Investigating the Validity and Measurement Invariance of the Personality Inventory for DSM-5 Faceted Brief Form among French-speaking Clinical and Nonclinical Samples

Philippe Leclerc[1], Claudia Savard[2,3,4], Martin Sellbom[5], Alexandre Côté[1], Marie-Chloé Nolin[1,4],

Maude Payant[6], David Roy[7], & Dominick Gamache[1,3,4]

[1]Département de psychologie, Université du Québec à Trois-Rivières,

3600, rue Sainte-Marguerite (Pavillon Michel-Sarrazin), Trois-Rivières, QC, G9A 5H7, Canada

[2]Département des fondements et pratiques en éducation, Université Laval,

2320, allée des Bibliothèques (Pavillon des Sciences de l'éducation), Québec, QC, G1V 0A6,

Canada

[3]CERVO Brain Research Centre,

2301, avenue D'Estimauville, Québec, QC, G1E 1T2, Canada

[4]Interdisciplinary Research Centre on Intimate Relationship Problems and Sexual Abuse, Local

D-307, 90, avenue Vincent d'Indy (Pavillon Marie-Victorin), Montréal, QC, H2V 2S9, Canada

[5]Department of Psychology, University of Otago,

275, Leith Walk (William James Building), Dunedin North, Dunedin 9016, New Zealand

[6]Département de psychologie, Université du Québec à Montréal

100, rue Sherbrooke Ouest, Montréal, QC, H2X 3P2, Canada

[7]Centre intégré universitaire de santé et de services sociaux de la Capitale-Nationale

2915, avenue du Bourg-Royal, Québec, QC, G1C 3S2, Canada

Author Note

ORCID

Philippe Leclerc: https://orcid.org/0000-0003-2609-9275

Claudia Savard: https://orcid.org/0000-0002-1286-0257

Martin Sellbom: https://orcid.org/0000-0002-2883-6163

Marie-Chloé Nolin: https://orcid.org/0000-0001-8957-5481

Maude Payant: https://orcid.org/0000-0002-3731-7218

Dominick Gamache: https://orcid.org/0000-0002-8735-712X

E-mail addresses

Philippe Leclerc: philippe.leclerc@uqtr.ca

Claudia Savard: claudia.savard@fse.ulaval.ca

Martin Sellbom: martin.sellbom@otago.ac.nz

Alexandre Côté: alexandre.cote1@uqtr.ca

Marie-Chloé Nolin: marie-chloe.nolin@uqtr.ca

Maude Payant: payant.maude@courrier.uqam.ca

David Roy: david.roy.med@ssss.gouv.qc.ca

Dominick Gamache: dominick.gamache@uqtr.ca

Corresponding author

Philippe Leclerc, Département de psychologie, Université du Québec à Trois-Rivières, Trois-

Rivières, QC, G9A 5H7, Canada. Email: philippe.leclerc@uqtr.ca

Author contribution according to the Contributor Roles Taxonomy (CRediT)

Philippe Leclerc: conceptualization, data curation, formal analysis, methodology, writing—

original draft

Data availability

Due to ethical and privacy restrictions, the data is not publicly available, but could be provided

on reasonable request.

Abstract

There has been no proper validation of the Personality Inventory for the *Diagnostic and Statistical Manual of Mental Disorders* (PID-5) Faceted Brief Form (PID-5-FBF), a shortened 100-item version of the original PID-5, in the French language. In addition, more than one domain scoring procedure has been proposed in the literature, and no study has attempted to compare them from a factor analytic standpoint. Also, no study about the PID-5 (nor the PID-5-FBF) has been conducted with private practice clients, to the best of our knowledge, despite the fact that it is a very common clientele. This study seeks to (a) provide initial evidence of reliability and validity for the PID-5-FBF among French-speaking samples; (b) compare the structure of the PID-5-FBF while using two different domain scoring procedures; and (c) investigate its measurement invariance between sexes and across samples following a theoretical gradient of psychopathology. Indices of reliability and validity were documented among three samples: a community sample ($n = 526$, 49.8% women), private practice clients ($n = 544$, 64.0% women), and outpatients with personality disorder ($n = 288$, 61.5% women). Results generally showed good to excellent psychometric properties, providing initial support for the PID-5-FBF for research and clinical applications. The results of both scoring procedures were good, but one showed a clear advantage, by having notably cleaner loadings. Using stringent criteria, strict invariance was supported between sexes, while partial invariance was supported across samples. Clinical implications are discussed, notably pertaining to private practice clients, an understudied group.

