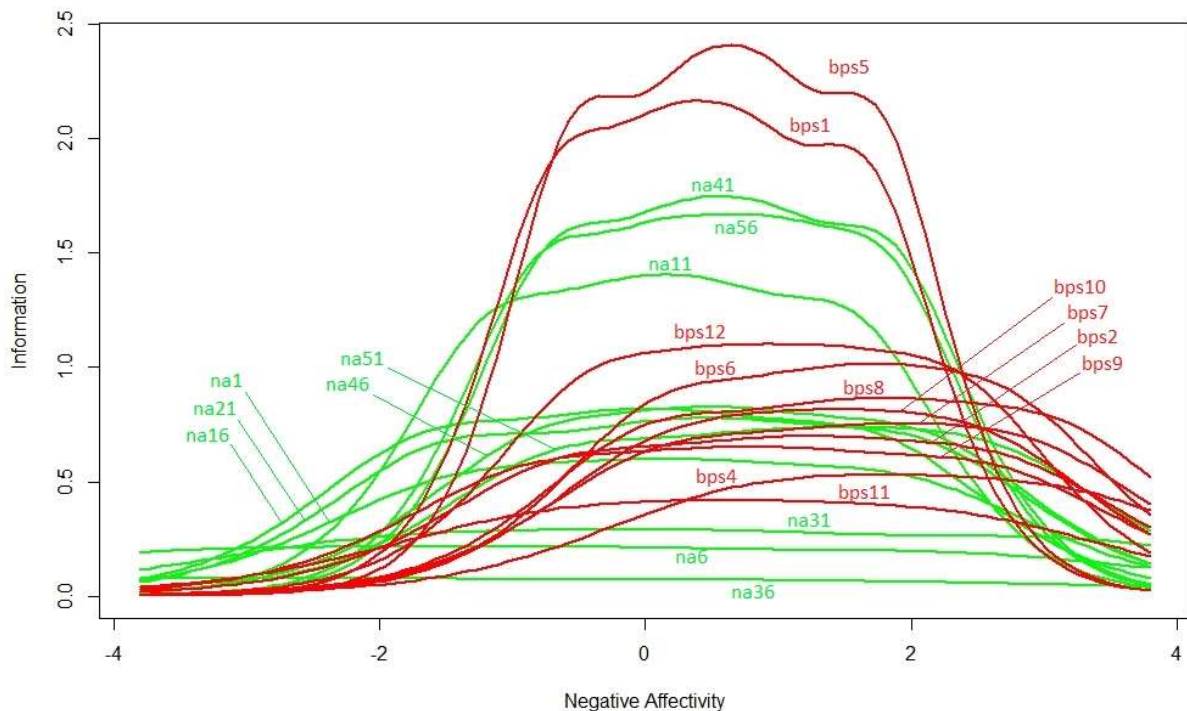
Note. BPS: Borderline Pattern Scale, PiCD: Personality Inventory for ICD-11, NA: negative affectivity, DT: detachment, DL: dissociation, DN: disinhibition, AK: anankastia.

Supplementary Table S6. Estimated Parameters for the Negative Affectivity Factor in the Four-Factor Solution Using the Graded Response Model.

	Mean	SD	Extremity1	Extremity2	Extremity3	Extremity4	Discrimination
bps4	1,70	1,126	0,670	1,465	2,122	3,209	1,290
bps7	1,78	1,051	0,146	1,343	2,140	2,935	1,550
bps6	1,79	1,072	0,159	1,239	1,885	2,711	1,801
bps8	1,80	1,022	0,059	1,301	2,069	3,117	1,672
bps10	1,87	1,185	0,177	1,090	1,739	2,551	1,606
bps12	2,20	1,196	-0,397	0,539	1,374	2,313	1,897
bps2	2,20	1,167	-0,576	0,749	1,532	2,681	1,499
picd51NA	2,21	1,150	-0,626	0,715	1,666	2,619	1,544
bps9	2,40	1,201	-0,856	0,396	1,272	2,603	1,451
bps5	2,42	1,295	-0,518	0,348	0,904	1,750	2,824
picd41NA	2,51	1,270	-0,686	0,229	0,901	1,833	2,404
bps11	2,52	1,379	-0,771	0,343	0,997	2,328	1,149
picd46NA	2,53	1,316	-0,783	0,255	0,892	2,075	1,627
picd56NA	2,56	1,257	-0,769	0,151	0,927	1,786	2,365
bps1	2,57	1,322	-0,658	0,143	0,756	1,655	2,679
picd21NA	2,78	1,203	-1,485	-0,046	0,824	2,054	1,593
picd31NA	2,84	1,183	-1,959	-0,385	0,891	3,207	0,966
picd11NA	2,89	1,292	-1,139	-0,175	0,539	1,557	2,147
picd1NA	2,90	1,290	-1,420	-0,213	0,631	1,949	1,385
picd16NA	3,04	1,248	-1,622	-0,373	0,433	1,691	1,630
picd6NA	3,43	1,100	-3,673	-1,715	-0,190	2,324	0,838
picd36NA	4,06	,996	-7,339	-4,784	-2,737	1,058	0,500

