CURRENT ISSUES IN PERSONALITY PSYCHOLOGY · 2023
DOI: HTTPS://DOI.ORG/10.5114/CIPP/163182

ORIGINAL ARTICLE

The underlying structure of the Personality Inventory for DSM-5 (PID-5): a general factor of personality psychopathology

Silvana A. Montes [1,2 · A,C,D,E,F], *Roberto O. Sanchez* [2 · A,B,D,E,F]

1: CONICET (National Scientific and Technical Research Council), Buenos Aires, Argentina
2: Faculty of Psychology, National University of Mar del Plata, Mar del Plata, Argentina

BACKGROUND
The psychopathology of personality is currently undergoing a paradigm shift from a categorical to a dimensional approach. This work aimed to study the underlying structure of pathological personality traits of the DSM-5 Alternative Model for Personality Disorders (AMPD). For this purpose, the internal structure of a version of the Personality Inventory for the DSM-5 (PID-5) was examined by a confirmatory factor analysis. This version assesses the five higher-order pathological personality domains (negative affectivity, detachment, antagonism, disinhibition, and psychoticism) and the 25 lower-order pathological personality facets through a reduced number of items. Four alternative models were compared: five-factor oblique; second-order (five first-order factors and one second-order factor); bifactor (five specific factors and a general factor), and one-factor.

PARTICIPANTS AND PROCEDURE
We worked with an Argentinean sample of N = 525 subjects from the general population who answered the Argentine version of the PID-5.

RESULTS
The five-factor model was slightly superior to the second order model, and the bifactor model presented the best fit.

CONCLUSIONS
These findings, while preliminary, suggest that the PID-5 facets could reflect five specific pathological personality traits (which correspond to AMPD domains) but also a general factor (which would reflect a general propensity for psychopathology).

KEY WORDS
Alternative Model of Personality Disorders; general factor of psychopathology; PID-5; bifactor model; confirmatory factor analysis

CORRESPONDING AUTHOR – Silvana A. Montes, Ph.D., CONICET (National Scientific and Technical Research Council), Godoy Cruz 2290, Buenos Aires, Argentina, e-mail: smontes@conicet.gov.ar

AUTHORS' CONTRIBUTION – A: Study design · B: Data collection · C: Statistical analysis · D: Data interpretation · E: Manuscript preparation · F: Literature search · G: Funds collection

TO CITE THIS ARTICLE – Montes, S. A., & Sanchez, R. O. (2023). The underlying structure of the Personality Inventory for DSM-5 (PID-5): a general factor of personality psychopathology. *Current Issues in Personality Psychology.*

RECEIVED 07.04.2022 · REVIEWED 26.06.2022 · ACCEPTED 12.04.2023 · PUBLISHED 01.06.2023

BACKGROUND

Although personality disorders (PD) have been considered as categories, since the first version of the *Diagnostic and Statistical Manual of Mental Disorders* (DSM; APA, 1952), evidence exists only for schizotypal personality disorder (Conway et al., 2019; Haslam et al., 2020; Hopwood et al., 2018). According to Krueger et al. (2018), categorical approaches tend to weight disciplinary background and tradition. Conversely, there is accumulating evidence that mental disorders are continuously distributed in the population, without the discontinuity expected of categorical diseases (Krueger et al., 2018). The existing body of research on comorbidity and the variations of symptoms has shown that psychopathology is dimensional rather than categorical (DeYoung et al., 2020). The categorical classification systems, in which each disorder is a discrete entity, do not reflect reality (Haslam et al., 2020). Only 14% of psychopathological findings would be related to categories (Haslam et al., 2012). Among the limitations of categorical systems, it is worth mentioning the excessive comorbidity between personality disorders, the arbitrary distinction between normality and pathology, the lack of clinical utility, the overlapping of symptoms (e.g., symptoms belonging to several diagnoses), and the limited scope of the existing categories (for which the most frequent diagnosis is "not specified") (First et al., 2002; Kessler et al., 2005; Simonsen et al., 2008).

From the beginning of the development of DSM, it was already recognized that the categorical system might never be able to account for the underlying etiology of mental disorders; therefore, a paradigm shift would be necessary (Kupfer et al., 2002). Although the DSM-5 (APA, 2013) maintained the categorical approach, it presents an Alternative Dimensional Model for Personality Disorders (AMPD) in Section III, "Emerging Measures and Models". AMPD includes an assessment of impairments in the self and interpersonal functioning (criterion A) and the presence of pathological personality traits (criterion B). Pathological personality traits (criterion B) are organized into five higher-order domains, i.e. negative affectivity, detachment, antagonism, disinhibition, and psychoticism, and 25 specific facets nested within these trait domains. Although the DSM-5 proposal (APA, 2013) has also received harsh criticism from the scientific community (Livesley, 2012; Sánchez, 2019; Shedler et al., 2010; Verheul, 2012; Widiger, 2013), it has established a structure of five domains to understand the pathology of personality.

DIMENSIONAL AND HIERARCHICAL APPROACHES TO PSYCHOPATHOLOGY

Currently, new research lines seek a more appropriate classificatory system for psychopathology (Caspi et al., 2014; Kotov et al., 2020; Krueger & Markon, 2014; Lahey et al., 2012, 2017). In pursuit of this goal, two alternative approaches, hierarchical and dimensional, have favorable evidence: multi-level models, such as the Hierarchical Taxonomy of Psychopathology (HiTOP) (Conway et al., 2019; Kotov et al., 2017; Krueger et al., 2018) and bifactor models (Caspi et al., 2014; Lahey et al., 2012, 2017; Montes & Sánchez, 2019). These proposals seek to provide a more parsimonious structure of psychopathology than the system of numerous categorical disorders, although they differ in form. On one hand, the HiTOP asserts that most psychopathology can be organized hierarchically, with broad spectrums at the top of the hierarchy (e.g., internalizing, disinhibited externalizing, antagonistic externalizing, thought disorder) and a higher-order dimension above these spectrums (a general psychopathology factor) (Kotov et al., 2017, 2020). On the other hand, the bifactor models distinguish between a general factor of severity and specific factors reflecting style (their content), understanding that each element provides unique diagnostic information (Ringwald et al., 2019). While the style would represent the *how* of the pathology – the way the dysfunction is expressed – the general factor would inform the *how much* of the pathology – the prognosis of dysfunctional functioning. Both components would be independent, and the bifactor models would be the statistical way of accounting for their existence (e.g., Shields et al., 2021). Both models, bifactor (Caspi et al., 2014) and the HiTOP (Kotov et al., 2020), consider the existence of a general dimension of psychopathology called the "general psychopathology factor" (or "p factor") (Caspi et al., 2014).