Keywords: DSM-5, Alternative Model for Personality Disorders, Personality Inventory for DSM-5, psychometric validation, measurement invariance

Investigating the Validity and Measurement Invariance of the Personality Inventory for

DSM-5 Faceted Brief Form among French-speaking Clinical and Nonclinical Samples

The *Diagnostic and Statistical Manual of Mental Disorders* (5th ed.; DSM-5; American Psychiatric Association [APA], 2013) introduced a new hybrid categorical-dimensional framework to assess personality disorders (PDs), the Alternative Model for Personality Disorders (AMPD). The AMPD seeks both to build on present knowledge concerning PDs and to overcome the multiple limitations related to the current categorical classification (e.g., weak interrater reliability, heterogeneous profiles, limited clinical coverage, etc.; Hopwood et al., 2018). The AMPD is defined by two criteria. Criterion A was developed to serve as a general personality dysfunction indicator. Criterion B pertains to 25 maladaptive lower-order personality facets regrouped into five higher-order personality domains: Negative Affectivity, Detachment, Antagonism, Disinhibition, and Psychoticism. Its official APA-copyrighted measure is the Personality Inventory for DSM-5 (PID-5; Krueger et al., 2012), a 220-item self-report.

A shorter 100-item version, the Personality Inventory for DSM-5, Faceted Brief Form, Adult version (PID-5-FBF)[1], was derived (initially in English) from the original PID-5 item pool using Item Response Theory (Maples et al., 2015). Even after reducing by about 55% the total number of items, nearly identical reliability and validity indices were obtained. The psychometric equivalence between the original PID-5 and the PID-5-FBF was further supported in a head-to-head study (Bach et al., 2016). Parsimony is highly desirable in scale construction (e.g., for assessments in contexts where resources are limited, when many tests are administered, etc.), and it seems that a shorter iteration with comparable psychometric properties was achievable. A 25-item PID-5 also exists (Krueger et al., 2013), but, as stated by Maples and colleagues (2015), its

---

[1] Formerly referred to as the "Personality Inventory for DSM-5–Short Form" (PID-5-SF).

utility might be significantly limited by its capacity to assess domains only. Another shorter 34-item version has been recently proposed (Kerber et al., 2022), but its alignment with the AMPD is partial, as it can only assess 15 out of the 25 facets (e.g., Attention-Seeking, Callousness, Depressivity, Hostility, and Risk Taking are not present). This absence or partial representation of facets is a substantial drawback since all 25 facets are necessary to make up the six algorithm-based PD diagnoses as conceptualized by the AMPD[2]. Facets are also necessary to make up the new trait-specified PD (APA, 2013), which can be given when a PD is present, but the patient still does not "fit" into any of the six retained categorical PDs (APA, 2013). Therefore, the 100-item version (the PID-5-FBF), which can assess both higher-order domains and lower-order facets, seems to be an appropriate compromise between resource efficiency, depth of analysis, and usefulness for both clinical and research applications.

Despite that a proper validation of the internal structure of the original 220-item French PID-5 exists (Roskam et al., 2015), no data are currently available on its external validity, and no proper validation of the French PID-5-FBF has been conducted, to the best of our knowledge. This is a significant obstacle to the replicability of AMPD research in other languages, as well to its use in clinical practice. In addition, it is crucial to investigate the validity of the instruments across different populations to ensure that its use is indicated—especially when clinical decision-making is at stake (American Educational Research Association, American Psychological Association, & National Council on Measurement in Education, 2014).