Note. BPS: Borderline Pattern Scale, NA: negative affectivity.

Supplementary Figure S2. Item Information Curve for the Negative Affectivity Factor in the Four-Factor Solution Using the Graded Response Model.

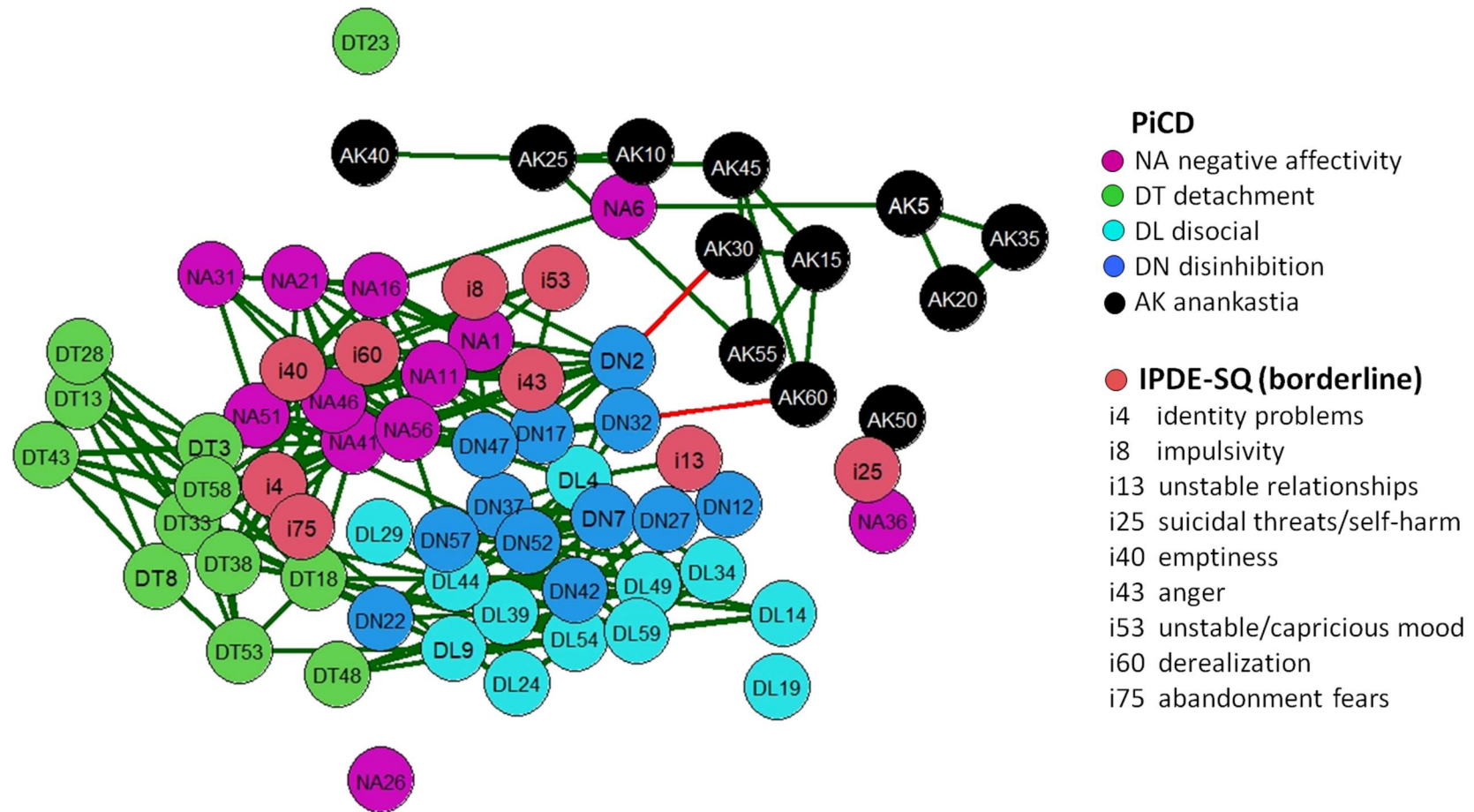


Supplementary Table S7. Borderline criteria in the DSM-5, the BPS, and the IPDE-SQ.

DSM-5 criteria	BPS	IPDE-SQ
1. Frantic efforts to avoid real or imagined abandonment.	bps11. Being abandoned is one of my greatest fears.	i75. I go to extremes to try to keep people from leaving me.
2. A pattern of unstable and intense interpersonal relationships characterized by alternating between extremes of idealization and devaluation.	bps7. My relationships tend to be very unstable.	i13. I get into very intense relationships that don't last.
3. Identity disturbance: markedly and persistently unstable self-image or sense of self.	bps6. My identity changes a lot. bps10. I wish I were someone else.	i4. I can't decide what kind of person I want to be.
4. Impulsivity in at least two areas that are potentially self-damaging (e.g., spending, sex, substance abuse, reckless driving, binge eating).	bps8. I have no real self-control over what I do.	i8. Acting on impulse gets me in trouble.
5. Recurrent suicidal behavior, gestures, or threats, or self-mutilating behavior.	bps4. I harm myself when I'm upset.	i25 (R). I've never threatened suicide or injured myself on purpose.