GENERAL PSYCHOPATHOLOGY FACTOR

Lahey et al. (2012) presented the first evidence of a general psychopathology factor, and later it was replicated by Caspi et al. (2014). This common risk factor ("p factor") summarizes individuals' propensity to develop any forms of common psychopathologies throughout the life course. In other words, it could measure the risk of a greater propensity for mental disorders in terms of disease recurrence, chronicity, comorbidity, and severity (Caspi et al., 2014). According to Caspi and Moffitt (2018), a higher p would be typical of the most severe disorders and could even lead to psychotic thought processes.

The issue of psychopathology severity is crucial for understanding PDs. Tyrer (2005) considers severity as a predictor of persistent social dysfunction, evolution and chronicity, response to treatment, and quality of life in general. Millon (1969) early warned about a severity dimension for PDs, even within the categorical canons, through the concept of syndromic continuity. According to Millon, the personality is

oriented on a continuum, with the normal personality at one extreme and the severe pathology at the other. No line sharply separates the normal from the pathological, since the pathological has the same determinants as normal functioning. At the top of this pathological structure is the decompensated personality, characterized by decreased awareness of reality and cognitive and emotional lack of control. In more current terms, syndromic continuity is equivalent to the p factor, in the sense of a dimension of severity. However, the severity of PDs has been absent in the different versions of the DSM.

THE PRESENT STUDY

The idea of a general factor of personality psychopathology, specifically in the DSM-5 AMPD (APA, 2013), has been little explored. As noted, the available evidence around personality disorders, dimensional approaches, general psychopathology factor, and bifactor models is scattered and fragmented.

The Personality Inventory for DSM-5 (PID-5; Krueger et al., 2012) was designed to assess maladaptive personality traits specified within the DSM-5 AMPD criterion B (APA, 2013). PID-5 has mostly satisfactory psychometric qualities and has subsequently been adapted for use in different cultures and languages (for a review, see Al-Dajani et al., 2016; Sanchez et al., 2020, 2023). However, it also has shown considerable variability across studies, and several facets' scales show evidence of interstitiality – the cross-loading of facets onto more than one domain (Waters & Bagby, 2018). One possibility is the presence of a general underlying factor that explains the cross-loading of several facets. Nevertheless, few studies have examined the PID-5 using a bifactor modeling approach. Montes and Sánchez (2019) and Gomez et al. (2020) worked with briefs forms of the PID-5 – which assess only the five higher-order personality domains – and found a better fit of the bifactor model against competing models – a robust general factor involving a general factor alongside the five specific factors. Gutierrez et al. (2021) also examined the relationships between the ICD-11 and DSM-5 systems for PD and found that the extraction of a general factor of PD fixes the problems of blurred boundaries between domains.

This work aimed to study the underlying structure of pathological personality traits of the AMPD model (APA, 2013). For this purpose, the internal structure of a version of the PID-5 extensive form (xx et al., in press) was examined by a confirmatory factor analysis. This version assesses both domains and facets through fewer items (108). Following Caspi et al. (2014), four alternative models were compared: Model 1 (M1), five-factor oblique; Model 2 (M2), higher-order factor (five first-order factors and one second-order factor) (p); Model 3 (M3), bifactor (five specific factors and a general factor – p) and Model 4 (M4), one-factor (p) (unidimensional).

Tested models. M1 is a five-factor model based on PID-5 theoretical structure and empirical evidence (Al-Dajani et al., 2016; Krueger et al., 2012; Sanchez et al., 2023). In this model, each PID-5 facet was allowed to load only on one factor (e.g., anxiousness in negative affectivity), and factors were allowed to be correlated. M2 is a second-order model, where the 25 facets load on their respective factors, and these factors load on a single higher-order factor, labeled p factor, or a general factor of personality psychopathology. M3 is a bifactor model, with all 25 facets loading on the general factor (GF) and on their own pathological personality specific factors (SF, domains, e.g., negative affectivity). GF and SF were modeled orthogonally. Finally, M4 is a one-factor model, where all 25 facets load on a single general factor (p), that arises as a latent factor from the observed variables.

PARTICIPANTS AND PROCEDURE

PARTICIPANTS

We reanalyzed data from the PID-5 Spanish validation study (xxx et al., in press). The sample consisted of 525 subjects drawn from the general population of Argentina (over 18 years). Participant's age ranged from 18 to 85 (M = 40.10, SD = 14.20). Women accounted for 70.3% of the sample. Most participants had at least completed high school (98.8%).

MEASURES

Personality traits were assessed with the Argentine version of the Personality Inventory for DSM-5 (Krueger et al., 2012; Sanchez et al., 2023). This version assesses the five higher-order pathological personality domains (negative affectivity, detachment, antagonism, disinhibition, and psychoticism) and the 25 lower-order pathological personality facets through a reduced number of items (108). The study of Sanchez et al. (2023) showed that the 25 facets can be evaluated with half of the test items without losing relevant information. An expert judge's review and a pilot test suggested that the original 4-point format is unusual in our context and difficult to translate. Argentine respondents are more familiar with a 5-point Likert scale ranging from 1 (*does not describe me at all*) to 5 (*describes me completely*) and find it easier to use. The Sanchez et al. (2023) version had psychometric properties comparable to the original one, regarding dimensional structure (five factors), internal consistency, construct validity, and relationships with the FFM personality traits.

PROCEDURE

Ethical approval was obtained from the Interdisciplinary Program in Bioethics of the National University of Mar del Plata, Argentina. The research conformed to the provisions of the Declaration of Helsinki. The participants were contacted by email and social networks, and answered the questionnaire online. We used a convenience sample following snowball sampling. Subjects had written informed consent for this study, when they were informed about the purposes and that their responses would be kept anonymous. Participation was voluntary, and no compensation was offered.

DATA ANALYSIS

A series of confirmatory factor analyses models were tested. We used the robust diagonally weighted least squares estimator (DWLS), a recommended estimation method for non-normal and ordinal data (Li, 2016; Mîndrilă, 2010). The following fit indices were computed: a) for absolute fit: chi-square goodness-of-fit statistic (non-significant chi-square tests indicate good model fit); Satorra-Bentler scaled chi-square (S-B χ^2; Satorra & Bentler, 1990); root-mean-square error of approximation (RMSEA; cut-off value < .08, better is < .05); standardized root mean square residual (SRMR; cut-off value < .08); b) for comparative fit: comparative fit index (CFI); and c) for parsimonious fit: Akaike information criterion (AIC) and consistent Akaike information criterion (CAIC). Both AIC and CAIC can be used to compare competing models, and lower values indicate a better trade-off between fit and complexity (Van de Schoot et al., 2012).