Emphasizing the importance of replication and clinical relevance leads naturally to another important consideration: measurement invariance (MI). Indeed, making comparisons

---

[2] For instance, to qualify for a formal AMPD-based borderline PD diagnosis, the patient must have high elevations of four out of seven specific facets (i.e., Emotional Lability, Anxiousness, Separation Insecurity, Depressivity, Impulsivity, Risk Taking, Hostility), with at least one from the last three facets (APA, 2013).

between an individual and a reference group rests on the assumption that the scores generated will be invariant, that is, that they measure the same latent construct and are exempt from biases that may account for the observed score differences (Fischer & Karl, 2019). MI is also a necessary feature to make meaningful across-group comparisons or repeated measurements (e.g., clinical vs. nonclinical; pre- vs. post-intervention; Putnick & Bornstein, 2016). In a clinical setting, MI is particularly important for diagnostic considerations (e.g., to ensure that all groups have comparable chances of getting a given diagnosis; Suzuki et al., 2019). Some MI studies exist for the original PID-5 or the PID-5-FBF pertaining to some parameters. On the one hand, MI was notably supported for culture (Sorrel et al., 2021), sex (Suzuki et al., 2019), and community versus psychiatric membership (Bach et al., 2018; Somma, Krueger, Markon, Borroni, et al., 2019). On the contrary, MI was not supported based on White vs. Black American membership (Bagby et al., 2022), urging caution before generalizing MI to every group.

One such group for which the PID-5 (or the PID-5-FBF) invariance has not been investigated is clients drawn from private practice, which has been the object of few studies in general. Until now, doing research among "clinical samples" in the AMPD context has been mostly equated with research among psychiatric or correctional samples. This concern is not limited to AMPD research, as it had already been raised more than 15 years ago about the Minnesota Multiphasic Personality Inventory-2 (MMPI-2; see Sellbom et al., 2006). Nonetheless, this population seems independent from other groups. Indeed, they have an "intermediate" level of personality pathology, that is, somewhere in between community participants and psychiatric outpatients (e.g., Gamache et al., 2021), and consequently likely have distinct epidemiological PD rates. This lack of research is paradoxical considering that, for instance, in Canada and the United States, practitioners in private practice represent about 40–45% of licensed psychologists (Chodos, 2017; Hamp et al., 2016), making it the most common area of practice. Finally, private

practice clients are likely to be the object of psychological assessments (Sellbom et al., 2006),

and the "research–practice gap" among psychologists in this area of practice is still a matter of

concern (Stewart & Chambless, 2007). For instance, according to a survey conducted among

psychologists and other licensed psychotherapists, practitioners reported only rarely using

inventories (Bradley et al., 2019). Among those who did report using such tools, self-developed

(or ad hoc) inventories—that is, inventories not validated—were the most commonly used (half

of respondents reported using them at least "rarely"; Bradley et al., 2019), further underlining the

importance of expanding personality assessment research in this population to provide clinicians

with valid instruments.

Objectives

The first objective of the present study is to report initial data on the psychometric

properties of the French PID-5-FBF in both community and clinical samples, based on Classical

Test Theory (CTT). The following psychometric properties will be investigated: (a) internal

consistency; (b) construct validity using two domain scoring procedures detailed below (see third

objective); and (c) convergent-divergent validity. Based on previous research, some predictions

can be made: (a) Internal consistency indices should be high (Zimmermann et al., 2019); (b) A

clear and theoretically congruent five-factor solution should be obtained (Maples et al., 2015;

Roskam et al., 2015; Somma, Krueger, Markon, & Fossati, 2019); (c) Relations with external

criteria should be as follows (Widiger & Crego, 2019; Zimmermann et al., 2019): Negative

Affectivity and Detachment should be more closely linked with measures of internalizing

pathology, Disinhibition and Antagonism with measures of externalizing pathology, and

Psychoticism should have the least clear nomological network (as shown by weak to moderate

correlations with various criteria).