6. Affective instability due to a marked reactivity of mood (e.g., intense episodic dysphoria, irritability, or anxiety usually lasting a few hours and only rarely more than a few days).	bps1. I am emotionally unstable. bps5. I have dramatic shifts in my feelings. bps12. People say I deal with my feelings poorly.	i53. I'm very moody.
7. Chronic feelings of emptiness.		i40. I often feel "empty" inside.
8. Inappropriate, intense anger or difficulty controlling anger (e.g., frequent displays of temper, constant anger, recurrent physical fights).	bps9. I get angry a lot.	i43. Sometimes I get so angry I break or smash things.
9. Transient, stress-related paranoid ideation or severe dissociative symptoms.		i60. When I'm stressed, things around me appear unreal.
	bps2. I often feel so ashamed.	
	bps3. I have trouble taking the perspective of others.	

Note. BPS: Borderline Pattern Scale, IPDE-SQ: Screening Questionnaire of the International Personality Disorder Examination borderline scale.

Supplementary Figure S3. Network Graph of the Item-Level Polychoric Correlations for the PiCD and IPDE-SQ (Borderline Scale)



Note. PiCD: Personality Inventory for ICD-11, IPDE-SQ: Screening Questionnaire of the International Personality Disorder Examination. Correlations are shown as dark green (positive) or red (negative) lines. Proximity between two nodes indicates a higher association. Only coefficients $> |.40|$ are presented.

Supplementary Table S8. Four-Factor Solution for the PiCD and IPDE-SQ Borderline Items.