Given that the bifactor model tends to show a superior fit (see, for example, Forbes et al., 2021; Greene et al., 2019; Reise et al., 2016), it is necessary to include complementary statistical indices to reach more solid conclusions regarding the general factor. For this reason, additional and specific bifactor model indices were calculated based on recommendations by Rodriguez et al. (2016b): coefficient omega (ω), omega hierarchical (ωH; Zinbarg et al., 2006), omega hierarchical subscale (ωHs; Reise, 2012), Index H – construct reliability (Hancock, 2001), explained common variance (ECV; Sijtsma, 2009; Ten-Berge & Socăn, 2004), ECV-I (Stucky et al., 2013), and percentage of uncontaminated correlations (PUC; Bonifay et al., 2015; Reise et al., 2013b). These indices, despite being recommended, are little used in this area.

The ω coefficient (McDonald, 1999) is a model-based estimate of internal reliability. When data are suitably represented by a bifactor structure, coefficient omega hierarchical (omegaH or ωH) is a useful model-based reliability index, which estimates the proportion of variance in total scores that can be attributed to a single general factor (Rodriguez et al., 2016b). ωHs is an index reflecting the reliability of a subscale score (specific factor, SF) after controlling for the variance due to the general factor (Reise et al., 2013a). Regarding ωH, magnitudes ≥ .70 are expected to conclude, at least partially, in favor of unidimensionality, and in the case of ωHs values ≥ .30 could be considered substantial (Smits et al., 2015). Smits et al. (2015) consider this unique variance to be substantial for a value ωHs ≥ 30, moderate for a value > 20, < 30; and low for a value ωHs ≤ 20.

Explained common variance (ECV) is the proportion of all common variance explained by the general factor. This is a degree of unidimensionality index and is directly related to the relative strength of the general factor (Rodriguez et al., 2016b). The appropriate ECV benchmarks are determined by the PUC (Reise, 2012; Reise et al., 2013b). The percent of uncontaminated correlations (PUC) represents the percentage of covariance terms that only reflect variance from the general dimension. Rodriguez et al. (2016a) state that "when ECV is > .70 and PUC > .70 relative bias will be slight and the common variance can be regarded as essentially unidimensional" (p. 232). Reise et al. (2013b) claim that "when PUC values are lower than .80, general ECV values greater than .60 and omegaH > .70 (of the general factor) suggest that the presence of some multidimensionality is not severe enough to disqualify the interpretation of the instrument as primarily unidimensional" (p. 22). Finally, I-ECV can be computed at the item level to identify the percent of item common variance attributable to a general factor (Stucky et al., 2013).

Analyses were carried out on facet total scores following the original study (Krueger et al., 2012) and subsequent validation studies (e.g., Bagby et al., 2022; Coelho et al., 2022; Gutiérrez et al., 2017; Koster et al., 2020; Labancz et al., 2022; Maples et al., 2015; Wright et al., 2012). All CFA analyses were performed using LISREL 8.80 for Windows (Jöreskog & Sörbom, 2006). Bifactor coefficients were computed using the Bifactor Indices Calculator (Dueber, 2017).

RESULTS

DESCRIPTIVE STATISTICS

In a first step, means, standard deviations, skewness, and kurtosis were calculated (see Table 1). Kolmogorov-Smirnov test yielded a *p*-value of $p < .001$ for all the variables, which allows the null hypothesis of univariate normal distribution to be rejected. The multivariate normality hypothesis was also rejected since the Mardia (1970) coefficient showed significant kurtosis ($p < .001$). Cronbach's α values for the scales negative affectivity, detachment, antagonism, disinhibition, and psychoticism in the current study were .92, .88, .88, .87, and .86 respectively.

Table 1

Descriptive statistics of the PID-5 facets and domains

PID-5	*M*	*SD*	Skew	Kurt	K-S[1]	*p*
Facets						
1. Withdrawal	2.12	1.01	0.67	−0.43	.15	.001
2. Anhedonia	2.05	0.90	0.88	0.08	.14	.001
3. Intimacy avoidance	1.86	0.90	1.12	0.68	.17	.001
4. Restricted affectivity	2.59	0.93	0.34	−0.50	.08	.001
5. Eccentricity	2.27	1.02	0.66	−0.46	.11	.001
6. Perceptual dysregulation	1.68	0.81	1.36	1.38	.20	.001
7. Unusual beliefs and experiences	1.76	0.88	1.38	1.44	.19	.001
8. Grandiosity	1.87	0.79	1.00	0.75	.13	.001
9. Attention seeking	2.31	1.03	0.53	−0.54	.11	.001
10. Manipulativeness	2.16	0.83	0.82	0.39	.14	.001
11. Deceitfulness	1.74	0.81	1.28	1.54	.18	.001
12. Callousness	1.44	0.69	2.22	5.53	.27	.001
13. Risk taking	1.79	0.73	1.08	1.02	.14	.001
14. Impulsivity	2.06	0.93	0.79	−0.11	.14	.001
15. Irresponsibility	1.81	0.73	1.01	0.98	.14	.001
16. Distractibility	2.62	1.09	0.34	−0.79	.08	.001
17. Rigid perfectionism	2.26	1.34	0.72	−0.72	.23	.001
18. Anxiousness	2.75	0.94	0.29	−0.59	.08	.001
19. Depressivity	2.04	0.89	0.99	0.34	.14	.001
20. Submissiveness	2.43	0.97	0.47	−0.34	.09	.001
21. Emotional lability	2.78	0.93	0.33	−0.26	.09	.001
22. Separation insecurity	2.01	0.94	0.97	0.34	.14	.001
23. Perseveration	2.51	0.94	0.21	−0.73	.08	.001
24. Hostility	2.45	0.95	0.35	−0.57	.10	.001
25. Suspiciousness	2.43	0.95	0.46	−0.41	.10	.001
Domains					.29	.001
Detachment	2.17	0.73	0.60	−0.04	.09	.001
Psychoticism	1.93	0.75	0.84	0.05	.10	.001
Antagonism	1.90	0.61	1.04	1.45	.07	.001
Disinhibition	2.11	0.68	0.68	0.20	.11	.001
Negative affectivity	2.41	0.65	0.46	−0.20	.07	.001

Note. [1]Lilliefors significance correction; skew – skewness; kurt – kurtosis; PID-5 – Personality Inventory for the DSM-5.

CONFIRMATORY FACTOR ANALYSIS

The fit values for the tested models are shown in Table 2. All models obtained a good fit as they reached appropriate CFI (> .90) and RMSEA (< .08) values. However, the bifactor model provided the best fit (CFI ≥ .95; RMSEA ≤ .06) and was the only one with adequate SRMR values (< .08; Browne & Cudeck, 1992; Hu & Bentler, 1999).