The second objective is to compare two domain scoring procedures that coexist in the literature (see Watters et al., 2019), but that have been the object of very little empirical attention. This is surprising considering that the facets incorporated into the higher-order domains are likely to affect the internal validity of the PID-5/PID-5-FBF. This topic is important to identify which is procedure is best, and therefore should be recommended, for both research and clinical practice. This article will address the issue from a factor analytic standpoint (i.e., by comparing the PID-5-FBF structure and its MI with both procedures), which has not been done, to the best of our knowledge.

Finally, the third objective is to further document the MI of the PID-5-FBF, using a stepped approach (i.e., configural, metric, scalar, strict). Based on previous research, it is predicted that the PID-5-FBF will reach scalar invariance for sex (Suzuki et al., 2019). Previously, community versus psychiatric membership reached scalar invariance (Bach et al., 2018). Therefore, even in the absence of past research in private practice samples, we hypothesize that the PID-5-FBF will reach (at least) scalar invariance with regard to private practice versus outpatient versus community membership (Bach et al., 2018). Mean differences on the latent factors are to be expected. Clinical samples (especially outpatients) are expected to have higher scores than the community sample (Bach et al., 2018; Somma, Krueger, Markon, Borroni, et al., 2019).

Methods

Participants and Procedures

Three French-speaking samples[3] (community participants, private practice clients, outpatients with personality disorder) were recruited in the Province of Quebec, Canada, to

---

[3] This study was not preregistered. The outpatient sample and a part of the private practice sample (44%) have already been used in other studies from our group. Nonetheless, this study represents an original analysis.

complete the French PID-5-FBF. The use of multiple samples is strongly encouraged in

validation studies (Fischer & Karl, 2019), and aims to increase data variability and the

generalizability of conclusions, following a theoretical gradient of psychopathology. The total

sample size (N = 1358), after participant deletion (details below), allows respecting both the

recommended "10 participants per question" rule-of-thumb ratio (i.e., 100 PID-5-FBF items*10

participants = 1000 participants; Nunnally, 1978) and falls into the "excellent" sample size for

scale validation (≥1000; Comrey & Lee, 1992). Available sociodemographic information for each

sample is provided in the supplemental material (see Table S1).

Community Sample

The community sample (n = 526, 49.8% women, M_{age} = 35.16, SD = 13.91, range = 18–

75) was recruited by snowball sampling on the Internet using the mailing list from a psychology

research organization and social media on successful waves of recruitment between March 2017

and August 2020. Every participant was given the chance to win a CAN$50 gift card from a

popular online store as an incentive. Internet protocol (IP) filtering was used to ensure that

individuals could not take part in the data collection more than once.

Private Practice Sample

Clients from two general private clinics (n = 544, 64.0% women, M_{age} = 34.01, SD = 9.69,

range 16–67) were recruited and completed computerized tests at intake between July 2019 and

November 2021. Clients consulted in individual or couple therapy, but no information was

available on initial diagnosis or reason for consultation. All professionals working at these clinics

are licensed clinical psychologists or trainees in clinical psychology under supervision, with

some of them specialized in couple therapy. Clients are self-referred, with or without mental

disorders (e.g., relational difficulties, personality difficulties/disorders, depression, anxiety,

trauma, personal growth, sexual identity).

Outpatients with Personality Disorder Sample

Outpatients with PD from a specialized public clinic (n = 288, 61.5% women, M_{age} = 33.62, SD = 10.58, range 18–69) were recruited during intake to complete a computerized battery of questionnaires between September 2017 and February 2020. The outpatients had at least one formal DSM-5 Section II PD diagnosis according to the referring source (general physician or psychiatrist). After initial assessment by a clinical psychologist, diagnoses were revised by a team of six clinical psychologists during weekly meetings. Formal DSM-5 Section II PD diagnoses were available for the majority of patients (254 patients or 87.9% of the sample): 65 narcissistic (22.5%), 48 borderline-narcissistic (16.6%), 46 borderline (15.9%), 41 mixed ($\geq$ 3 PDs; 14.2%), 23 not otherwise specified (8.0%), 10 schizotypal (3.5%), six schizoid (2.1%), five syndromic (i.e., main diagnosis is not a PD; 1.7%), four antisocial (1.4%), four histrionic (1.4%), and two paranoid (0.7%).