	Negative affectivity	Dissocial	Detachment	Anankastia
picd11NA	.72	.04	.04	.06
picd1NA	.64	.07	-.02	.07
picd41NA	.64	.02	.22	-.05
picd2DN	.62	.16	-.24	-.10
picd56NA	.62	.12	.16	.04
picd16NA	.61	-.11	.19	.21
picd21NA	.55	-.12	.19	.15
picd46NA	.55	-.03	.32	.03
i40	.54	-.08	.25	-.10
picd17DN	.54	.20	-.04	-.20
picd47DN	.50	.17	-.04	-.21
picd31NA	.48	-.08	.16	.14
i43	.47	.18	-.05	.06
picd51NA	.45	-.01	.32	-.01
picd6NA	.44	.07	-.17	.44
i8	.43	.01	-.04	-.19
i53	.43	.08	-.11	.07
picd30AK	-.41	-.02	.32	.32
picd32DN	.40	.20	-.05	-.30
picd23DT	-.34	.16	.04	.19
i60	.31	.01	.15	-.11
i25r	.16	.07	.05	-.16
picd59DL	.00	.70	-.04	.04
picd44DL	.07	.64	.14	.05
picd14DL	.08	.61	-.19	.20
picd49DL	.12	.60	-.10	.06
picd39DL	-.09	.59	.18	-.07
picd54DL	-.12	.58	.16	-.12
picd34DL	.11	.56	-.09	.09
picd9DL	-.14	.49	.30	-.10
picd4DL	.28	.47	-.08	-.09
picd19DL	.03	.42	-.06	.13
picd24DL	-.05	.42	.15	-.04
picd52DN	.16	.40	.09	-.15
picd48DT	.00	.38	.22	-.01
picd29DL	.24	.34	.07	.08
picd22DN	.07	.32	.20	-.09
picd42DN	.13	.32	.09	-.16
picd36NA	.32	-.32	-.09	.29
picd37DN	.15	.30	.17	-.17
i13	.15	.26	.00	-.11

picd43DT	.00	-.06	.70	.07
picd13DT	.12	-.10	.66	.10
picd28DT	.05	-.12	.64	.10
picd33DT	.11	.15	.62	.01
picd58DT	.15	.11	.61	-.01
picd3DT	.19	.13	.53	.06
picd38DT	.10	.13	.49	-.05
picd8DT	.00	.23	.49	.05
picd53DT	-.11	.26	.48	-.06
picd18DT	.11	.23	.47	-.12
i4	.21	.07	.30	-.12
picd26NA	-.02	.19	.20	-.10
i75	.08	.16	.18	-.04
picd15AK	-.19	.06	.17	.63
picd45AK	.06	.06	.13	.62
picd35AK	.04	.16	-.08	.61
picd5AK	.14	.08	-.10	.57
picd55AK	-.05	-.22	.16	.55
picd25AK	-.01	-.05	.24	.50
picd20AK	.16	.13	-.06	.49
picd60AK	-.11	-.19	.06	.48
picd50AK	.09	-.02	-.20	.47
picd40AK	.15	.14	.12	.37
picd7DN	.11	.24	.20	-.35
picd10AK	.08	-.19	.17	.35
picd27DN	.21	.26	.13	-.29
picd12DN	.20	.18	.15	-.28
picd57DN	.14	.20	.24	-.27

Note. PiCD: Personality Inventory for ICD-11, IPDE-SQ: Screening Questionnaire of the International Personality Disorder Examination borderline scale, NA: negative affectivity, DT: detachment, DL: dissociality, DN: disinhibition, AK: anankastia, i: IPDE-SQ item.

Supplementary Table S9. Five-Factor Solution for the PiCD and IPDE-SQ Borderline Items.

	Negative affectivity	Dissocial	Detachment	Anankastia	Disinhibition
picd11NA	.72	.02	-.01	.07	.08
picd41NA	.67	.04	.14	-.05	-.01
picd56NA	.66	.13	.06	.04	-.02
picd16NA	.64	-.11	.14	.20	-.02
picd46NA	.64	.02	.19	.02	-.16
i40	.64	-.03	.11	-.11	-.16
picd1NA	.62	.04	-.04	.08	.13
picd21NA	.59	-.11	.13	.14	-.04
picd2DN	.53	.09	-.19	-.08	.31
picd51NA	.50	.02	.24	-.01	-.07
picd31NA	.50	-.07	.11	.13	-.01
i43	.48	.17	-.11	.07	.03
picd17DN	.46	.14	.01	-.19	.29
i53	.43	.07	-.15	.08	.04
i60	.43	.08	-.01	-.12	-.25
picd47DN	.43	.12	-.01	-.19	.25
i8	.40	-.01	-.05	-.18	.11
picd23DT	-.38	.13	.12	.19	.09
picd32DN	.36	.18	-.06	-.29	.15
picd30AK	-.34	.03	.29	.31	-.21
i4	.28	.11	.20	-.12	-.13
i25r	.18	.08	.01	-.15	-.01
picd39DL	.00	.65	.05	-.05	-.15
picd54DL	-.03	.65	.03	-.11	-.16
picd59DL	-.05	.65	-.01	.07	.22
picd44DL	.09	.64	.09	.07	.05
picd9DL	-.04	.56	.16	-.09	-.20
picd49DL	.07	.55	-.08	.09	.22
picd14DL	.01	.54	-.14	.22	.25
picd34DL	.07	.53	-.08	.11	.16
picd24DL	.05	.48	.01	-.04	-.20
picd4DL	.27	.46	-.12	-.07	.10
picd19DL	.05	.42	-.10	.14	.01
picd48DT	.03	.40	.17	.00	-.02
picd36NA	.24	-.38	.00	.28	.17
picd52DN	.11	.36	.11	-.14	.19
picd22DN	.11	.34	.14	-.08	-.02
picd37DN	.16	.31	.13	-.16	.03
picd29DL	.18	.29	.11	.09	.22
i13	.15	.26	-.04	-.10	.03
i75	.16	.20	.08	-.04	-.14
picd43DT	-.02	-.06	.75	.06	.04
picd13DT	.11	-.10	.71	.09	.05
picd28DT	.04	-.12	.69	.09	.04