M1, the five correlated-factor model, fit the data well: χ^2 = 1113.94 (265), p < .001; CFI = .983; RMSEA = .041, 90% CI [.036; .047]. The estimated

Table 2

Fit indices for the tested models

Model	χ^2	*df*	S-B χ^2	CFI	RMSEA [90% CI]	SRMR	AIC Model	CAIC Model
1. Five-factor oblique	1113.95	265	506.16	.983	.041 [.036; .047]	.083	626.16	941.96
2. Second order: five first-order factors and one second-order factor	1173.94	270	522.95	.982	.041 [.036; .047]	.084	632.95	922.44
3. Bifactor	923.88	250	381.94	.990	.032 [.025; .038]	.075	531.94	926.70
4. One factor	1245.43	275	886.78	.958	.065 [.060; .070]	.105	986.78	1249.95

Note. df – degrees of freedom; S-B χ^2 – Satorra-Bentler scaled chi-square; CFI – comparative fit index; RMSEA – root mean square error of approximation; CI – confidence interval; SRMR – standardized root mean square residual; AIC – Akaike information criterion; CAIC – constant AIC.

parameters were all significant ($p < .01$) and ranged from .47 to .84 (see Table S1 in Supplementary materials). The correlations between factors were all positive and ranged from .40 (e.g., between detachment and antagonism) to .74 (e.g., between negative affectivity and disinhibition).

M2, second-order factor, also had a good fit, but slightly lower than M1: $\chi^2 = 1173.94$ (270), $p < .001$; CFI = .982; RMSEA = .041, 90% CI [.036; .047]. This model had the lowest CAIC (922.43), although it has far from good SRMR values (.084). It had good factor loadings that were all significant ($p < .01$) and ranged from .46 to .84 (see Table S2 in Supplementary materials). The correlations between the second-order factor (p) and the first-order factors ranged between .61 and .86. Correlations were also observed between the first order factors (between .38 and .73) and were quite similar to M1.

M3, bifactor showed the best fit to the data: $\chi^2 = 923.88$ (250), $p < .001$; CFI = .99; RMSEA = .032, 90% CI [.025; .038]. S-B χ^2 was the lowest of all the models (381.94). It is the only one that reaches a CFI of .99. Furthermore, only this model approaches the appropriate cut-off point for SRMR (< .075), and presents optimal RMSEA values (< .032; Hu & Bentler, 1999). However, it should be noted that the CAIC (926.70) was slightly better in Model 2, although the differences are minimal.

Finally, M4, the one-factor model, showed a good fit, although lower than rival models: $\chi^2 = 1245.43$ (275), $p < .001$; CFI = .958; RMSEA = .065, 90% CI [.060; .070]. This model had an inadequate SRMR (.105). Factor loadings ranged from .31 to .67 (see Table 3 in Supplementary materials). Consequently, M3 was chosen.

Table 3 shows the factor loadings of the best-fit model, M3 bifactor. As can be seen, the items (facets) loaded significantly on the general factor, and also had loadings on their expected specific factor. Item loadings on SF differed from item loadings on GF by the corresponding factor: the contribution of the SF in some cases is above the GF, and in other cases, it is below. Although most of the items had loads above .30, there were three exceptions with low loads in the SF but higher in the GF and vice versa (hostility SF = .08, GF = .56; suspiciousness SF = .13, GF = .70; and risk-taking SF = .15, GF = .69). In general, factor loadings of the SF are lower than in Models 1 and 2. In many cases, they are absorbed by the GF.

Regarding the bifactor model-based indices, omega was high for GF (total scores) .93, and omegas (ωs) were acceptable: negative affectivity = .85, detachment = .78, psychoticism = .76, antagonism = .79, disinhibition = .77. ωH was .80, which would allow one to conclude, at least partially, in favor of unidimensionality. A high ωH implies that the scores predominantly capture the general factor and, in turn, are due to a single common source even in a multidimensional model (Rodriguez et al., 2016a). ωHs values were: antagonism = .50, detachment = .47, psychoticism = .31, negative affectivity = .28, and disinhibition = .19. According to Smits et al. (2015), antagonism, detachment and psychoticism reflect a substantial proportion of common variance that is unique from the general factor; negative affectivity reflects a moderate proportion of unique variance (between .30 and .20), and disinhibition shows a low (< 20) proportion of unique variance. The H value for the GF was satisfactory (.91), but for the SF values were low (antagonism = .68; negative affectivity = .67; detachment = .63; psychoticism = .46; disinhibition = .37). The coefficients of the specific and general factors differ, obtaining H < .70 for all the specific factors, thereby providing additional evidence in favor of the general factor.

Table 3

Confirmatory factor analysis of the Personality Inventory for DSM-5 scales: standardized factor loadings based on best-fitting model (bifactor)

PID-5 scales (Facets)	Detachment	Psychoticism	Antagonism	Disinhibition	Negative affectivity	General factor (p)	ECV-I[1]
1. Withdrawal	.45					.48	.53
2. Anhedonia	.49					.55	.56
3. Intimacy avoidance	.51					.28	.23
4. Restricted affectivity	.66					.41	.28
5. Eccentricity		.41				.65	.72
6. Perceptual dysregulation		.37		.		.63	.74
7. Unusual beliefs and experiences		.57				.37	.30
8. Grandiosity			.56			.29	.21
9. Attention seeking			.52			.28	.23
10. Manipulativeness			.67			.39	.25
11. Deceitfulness			.52			.56	.54
12. Callousness			.31			.41	.64
13. Risk taking				.15		.69	.95
14. Impulsivity				.33		.53	.72
15. Irresponsibility				.40		.51	.62
16. Distractibility				.38		.61	.72
17. Rigid perfectionism				.30		.39	.63
18. Anxiousness					.71	.46	.30
19. Depressivity					.28	.68	.85
20. Submissiveness					.45	.35	.38
21. Emotional lability					.50	.38	.37
22. Separation insecurity					.44	.39	.44
23. Perseveration					.33	.62	.78
24. Hostility					.08	.56	.98
25. Suspiciousness					.13	.70	.97

Note. [1]I-ECV is the item explained common variance attributable to a general factor. Estimated coefficients were all significant ($p < .01$).

The ECV was just under .60 (i.e., ECV = .56). This suggests that the PID-5 may not be purely unidimensional but may have a structure that is at least somewhat multidimensional (Rodriguez et al., 2016b). As expected, subscores for the multiple subscales will provide added value over simply reporting a total score. PUC was high (.81), so relative bias still is small (Rodriguez et al., 2016a). These results, taken together (ECV, PUC, and high values of omega, ωH, and H values), can be interpreted as supporting a robust general factor, but the GF alone is not sufficient to describe the data. Specific factors (domains) add information beyond the GF.

Four facets (see Table 3) had substantial I-ECV values (>.80): hostility, suspiciousness, depressivity (negative affectivity), and risk-taking (disinhibition), suggesting that they are relatively pure markers of the general factor and not their corresponding spe-

cific factor (see Rodriguez et al., 2016b). On the other hand, some facets are strong markers of the general and specific factors (e.g., .50) with corresponding I-ECV values around .50 (e.g., withdrawal, anhedonia, and deceitfulness).