Measures

The French translation (Roskam et al., 2015) of the original 220-item Personality Inventory for DSM-5 was developed using a translation/back-translation procedure and received the approval of two of the original PID-5 authors. The French PID-5 Faceted Brief Form (PID-5-FBF) was constructed by extracting the 100 items retained by Maples et al. (2015). It consists of 25 lower-order facets (four items per facet, no reversed wording) regrouped into five higher-order domains. Items are scored on a four-point Likert scale.

For the rest of the tests, the samples were administered slightly different instruments, indicated by superscripts: (a) community, (b) private practice, and (c) outpatients.

The Experiences in Close Relationships[a,b] questionnaire (ECR; Brennan et al., 1998) is a measure of attachment that is comprised of two subscales, anxiety (ω = .89) and avoidance (ω =

.88). Specifically, a shortened 12-item version has been used (ECR-12; Lafontaine et al., 2016). Items are scored on a seven-point Likert scale.

The Interpersonal Reactivity Index[a,c] (IRI; Davis, 1983; French validation by Gilet et al., 2013) is a 28-item measure of empathy. Two of its subscales were used, respectively tapping more closely onto cognitive and affective empathy: Perspective-Taking (ω = .83) and Empathic Concern (ω = .78). Items are scored on a seven-point Likert scale.

The Psychiatric Symptom Index[b] (PSI; Ilfeld, 1976) is a general measure of psychological distress. Specifically, the 14-item version was used (Préville et al., 1992). It has a global score (ω = .90) and four subscales: Depression (ω = .83), Anxiety (ω = .80), Anger (ω = .85), and Cognitive Disturbance (2 items; ω could not be computed). Items are scored on a four-point Likert scale.

The Barratt Impulsivity Scale[c] (BIS-11; Patton et al., 1995; French validation by Baylé et al., 2000) is a 30-item measure of impulsivity. It is composed of a global score (ω = .86) and three subscales: Attentional Impulsiveness (ω = .60), Motor Impulsiveness (ω = .77), and Nonplanning Impulsiveness (ω = .69). Items are scored on a four-point Likert scale.

The Brief Version of the Pathological Narcissism Inventory[c] (B-PNI; Schoenleber et al., 2015; French validation by Diguer et al., 2020) is a 28-item measure of narcissism. It has two scales: Grandiosity (ω = .85) and Vulnerability (ω = .88). Items are scored on a seven-point Likert scale.

The Self and Interpersonal Functioning Scale[b,c] (SIFS; Gamache et al., 2019) is a 24-item measure of the AMPD Criterion A. It consists of four subscales, Identity (ω = .83), Self-Direction (ω = .73), Empathy (ω = .72), and Intimacy (ω = .79), regrouped into a global personality dysfunction score (ω = .90). Items are scored on a five-point Likert scale.

Data Diagnostics and Analytic Strategy

Data from all samples were screened visually for valid responding (e.g., not having answered "0" to all questions) and missing data, which led to some suppression among the community sample (9), the private clinic sample (6), and the outpatient sample (1). In addition, for the community sample, only PID-5-FBF protocols containing <5 missing data were included for further analyses. The private clinic sample also contained 12 participants with English protocols, so they were removed as well. The private clinic sample contained 11 protocols with one or two missing data each. The outpatients' PID-5-FBF protocols had no missing data. For factor and invariance analyses, full information maximum likelihood (FIML) was used to handle missing data. For the rest of the analyses, a list-wise deletion approach was used. Analyses were computed using IBM SPSS 28, M*plus* 8.4, and JASP 0.13.1.