picd33DT	.12	.16	.61	.01	.01
picd58DT	.21	.15	.53	-.02	-.11
picd8DT	-.02	.22	.52	.05	.09
picd3DT	.22	.15	.50	.05	-.02
picd53DT	-.04	.31	.40	-.06	-.13
picd38DT	.21	.20	.36	-.06	-.21
picd18DT	.21	.30	.33	-.13	-.20
picd57DN	.06	.16	.31	-.26	.25
picd26NA	-.02	.19	.19	-.10	.04
picd15AK	-.18	.04	.21	.62	-.03
picd35AK	.04	.13	-.05	.61	.03
picd45AK	.11	.07	.11	.61	-.08
picd5AK	.16	.06	-.11	.56	-.04
picd55AK	-.03	-.22	.19	.53	-.08
picd50AK	-.04	-.12	-.02	.49	.32
picd20AK	.20	.14	-.11	.48	-.08
picd25AK	.05	-.02	.20	.48	-.16
picd60AK	-.13	-.21	.13	.47	.01
picd6NA	.36	-.01	-.08	.45	.26
picd40AK	.15	.13	.12	.37	.03
picd7DN	.04	.20	.25	-.34	.22
picd10AK	.09	-.19	.19	.34	-.03
picd12DN	.03	.07	.33	-.28	.47
picd27DN	.06	.17	.28	-.28	.42
picd42DN	.03	.26	.19	-.14	.31

Note. PiCD: Personality Inventory for ICD-11, IPDE-SQ: Screening Questionnaire of the International Personality Disorder Examination borderline scale, NA: negative affectivity, DT: detachment, DL: dissociality, DN: disinhibition, AK: anankastia, i: IPDE-SQ item.

Supplementary Table S10. Six-Factor Solution for the PiCD and IPDE-SQ Borderline Items.

	Negative affectivity	Dissocial	Detachment	Anankastia	Disinhibition	?
picd11NA	.70	.08	-.01	.01	.07	-.09
picd46NA	.68	-.10	.10	.11	.04	.18
picd41NA	.65	.02	.14	-.07	.05	.04
picd16NA	.65	-.06	.11	.17	-.01	-.07
picd56NA	.64	.13	.09	-.03	-.01	.03
i40	.64	-.11	.10	-.10	-.03	.14
picd1NA	.60	.10	-.06	.04	.11	-.11
picd21NA	.59	-.08	.12	.10	-.03	-.05
i43	.51	.13	-.18	.10	.12	.06
picd51NA	.50	-.03	.23	-.01	.01	.08
picd31NA	.49	-.03	.12	.08	-.03	-.06
i60	.48	-.09	-.07	-.03	-.02	.29
picd2DN	.44	.27	-.09	-.25	.10	-.26
i53	.44	.10	-.16	.04	.03	-.03
picd47DN	.37	.17	.01	-.22	.21	-.11
picd17DN	.37	.25	.09	-.30	.17	-.18
i8	.36	.03	-.01	-.22	.08	-.08
picd23DT	-.34	.08	-.01	.32	.17	.03
i4	.31	-.05	.12	.00	.09	.24
i25r	.18	.00	-.04	-.08	.12	.11
picd59DL	-.09	.63	.02	.00	.17	.07
picd34DL	.01	.61	.07	-.11	-.05	-.02
picd49DL	.01	.61	.02	-.07	.07	-.02
picd14DL	.00	.58	-.14	.14	.15	-.03