DISCUSSION

The present work aimed to examine the underlying structure of the pathological personality traits of the AMPD model (APA, 2013). For this purpose, different alternative models were compared using CFA. Overall, the results provided evidence compatible with the idea of a general factor of psychopathology. The bifactor model provided a better fit than the original model (with five correlated factors) and the second-order model (with a higher-order factor, p). The one-dimensional model obtained the lowest fit; therefore, p alone would not be enough to describe the underlying structure. Specific factors (domains) add information beyond p. Thus, the bifactor model could be accepted as the best representation of the data.

These findings, while preliminary, suggest that the observed variables reflect five specific pathological personality traits (which correspond to those of AMPD) but also a general factor (which would reflect a general propensity for psychopathology), in line with Caspi et al. (2014), Caspi and Moffitt (2018), and Lahey et al. (2012). According to studies of personality disorder criteria, the general factor represents features of core personality functioning (their severity), whereas the specific factors denote personality style (their content; e.g., detachment, antagonism) (Ringwald et al., 2019). This differentiation could partly explain the high comorbidity among PD, since the most severe cases would meet more than one disorder criteria. Shields et al. (2021) argues that studying the p factor is crucial to identifying transdiagnostic vulnerability to mental disorders.

Additionally, the general factor observed in this work is consistent with previous studies (Gomez et al., 2020; Gutierrez et al., 2021; Montes & Sánchez, 2019) and could explain the substantive cross-loadings between several facets observed across several studies (DeYoung & Krueger, 2018; Krueger et al., 2012; Lahey et al., 2017; Watters & Bagby, 2018; Wright et al., 2012; Sanchez et al., 2023).

LIMITATIONS AND FUTURE RESEARCH

The present study has several limitations. Probably the most important is related to flaws inherent to this version of the PID-5. We worked with a modified version that needs more evidence of validity, which may reduce the scope of the conclusions derived from this work. Although this version showed good psychometric properties (Sanchez et al., 2023), some facets had modest reliability, which could have affected some domain's values.

Secondly, because we used a convenience sample (only 23.8% were undergoing psychological and/or psychiatric treatment), the findings here may not be applicable to other samples, including clinical samples. In addition, the sample composition (mainly female) limits the possibility of generalizing the results. Therefore, this research should be replicated with clinical population data (e.g., to study the ability of the PID-5 to differentiate clinical from non-clinical samples).

Third, the bifactor model itself also has some drawbacks that must be considered. Although the statistical results suggest latent variables, this does not necessarily mean the existence of an underlying structure of psychopathology. Conversely, these results could be only a statistical artifice (Bonifay et al., 2017; Forbes et al., 2021; Greene et al., 2019). As Reise et al. (2016) point out, one should be cautious in concluding that the bifactor model is better only based on a superior model fit. For this reason, in this work, we used different criteria, including theoretical considerations (as mentioned above) and statistical indices derived from bifactor models (e.g., ECV, PUC, H). As noted by Caspi and Moffitt (2018), any new proposal must be supported with contributions from other areas of knowledge (e.g., genetic and neuropsychological aspects, developmental psychopathology). These contributions can provide a broader framework for empirical findings. Thus, a new psychopathological model, clinically useful, must articulate the available empirical evidence with theoretical work.

Fourth, the interpretation of the p factor can be confusing. This construct has been understood heterogeneously as a general vulnerability to psychopathology, a general maladaptation, a risk of a greater propensity for mental disorders, as the result of maladaptive consequences shared by all disorders, or even as a response bias (Caspi et al., 2014; Gutierrez et al., 2021; Ruggero et al., 2019). Future research would benefit from further understanding how this general factor, specifically in personality psychopathology, is understood. In this sense, the relationship with criterion A could help to clarify the meaning of the general factor. In fact, previous research has shown that measures of criterion A and B are highly correlated, and that criterion B is informative of criterion A severity (see for example Bastiaens et al., 2021; Zimmermann et al., 2019).

Despite these limitations, this study provides support for the existence of a strong general factor of personality psychopathology. The results can contribute to a better understanding of the underlying structure of the AMPD, assessed with an Argentine version of the PID-5.

Supplementary materials are available on journal's website.

References

Al-Dajani, N., Gralnick, T. M., & Bagby, R. M. (2016). A psychometric review of the Personality Inventory for DSM-5 (PID-5): Current status and future directions. *Journal of Personality Assessment, 98*, 62–81. https://doi.org/10.1080/00223891.2015.1107572

APA (1952). *Diagnostic and statistical manual of mental disorders*. APA Publishing.

APA (2013). *Diagnostic and statistical manual of mental disorders. DSM-5* (5th ed.). APA Publishing.

Bagby, R. M., Keeley, J. W., Williams, C. C., Mortezaei, A., Ryder, A. G., & Sellbom, M. (2022). Evaluating the measurement invariance of the Personality Inventory for DSM-5 (PID-5) in Black Americans and White Americans. *Psychological Assessment, 34*, 82–90. https://doi.org/10.1037/pas0001085

Bastiaens, T., Wilderjans, T. F., Bogaerts, A., Lowyck, B., Luyckx, K., De Hert, M., Vanwalleghem, D., & Claes, L. (2021). Model-based PID-5 domain clusters and levels of impairment in self and interpersonal functioning. *Personality and Individual Differences, 171*, 110477. https://doi.org/10.1016/j.paid.2020.110477

Bonifay, W., Lane, S. P., & Reise, S. P. (2017). Three concerns with applying a bifactor model as a structure of psychopathology. *Clinical Psychological Science, 5*, 184–186. https://doi.org/10.1177/2167702616657069

Bonifay, W. E., Reise, S. P., Scheines, R., & Meijer, R. R. (2015). When are multidimensional data unidimensional enough for structural equation modeling? An evaluation of the DETECT multidimensionality index. *Structural Equation Modeling, 22*, 504–516. https://doi.org/10.1080/10705511.2014.938596

Browne, M. W., & Cudeck, R. (1992). Alternative ways of assessing model fit. *Sociological Methods & Research, 21*, 230–258. https://doi.org/10.1177/0049124192021002005

Caspi, A., Houts, R. M., Belsky, D. W., Goldman-Mellor, S. J., Harrington, H., Israel, S., Meier, M. H., Ramrakha, S., Shalev, I., Poulton, R., & Moffitt, T. E. (2014). The p factor: One general psychopathology factor in the structure of psychiatric disorders? *Clinical Psychological Science, 2*, 119–137. https://doi.org/10.1177/2167702613497473

Caspi, A., & Moffitt, T. E. (2018). All for one and one for all: Mental disorders in one dimension. *The American Journal of Psychiatry, 175*, 831–844. https://doi.org/10.1176/appi.ajp.2018.17121383