To assess internal consistency, both Cronbach's alphas and McDonald's omegas were computed (since the latter might artificially inflate in samples of N>1000; Ten Berge & Sočan, 2004), as well as mean inter-item correlations (MICs) to assess item redundancy. To assess the factor structure of the PID-5-FBF, Exploratory structural equation modeling (ESEM; Asparouhov & Muthén, 2009), with the Target rotation (Browne, 2001), was used because (a) Confirmatory factor analysis (CFA) requires strong measurement assumptions that do not always hold with actual personality data (e.g., meaningful cross-loadings are common) and therefore prevent from achieving reasonable fit to observed data (e.g., Hopwood & Donnellan, 2010); (b) it is a powerful and flexible contemporary method combining the best features of CFA (e.g., *a priori* model specification) and exploratory factor analysis (EFA; e.g., cross-loadings are allowed; Marsh et al., 2014); and (c) ESEM models allow testing of MI instead of solely providing information pertaining to factor congruence coefficients (Marsh et al., 2014). Two different domain scoring procedures were evaluated to identify optimal model fit and MI: APA's (2013) official three facets per domain scoring procedure (i.e., using 15 facets out of 25, without expected cross-

loadings); and Krueger et al.'s (2012) algorithms (i.e., using 25 facets out of 25, without expected cross-loadings)[4]. The appellations "15-facet" and "25-facet" procedures will be used hereinafter. Because it has been shown that larger and more diverse samples clarify the latent structure, reduce sample bias, and decrease the interstitial overlap between facets (Watters & Bagby, 2018), the ESEM model was computed with all three samples combined. Identifying the latent structure with all samples combined before testing for measurement invariance was also the approach taken by Suzuki et al. (2019). To identify the optimal model fit, standard indices were used (e.g., Hu & Bentler, 1999): Comparative Fit Index (CFI; >.95), Tucker-Lewis Index (TLI; >.95), Root Mean Square Error of Approximation (RMSEA; <.06), and Standardized Root Mean Square Residual (SRMR; <.08).

For both scoring procedures, MI was tested between sexes first, and then between samples (community, private practice, and outpatient). MI testing was applied following four steps: (a) configural (the number and pattern of factors are identical across sex/samples), (b) metric/weak (factor loadings of the facets onto the domains are constrained to be the same across sex/samples), (c) scalar/strong (intercepts are forced to be equal across sex/samples), (d) and strict/residual MI (the residual [i.e., error] variances are constrained to be equal across sex/samples). It should be noted that the absolute $\Delta\chi^2$ test of differences between successive models seems to be overly sensitive to small-sized and trivial MI departures (especially among large samples), so the focus of the MI analysis will be put on finer grained indices (Putnick & Bornstein 2016). Thus, we computed the w-coefficient and McDonald's noncentrality index (ΔMc) proposed by Newsom (2015) to determine the magnitude of the χ^2 difference (with values near .00 indicating a small difference). Also, diminution of the CFI and TLI coefficients equal or

---

[4] For a more thorough description of the similarities and differences between the two domain calculation methods, see Watters et al. (2019).

superior to 0.010 and increase of the RMSEA coefficient equal or superior to 0.015 indicated a lack of invariance between sexes or among samples (Chen, 2007; Cheung & Rensvold, 2002).

Results

Reliability

Reliability indices (Cronbach's alphas, McDonald's omegas, and MICs) are presented in Table 1. When all samples are collapsed, all domain indices were high (ω = 89–91), and most facets were in the acceptable-excellent range (ω = 69–93). Only a few facets (i.e., Cognitive and Perceptual Dysregulation, Irresponsibility, Suspiciousness, Unusual Beliefs and Experiences) showed fair internal consistency (in one individual sample or more). When samples are collapsed, MIC indices for domains were very good (.38–.44 range, M = .41), falling right into the recommended .15–.50 range (Clark & Watson, 1995), and very close to the stricter .20–.40 range (Briggs & Cheek, 1986). For facets, MIC indices were generally higher (.35–.76 range, M = .56), suggesting a higher content homogeneity (which is to be expected, since they measure a narrower construct), but possibly some item redundancy (i.e., the items share more common variance and might cover less exhaustively their respective construct).