picd44DL	.08	.54	.10	.02	.09	.22
picd39DL	.01	.44	.05	-.04	.01	.41
picd4DL	.23	.43	-.07	-.15	.08	.09
picd19DL	.04	.41	-.04	.03	-.06	.09
picd48DT	-.03	.39	.30	-.14	-.09	.12
picd29DL	.15	.34	.13	.02	.14	-.07
picd52DN	.09	.30	.06	-.09	.27	.08
i13	.15	.18	-.07	-.07	.12	.12
picd43DT	-.07	-.05	.79	.03	.04	-.04
picd13DT	.05	-.05	.77	.03	.01	-.10
picd28DT	-.01	-.08	.73	.05	.02	-.08
picd33DT	.07	.14	.67	-.04	.03	.07
picd58DT	.19	.06	.55	-.01	.00	.17
picd3DT	.18	.12	.53	.02	.02	.07
picd8DT	-.03	.15	.45	.12	.20	.09
picd53DT	-.03	.12	.36	.03	.06	.31
picd26NA	-.03	.11	.16	-.04	.13	.11
picd15AK	-.10	.06	.10	.65	-.04	-.03
picd45AK	.19	.08	.01	.62	-.07	.00
picd25AK	.15	-.09	.04	.60	-.02	.10
picd55AK	.02	-.12	.16	.48	-.18	-.15
picd30AK	-.25	-.12	.14	.47	-.02	.22
picd40AK	.21	.09	-.03	.47	.13	.04
picd60AK	-.08	-.12	.06	.47	-.07	-.17
picd10AK	.15	-.19	.05	.44	.04	-.05
picd32DN	.29	.21	.03	-.38	.10	-.03
picd35AK	.04	.32	.06	.37	-.26	-.20
picd12DN	.01	-.02	.06	.04	.78	-.09
picd27DN	.05	.05	.01	.03	.74	-.01
picd57DN	.05	.05	.15	-.06	.46	.07

picd7DN	.02	.07	.11	-.15	.44	.11
picd5AK	.14	.28	.07	.26	-.38	-.21
picd20AK	.19	.29	.05	.21	-.35	-.12
picd42DN	-.01	.25	.13	-.09	.35	-.04
picd37DN	.19	.14	.00	.00	.27	.24
picd9DL	.02	.26	.04	.08	.13	.52
picd54DL	-.01	.41	.01	-.06	.03	.45
picd24DL	.12	.22	-.11	.11	.08	.44
picd50AK	-.06	.13	-.03	.36	.05	-.43
picd6NA	.33	.24	-.01	.24	-.03	-.38
picd36NA	.24	-.19	-.02	.23	.02	-.36
picd18DT	.22	.11	.33	-.08	-.01	.34
picd38DT	.24	.00	.29	.06	.04	.33
i75	.19	.05	.01	.05	.04	.25
picd22DN	.13	.18	.05	.03	.17	.25

Note. PiCD: Personality Inventory for ICD-11, IPDE-SQ: Screening Questionnaire of the International Personality Disorder Examination borderline scale, NA: negative affectivity, DT: detachment, DL: dissociation, DN: disinhibition, AK: anankastia, i: IPDE-SQ item.

Supplementary Table S11. Seven-Factor Solution for the PiCD and IPDE-SQ Borderline Items.