Coelho, O., Pires, R., Ferreira, A. S., Gonçalves, B., Alkhoori, S. A., Sayed, M., El-Rasheed, A., Al-Jassmi, M., Henriques-Calado, J., & Stocker, J. (2022). Cross-cultural Study of the Personality Inventory for the DSM-5 (PID-5) across the Portuguese and the United Arab Emirates (UAE) community and clinical populations. *Clinical Practice and Epidemiology in Mental Health, 18*. https://doi.org/10.2174/17450179-v18-e2207130

Conway, C. C., Forbes, M. K., Forbush, K. T., Fried, E. I., Hallquist, M. N., Kotov, R., Mullins-Sweatt, S. N., Shackman, A. J., Skodol, A. E., South, S. C., Sunderland, M., Waszczuk, M. A., Zald, D. H., Afzali, M. H., Bornovalova, M. A., Carragher, N., Docherty, A. R., Jonas, K. G., Krueger, R. F., Patalay, P., … Eaton, N. R. (2019). A hierarchical taxonomy of psychopathology can transform mental health research. *Perspectives on Psychological Science, 14*, 419–436. https://doi.org/10.1177/1745691618810696

DeYoung, C. G., Chmielewski, M., Clark, L. A., Condon, D. M., Kotov, R., Krueger, R. F., Lynam, D. R., Markon, K. E., Miller, J. D., Mullins-Sweatt, S. N., Samuel, D. B., Sellbom, M., South, S. C., Thomas, K. M., Watson, D., Watts, A. L., Widiger, T. A., & Wright, A. G. C. (2020). The distinction between symptoms and traits in the hierarchical taxonomy of psychopathology (HiTOP). *Journal of Personality, 90*, 20–33. https://doi.org/10.1111/jopy.12593

DeYoung, C. G., & Krueger, R. F. (2018). A cybernetic theory of psychopathology. *Psychological Inquiry, 29*, 117–138. https://doi.org/10.1080/1047840X.2018.1513680

Dueber, D. M. (2017). *Bifactor Indices Calculator: a Microsoft Excel-based tool to calculate various indices relevant to bifactor CFA models*. https://doi.org/10.13023/edp.tool.01

First, M. B., Bell, C. C., Cuthbert, B., Krystal, J. H., Malison, R., Offord, D. R., Reiss, D., Shea, M. T., Widiger, T., & Wisner, K. L. (2002). Personality disorders and relational disorders: a research agenda for addressing crucial gaps in DSM. In D. J. Kupfer, M. B. First, & D. A. Regier (Eds.), *A research agenda for DSM-5* (pp. 123–199). APA Publishing.

Forbes, M. K., Greene, A. L., Levin-Aspenson, H. F., Watts, A. L., Hallquist, M., Lahey, B. B., Markon, K. E., Patrick, C. J., Tackett, J. L., Waldman, I. D., Wright, A. G. C., Caspi, A., Ivanova, M., Kotov, R., Samuel, D. B., Eaton, N. R., & Krueger, R. F. (2021). Three recommendations based on a comparison of the reliability and validity of the predominant models used in research on the empirical structure of psychopathology. *Journal of Abnormal Psychology, 130*, 297–317. https://doi.org/10.1037/abn0000533

Greene, A. L., Eaton, N. R., Li, K., Forbes, M. K., Krueger, R. F., Markon, K. E., Waldman, I. D., Cicero, D. C., Conway, C. C., Docherty, A. R., Fried, E. I., Ivanova, M. Y., Jonas, K. G., Latzman, R. D., Patrick, C. J., Reininghaus, U., Tackett, J. L., Wright, A. G. C., & Kotov, R. (2019). Are fit indices used to test psychopathology structure biased? A simulation study. *Journal of Abnormal Psychology, 128*, 740–764. https://doi.org/10.1037/abn0000434

Gomez, R., Watson, S., & Stavropoulos, V. (2020). Personality inventory for DSM-5, brief form: Factor structure, reliability, and coefficient of congruence. *Personality Disorders: Theory, Research, and Treatment, 11*, 69–77. https://doi.org/10.1037/per0000364

Gutiérrez, F., Aluja, A., Peri, J. M., Calvo, N., Ferrer, M., Baillés, E., Gutiérrez-Zotes, J. A., Gárriz, M., Caseras, X., Markon, K. E., & Krueger, R. F. (2017). Psychometric properties of the Spanish PID-5 in a clinical and a community sample. *Assessment, 24*, 326–336. https://doi.org/10.1177/1073191115606518

Gutiérrez, F., Peri, J. M., Gárriz, M., Vall, G., Arqué, E., Ruiz, L., Condomines, J., Calvo, N., Ferrer, M., & Sureda, B. (2021). Integration of the ICD-11 and DSM-5 dimensional systems for personality disorders into a unified taxonomy with non-overlapping traits. *Frontiers in Psychiatry, 12*, 591934. https://doi.org/10.3389/fpsyt.2021.591934

Hancock, G. R. (2001). Effect size, power, and sample size determination for structured means modeling and MIMIC approaches to between-groups hypothesis testing of means on a single latent construct. *Psychometrika, 66*, 373–388. https://doi.org/10.1007/BF02294440

Haslam, N., Holland, E., & Kuppens P. (2012). Categories versus dimensions in personality and psychopathology: a quantitative review of taxometric research. *Psychological Medicine, 42*, 903–920. https://doi.org/10.1017/S0033291711001966

Haslam, N., McGrath, M. J., Viechtbauer, W., & Kuppens, P. (2020). Dimensions over categories: a meta-analysis of taxometric research. *Psychological Medicine, 50*, 1418–1432. https://doi.org/10.1017/S003329172000183X

Hopwood, C. J., Kotov, R., Krueger, R. F., Watson, D., Widiger, T. A., Althoff, R. R., Ansell, E. B., Bach, B., Michael Bagby, R., Blais, M. A., Bornovalova, M. A., Chmielewski, M., Cicero, D. C., Conway, C., De Clercq, B., De Fruyt, F., Docherty, A. R., Eaton, N. R., Edens, J. F., Forbes, M. K., … Zimmermann, J. (2018). The time has come for dimensional personality disorder diagnosis. *Personality and Mental Health, 12*, 82–86. https://doi.org/10.1002/pmh.1408

Hu, L., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling, 6*, 1–55. https://doi.org/10.1080/10705519909540118

Jöreskog, K. G., & Sörbom, D. (2006). *LISREL 8.80.* Scientific Software International.