Construct Validity

Results for the ESEM model, based the 15-facet scoring procedure (three retained facets per domain), are presented in Table 2. Using the Robust Maximum Likelihood estimator, fit indices were good according to usual guidelines: χ^2 goodness-of-fit statistic = 135.389 (df = 40, p <.001), CFI = .987, TLI = .965, RMSEA = .042 (90% CI [.034–.050]), SRMR = .012. Target-rotated loadings for all facets were in line with the expected PID-5 model (i.e., all 15 facets had significant loadings only on their expected domain). The model reached a good fit without any adjustment.

Results for the ESEM model, based on the 25-facet scoring procedure, are presented in Table 3. Using the Robust Maximum Likelihood estimator and a target rotation, some fit indices were not quite satisfactory: χ^2 goodness-of-fit statistic = 1160.577 (df = 185, p <.001), CFI = .932, TLI = .890, RMSEA = .062 (90% CI [.059–.066]), SRMR = .025. Some facets showed cross-loadings (i.e., Restricted Affectivity, Attention-Seeking, Callousness, Distractibility) or did not load on any higher-order domain (i.e., Hostility). To reach a good fit, correlations between error terms had to be added for the following, conceptually related facets: (a) Depressivity and Anhedonia, (b) Deceitfulness and Manipulation, (c) Emotional Lability and Hostility, and (d) Emotional lability and Restricted Affectivity. The fit indices of the adjusted model are as follows: χ^2 goodness-of-fit statistic = 749.569 (df = 181, p <.001), CFI = .960, TLI = .934, RMSEA = .048 (90% CI [.045–.052]), SRMR =.021. This adjusted model was kept for MI analyses pertaining to the 25-facet scoring procedure (details below).

Convergent and Divergent Validity

Since results showed an advantage for the 15-facet domain scoring procedure and for the sake of parsimony, correlations with external criteria were computed only with that technique. Bivariate zero-order Pearson correlations between PID-5-FBF domains and facets with external variables are presented in Table 4. For domains, strong correlations were observed for Negative Affectivity with the ECR-12 (Anxiety) and the PSI (Total Score, Depression), for Antagonism with the B-PNI (Grandiosity), and for Disinhibition with the BIS-11 (all subscales). In addition, all domains but Antagonism showed strong correlations with the SIFS (two or more subscales). When considering individual facets, most showed a meaningful pattern of associations. For instance, Callousness was strongly (negatively) correlated with affective empathy (IRI Empathic Concern), but not correlated with personal distress (PSI variables, ECR-12 Anxiety). Hostility was strongly associated with anger (PSI), its core emotion (APA, 2013), but not with anxiety

(PSI, ECR-12). Anhedonia and Depressivity showed strong associations with depression (PSI), but not with impulsivity (BIS-11). Nevertheless, some facets did not show any clear association with any of the external variables (e.g., Cognitive and Perceptual Dysregulation, Rigid Perfectionism, Submissiveness), but that is likely because no instrument tapped precisely onto their content.

Inter-domain correlations (see Table S2) were in the moderate-high range (r = .26 [Negative Affectivity with Antagonism] to .61 [Negative Affectivity with Disinhibition]), a pattern very coherent with ESEM inter-factor correlations obtained with the 15-facet scoring procedure (r = .19 [Negative Affectivity with Antagonism] to r = .60 [Negative Affectivity with Disinhibition]; see Table 2), but slightly different from the 25-facet procedure (r = .21 [Negative Affectivity with Antagonism] to r = .55 [Antagonism with Disinhibition]; see Table 3). Inter-facet correlations (see Table S3) were more diverse, spanning from the complete absence of correlations to very high intercorrelations (r = .00 [Restricted Affectivity with Anxiousness] to .81 [Depressivity with Anhedonia]).

Measurement Invariance

Results for the MI analyses are presented in Tables 5 (for the 15-facet procedure) and 6 (for the 25-facet procedure). For sex MI, the number and pattern of factors, factor loadings of the facets, intercepts, and residual variances were equal across sex, with negligible differences in fit coefficients. These results suggest that a five-factor latent structure explains the covariation among 15/25 personality facets for both men and women reasonably well, with comparable loadings, intercepts, and variance errors. With both scoring procedures, full strict MI was confirmed. For sample MI, partial invariance was achieved for both scoring methods. For the 15-facet procedure, one intercept and five residual variances needed to be relaxed to reach strict invariance, while for the 25-facet procedure, five intercepts and 12 residual variances needed to

THE FRENCH PID-5-FBF

be relaxed to achieve strict invariance. The sample MI seems better with the 15-facet method, since it required fewer adjustments and goodness-of-fit indices were superior.