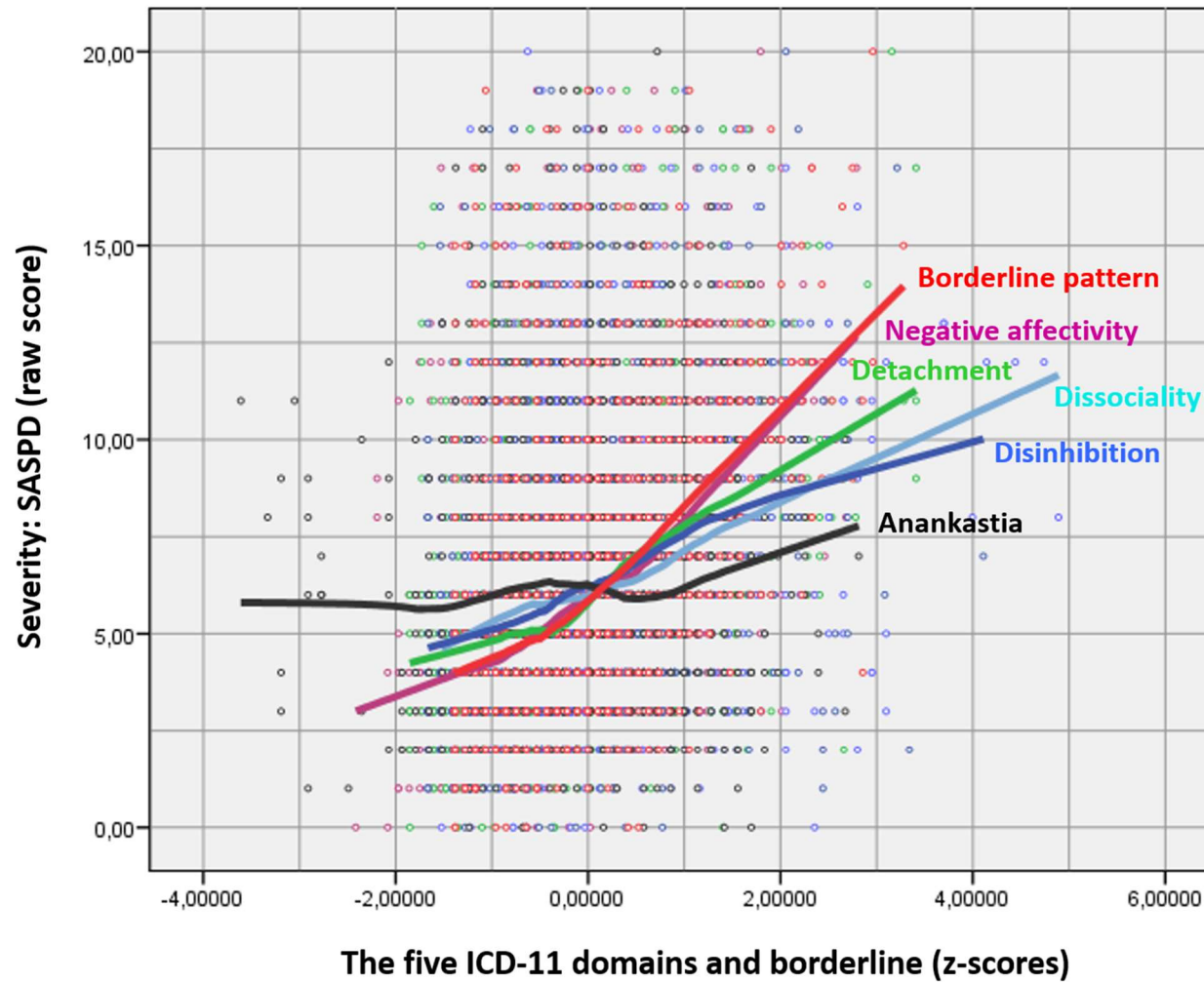
	Negative affectivity	Detachment	Dissocial	? Disinhibition	Anankastia	Disinhibition- Anankastia
picd46NA	.70	.09	-.05	.10	.05	.06
picd11NA	.65	-.01	.10	-.11	.07	.02
picd41NA	.64	.13	.04	.00	.06	-.07
i40	.60	.10	-.12	.13	-.03	-.03
picd56NA	.60	.09	.13	.03	-.02	-.01
picd16NA	.59	.11	-.03	-.11	-.02	.17
picd21NA	.54	.12	-.05	-.08	-.04	.11
picd51NA	.52	.22	.01	.03	.02	-.06
picd1NA	.50	-.05	.09	-.10	.09	.12
i60	.47	-.08	-.11	.27	-.01	.02
i43	.45	-.18	.12	.06	.11	.14
i53	.42	-.16	.12	-.06	.03	.03
picd23DT	-.40	.00	.04	.08	.15	.38
picd31NA	.39	.13	-.05	-.04	-.04	.18
picd37DN	.32	-.03	.20	.15	.31	-.16
i8	.28	-.01	.00	-.04	.08	-.11
i25r	.25	-.06	.03	.06	.14	-.15
picd22DN	.24	.03	.22	.19	.20	-.10
picd43DT	-.07	.79	-.05	-.03	.03	.03
picd13DT	.03	.77	-.06	-.08	.01	.05
picd28DT	.06	.73	-.02	-.14	.03	-.07
picd33DT	.05	.67	.09	.11	.03	.00
picd58DT	.20	.54	.03	.18	.00	.00
picd3DT	.19	.52	.11	.08	.02	-.01
picd8DT	-.08	.46	.10	.14	.18	.17