Kessler, R. C., Chiu, W. T., Demler, O., Merikangas, K. R., & Walters, E. E. (2005). Prevalence, severity, and comorbidity of twelve-month DSM-IV disorders in the National Comorbidity Survey Replication (NCS-R). *Archives of General Psychiatry, 62*, 617–627. https://doi.org/10.1001/archpsyc.62.6.617

Koster, N., Laceulle, O. M., Van der Heijden, P. T., Klimstra, T., De Clercq, B., Verbeke, L., De Caluwé, E. A. L., & Van Aken, M. A. G. (2020). A psychometric evaluation of a reduced version of the PID-5 in clinical and non-clinical adolescents. *European Journal of Psychological Assessment, 36*, 758–766. https://doi.org/10.1027/1015-5759/a000552

Kotov, R., Krueger, R. F., Watson, D., Achenbach, T. M., Althoff, R. R., Bagby, R. M., Brown, T. A., Carpenter, W. T., Caspi, A., Clark, L. A., Eaton, N. R., Forbes, M. K., Forbush, K. T., Goldberg, D., Hasin, D., Hyman, S. E., Ivanova, M. Y., Lynam, D. R., Markon, K., Miller, J. D., … Zimmerman, M. (2017). The Hierarchical Taxonomy of Psychopathology (HiTOP): a dimensional alternative to traditional nosologies. *Journal of Abnormal Psychology, 126*, 454–477. https://doi.org/10.1037/abn0000258

Kotov, R., Jonas, K. G., Carpenter, W. T., Dretsch, M. N., Eaton, N. R., Forbes, M. K., Forbush, K. T., Hobbs, K., Reininghaus, U., Slade, T., South, S. C., Sunderland, M., Waszczuk, M. A., Widiger, T. A., Wright, A. G. C., Zald, D. H., Krueger, R. F., Watson, D., & HiTOP Utility Workgroup (2020). Validity and utility of Hierarchical Taxonomy of Psychopathology (HiTOP): I. Psychosis superspectrum. *World Psychiatry, 19*, 151–172. https://doi.org/10.1002/wps.20730

Krueger, R. F., Derringer, J., Markon, K. E., Watson, D., & Skodol, A. E. (2012). Initial construction of a maladaptive personality trait model and inventory for DSM-5. *Psychological Medicine, 42*, 1879–1890. https://doi.org/10.1017/S0033291711002674

Krueger, R. F., Kotov, R., Watson, D., Forbes, M. K., Eaton, N. R., Ruggero, C. J., Simms, L. J., Widiger, T. A., Achenbach, T. M., Bach, B., Bagby, R. M., Bornovalova, M. A., Carpenter, W. T., Chmielewski, M., Cicero, D. C., Clark, L. A., Conway, C., DeClercq, B., DeYoung, C. G., Docherty, A. R., … Zimmermann, J. (2018). Progress in achieving quantitative classification of psychopathology. *World Psychiatry, 17*, 282–293. https://doi.org/10.1002/wps.20566

Krueger, R. F., & Markon, K. E. (2014). The role of the DSM-5 personality trait model in moving toward a quantitative and empirically based approach to classifying personality and psychopathology. *Annual Review of Clinical Psychology, 10*, 477–501. https://doi.org/10.1146/annurev-clinpsy-032813-153732

Kupfer, D. J., First, M. B., & Regier, D. A. (Eds.). (2002). *A research agenda for DSM-5.* APA Publishing.

Labancz, E., Balázs, K., & Kuritárné Szabó, I. (2022). The psychometric properties of the Hungarian version of the Personality Inventory for DSM-5 in a clinical and a community sample. *Current Psychology, 41*, 3236–3246. https://doi.org/10.1007/s12144-020-00831-z

Lahey, B. B., Applegate, B., Hakes, J. K., Zald, D. H., Hariri, A. R., & Rathouz, P. J. (2012). Is there a gen-

eral factor of prevalent psychopathology during adulthood? *Journal of Abnormal Psychology, 121*, 971–977. https://doi.org/10.1037/a0028355

Lahey, B. B., Krueger, R. F., Rathouz, P. J., Waldman, I. D., & Zald, D. H. (2017). A hierarchical causal taxonomy of psychopathology across the life span. *Psychological Bulletin, 143*, 142–186. https://doi.org/10.1037/bul0000069

Li, C. H. (2016). Confirmatory factor analysis with ordinal data: Comparing robust maximum likelihood and diagonally weighted least squares. *Behavior Research Methods, 48*, 936–949. https://doi.org/10.3758/s13428-015-0619-7

Livesley, J. (2012). Tradition versus empiricism in the current DSM-5 proposal for revising the classification of personality disorders. *Criminal Behaviour and Mental Health, 22*, 81–90. https://doi.org/10.1002/cbm.1826

Mardia, K. V. (1970). Measures of multivariate skewness and kurtosis with applications. *Biometrika, 57*, 519–530. https://doi.org/10.2307/2334770

Maples, J. L., Carter, N. T., Few, L. R., Crego, C., Gore, W. L., Samuel, D. B., Williamson, R. L., Lynam, D. R., Widiger, T. A., Markon, K. E., Krueger, R. F., & Miller, J. D. (2015). Testing whether the DSM-5 personality disorder trait model can be measured with a reduced set of items: an item response theory investigation of the Personality Inventory for DSM-5. *Psychological Assessment, 27*, 1195–1210. https://doi.org/10.1037/pas0000120

McDonald, R. P. (1999). *Test theory: a unified approach*. Erlbaum.

Millon, T. (1969). *Modern psychopathology: a biosocial approach to maladaptive learning and functioning*. Saunders.

Mîndrilă, D. (2010). Maximum likelihood (ML) and diagonally weighted least squares (DWLS) estimation procedures: a comparison of estimation bias with ordinal and multivariate non-normal data. *International Journal of Digital Society, 1*, 60–66. https://doi.org/10.20533/ijds.2040.2570.2010.0010

Montes, S. A., & Sánchez, R. O. (2019). El factor p. ¿La estructura subyacente a la psicopatología? [The p factor. The structure underlying psychopathology?]. *Revista Evaluar, 19*, 20–41. https://doi.org/10.35670/1667-4545.v19.n3.26774

Reise, S. P. (2012). The rediscovery of bifactor measurement models. *Multivariate Behavioral Research, 47*, 667–696. https//doi.org/10.1080/00273171.2012.7155

Reise, S. P., Bonifay, W. E., & Haviland, M. G. (2013a). Scoring and modeling psychological measures in the presence of multidimensionality. *Journal of Personality Assessment, 95*, 129–140. https://doi.org/10.1080/00223891.2012.725437

Reise, S. P., Scheines, R., Widaman, K. F., & Haviland, M. G. (2013b). Multidimensionality and structural coefficient bias in structural equation modeling: a bifactor perspective. *Educational and Psychological Measurement, 73*, 5–26. https://doi.org/10.1177/0013164412449831

Reise, S. P., Kim, D. S., Mansolf, M., & Widaman, K. F. (2016). Is the bifactor model a better model or is it just better at modeling implausible responses? Application of iteratively reweighted least squares to the Rosenberg Self-Esteem scale. *Multivariate Behavioral Research, 51*, 818–838. https://doi.org/10.1080/00273171.2016.1243461

Ringwald, W. R., Beeney, J. E., Pilkonis, P. A., & Wright, A. G. (2019). Comparing hierarchical models of personality pathology. *Journal of Research in Personality, 81*, 98–107. https://doi.org/10.1016/j.jrp.2019.05.011

Rodriguez, A., Reise, S. P., & Haviland, M. G. (2016a). Applying bifactor statistical indices in the evaluation of psychological measures. *Journal of Personality Assessment, 98*, 223–237. https://doi.org/10.1080/00223891.2015.1089249

Rodriguez, A., Reise, S. P., & Haviland, M. G. (2016b). Evaluating bifactor models: Calculating and interpreting statistical indices. *Psychological Methods, 21*, 137–150. https://doi.org/10.1037/met0000045

Ruggero, C. J., Kotov, R., Hopwood, C. J., First, M., Clark, L. A., Skodol, A. E., Mullins-Sweatt, S. N., Patrick, C. J., Bach, B., Cicero, D. C., Docherty, A., Simms, L. J., Bagby, R. M., Krueger, R. F., Callahan, J. L., Chmielewski, M., Conway, C. C., De Clercq, B., Dornbach-Bender, A., Eaton, N. R., … Zimmermann, J. (2019). Integrating the Hierarchical Taxonomy of Psychopathology (HiTOP) into clinical practice. *Journal of Consulting and Clinical Psychology, 87*, 1069–1084. https://doi.org/10.1037/ccp0000452

Sánchez, R. O. (2019). Modelos dimensionales para los trastornos de la personalidad: un proceso inconcluso [Dimensional models for personality disorders: an unfinished process]. *Revista Argentina de Clínica Psicológica, 28*, 714–726.

Sanchez, R., Montes, S., Galarza, A., Somerstein, D., & Gainza, M. (2023). Una versión reducida y modificada del Inventario de Personalidad para el DSM-5 (PID-5) en la Argentina [A reduced and modified version of the Personality Inventory for the DSM-5 (PID-5) in Argentina]. *Revista Interdisciplinaria, 40*, 115–136. https://doi.org/10.16888/interd.2023.40.1.7

Sanchez, R., Montes, S., & Somerstein, D. (2020). Inventario de personalidad para el DSM-5: Propiedades psicométricas en población argentina. Estudio preliminar [Personality Inventory for the DSM-5: Psychometric properties in Argentine population. Preliminary study]. *Revista Interdisciplinaria*, *37*, 55–76. https://doi.org/10.16888/interd.2020.37.1.4

Satorra, A., & Bentler, P. M. (1990). Model conditions for asymptotic robustness in the analysis of linear relations. *Computational Statistics & Data*

Analysis, 10, 235–249. https://doi.org/10.1016/0167-9473(90)90004-2

Shedler, J., Beck, A., Fonagy, P., Gabbard, G., Gunderson, J., Kernberg, O., Michels, R., & Westen, D. (2010). Personality disorders in DSM-5. *American Journal of Psychiatry, 167*, 1026–1028. https://doi.org/10.1176/appi.ajp.2010.10050746

Simonsen, E., Ronningstam, E., & Millon, T. (2008). A synopsis of the WPA educational program on personality disorders. *World Psychiatry, 7*, 119–125. https://doi.org/10.1002/j.2051-5545.2008.tb00174.x

Shields, A. N., Giljen, M., España, R. A., & Tackett, J. L. (2021). The p factor and dimensional structural models of youth personality pathology and psychopathology. *Current Opinion in Psychology, 37*, 21–25. https://doi.org/10.1016/j.copsyc.2020.06.005

Sijtsma, K. (2009). On the use, the misuse, and the very limited usefulness of Cronbach's alpha. *Psychometrika, 74*, 107–120. https://doi.org/10.1007/s11336-008-9101-0

Smits, I. A. M., Timmerman, M. E., Barelds, D. P. H., & Meijer, R. R. (2015). The Dutch symptom checklist-90-revised: Is the use of the subscales justified? *European Journal of Psychological Assessment, 31*, 263–271. https://doi.org/10.1027/1015-5759/a000233

Stucky, B. D., Thissen, D., & Edelen, M. O. (2013). Using logistic approximations of marginal trace lines to develop short assessments. *Applied Psychological Measurement, 37*, 41–57. https://doi.org/10.1177/0146621612462759

Ten-Berge, J. M., & Sočan, G. (2004). The greatest lower bound to the reliability of a test and the hypothesis of unidimensionality. *Psychometrika, 69*, 613–625. https://doi.org/10.1007/BF02289858

Tyrer, P. (2005). The problem of severity in the classification of personality disorder. *Journal of Personality Disorders, 19*, 309–314. https://doi.org/10.1521/pedi.2005.19.3.309

Van de Schoot, R., Lugtig, P., & Hox, J. (2012). A checklist for testing measurement invariance. *European Journal of Developmental Psychology, 9*, 486–492. https://doi.org/10.1080/17405629.2012.686740

Verheul, R. (2012). Personality disorder proposal for DSM-5: a heroic and innovative but nevertheless fundamentally flawed attempt to improve DSM-IV. *Clinical Psychology and Psychotherapy, 19*, 369–371. https://doi.org/10.1002/cpp.1809

Waters, C. A., & Bagby, R. M. (2018). A meta-analysis of the five-factor internal structure of the Personality Inventory for DSM-5. *Psychological Assessment, 30*, 1255–1260. https://doi.org/10.1037/pas0000605

Widiger, T. (2013). A postmortem and future look at the personality disorders in DSM-5. *Personality Disorders: Theory, Research, and Treatment, 4*, 382–387. https://doi.org/10.1037/per0000030

Wright, A. G. C., Thomas, K. M., Hopwood, C. J., Markon, K. E., Pincus, A. L., & Krueger, R. F. (2012). The hierarchical structure of DSM-5 pathological personality traits. *Journal of Abnormal Psychology, 121*, 951–957. https://doi.org/10.1037/a0027669

Zinbarg, R. E., Yovel, I., Revelle, W., & McDonald, R. P. (2006). Estimating generalizability to a latent variable common to all of a scale's indicators: a comparison of estimators for ωh. *Applied Psychological Measurement, 30*, 121–144. https://doi.org/10.1177/0146621605278814

Zimmermann, J., André Kerber, A., Rek, K., Hopwood, C. J., & Krueger, R. F. (2019). A brief but comprehensive review of research on the Alternative DSM-5 Model for Personality Disorders. *Current Psychiatry Reports, 21*, 92. https://doi.org/10.1007/s11920-019-1079-z