picd53DT	-.03	.36	.06	.35	.06	.07	-.01
picd48DT	-.06	.30	.30	.21	-.10	-.08	.15
picd26NA	-.03	.16	.08	.13	.13	-.02	.03
picd59DL	-.04	.01	.63	.09	.17	-.11	-.02
picd14DL	.00	-.13	.58	-.01	.14	.06	.02
picd49DL	-.02	.02	.55	.06	.06	-.06	.17
picd34DL	-.06	.08	.52	.09	-.06	-.04	.24
picd44DL	.12	.10	.52	.24	.09	-.05	-.03
picd4DL	.18	-.07	.35	.17	.08	-.07	.22
picd35AK	.02	.07	.35	-.21	-.28	.26	-.05
picd19DL	-.01	-.03	.35	.17	-.07	.08	.13
picd29DL	.13	.13	.34	-.05	.13	-.01	.08
picd52DN	.12	.06	.30	.08	.27	-.13	.02
i13	.15	-.07	.16	.14	.12	-.05	.05
picd9DL	.06	.03	.19	.54	.13	.09	-.09
picd54DL	.00	.01	.31	.52	.03	.00	.04
picd36NA	.32	-.03	-.02	-.52	.03	.02	-.20
picd39DL	.00	.05	.34	.49	.00	.02	.06
picd24DL	.12	-.10	.16	.48	.08	.15	-.03
picd50AK	-.12	.00	.18	-.44	.01	.31	.04
picd18DT	.21	.32	.04	.38	.00	-.01	.04
picd6NA	.18	.01	.24	-.33	-.07	.30	.24
picd38DT	.25	.29	-.03	.32	.05	.07	-.06
i4	.25	.12	-.11	.27	.09	.11	.09
i75	.20	.01	.02	.25	.04	.07	-.03
picd12DN	-.04	.07	-.01	-.10	.77	.10	.10
picd27DN	.07	.01	.09	-.06	.74	.00	-.01
picd57DN	.04	.15	.03	.07	.46	-.02	.06
picd7DN	.04	.11	.06	.11	.45	-.13	.03
picd5AK	.13	.07	.32	-.22	-.40	.16	-.02

picd20AK	.21	.06	.34	-.14	-.37	.09	-.05
picd42DN	.02	.12	.26	-.05	.35	-.14	.02
picd25AK	.04	.05	-.14	.14	-.05	.73	-.03
picd40AK	.08	-.02	.04	.08	.11	.59	.09
picd10AK	.11	.06	-.16	-.09	.03	.43	-.09
picd45AK	.23	.01	.17	-.10	-.09	.42	-.28
picd55AK	.01	.18	-.06	-.20	-.20	.38	-.17
picd60AK	-.05	.07	-.03	-.25	-.08	.32	-.23
picd2DN	.20	-.07	.14	-.11	.07	.05	.61
picd47DN	.16	.03	.03	.04	.19	.08	.53
picd17DN	.18	.11	.13	-.04	.14	-.05	.52
picd32DN	.13	.04	.08	.12	.08	-.12	.48
picd15AK	.03	.10	.21	-.18	-.04	.35	-.46
picd30AK	-.14	.14	-.05	.12	-.03	.29	-.40

Note. PiCD: Personality Inventory for ICD-11, IPDE-SQ: Screening Questionnaire of the International Personality Disorder Examination borderline scale, NA: negative affectivity, DT: detachment, DL: dissociality, DN: disinhibition, AK: anankastia, i: IPDE-SQ item.

Supplementary Figure S4. LOESS Curve for the Association of PiCD Domains and BPS with Severity (SASPD).



Note. BPS: Borderline Pattern Scale, PiCD: Personality Inventory for ICD-11, SASPD: Assessment of Severity of Personality Disorder.