Mean Differences

On a post-hoc basis, considering that strict invariance was reached between women and men, observed means could be confidently analyzed (Putnick & Bornstein, 2016). Therefore, a series of between-group differences was computed (with bootstrapped bias-corrected and accelerated 95% confidence intervals) for all 5 PID-5-FBF domains and 25 facets. Results are displayed in supplemental material (see Tables S4–S6). At the domain level, between-sex differences were found and a generally coherent pattern emerged. Among all samples, women showed higher (i.e., more trait pathology for) Negative Affectivity, while men showed higher Antagonism. In addition, in the community and outpatient samples, men also showed higher Detachment and Psychoticism. At the facet level, small- to medium-sized between-sex differences were found, but the pattern of differences varied depending on the sample of reference. In the community sample, the largest differences were found for Callousness, Eccentricity, Grandiosity, Restricted Affectivity, and Withdrawal (where men had higher scores). In the private practice sample, the largest differences were found for Anxiousness, Emotional Lability (where women had higher scores), and Restricted Affectivity (where men had higher scores). In the outpatient sample, the largest differences were found for Emotional Lability, Rigid Perfectionism (where women had higher scores), and Grandiosity (where men had higher scores).

Considering that the scalar model was shown to be partially invariant for samples, latent mean differences were computed for domains (with the 15-facet method, since fit indices were better and the structure more robust; e.g., Sharma et al., 2011). To assess if the patterns of latent and observed mean differences were similar, a series of group comparisons (with bootstrapped bias-corrected and accelerated 95% confidence intervals) was computed as well (for domains and

facets; see Table S7 and Table 7 for observed and latent means, respectively). At the facet level, group comparisons based on observed means are reported as well (see Table S7), but should be considered cautiously because they could not be compared to latent means. Outpatients had higher scores on almost all facets (no difference was found between outpatients and private practice clients for Attention-Seeking, as well as between outpatients and community participants for Grandiosity) in comparison with the other samples. The private practice sample showed higher scores than the community sample on nine facets (e.g., Emotional Lability, Impulsivity, Perseveration), but lower scores on six others (e.g., Suspiciousness, Withdrawal). At the domain level, significant latent and observed mean differences showed an identical pattern. Using the Strict-2 model as a point of reference, a difference was observed for all five higher-order domains between community and outpatient samples (Cohen's d ranging from |0.14| [Antagonism] to |1.95| [Negative Affectivity]), and between community and private practice samples (except for Psychoticism; Cohen's d ranging from |0.20| [Antagonism] to |0.64| [Negative Affectivity]). The community sample had significantly lower mean scores on all factors compared to the outpatient sample, and on Negative Affectivity and Disinhibition compared to the private practice sample. On the contrary, the community sample had higher mean scores on Detachment and Antagonism compared to the private practice sample.

Discussion

This study sought to (a) provide initial evidence of reliability and validity for the PID-5-FBF among French-speaking samples using CTT; (b) compare two PID-5 domain scoring procedures; and (b) investigate the MI of the PID-5-FBF, that is, the psychometric equivalence of the PID-5-FBF across groups to ensure generalizability of findings. The results generally showed good to excellent reliability, construct validity, and meaningful convergent-divergent validity, providing initial support for the linguistic equivalence of the PID-5-FBF for both research and

THE FRENCH PID-5-FBF

clinical applications. Both scoring procedures showed good results, but the 15-facet procedure showed a clear advantage. Pertaining to the MI of the PID-5-FBF, strict invariance was reached between sexes, and partial invariance across samples.

Basic Reliability and Validity

The good internal consistency coefficients, with the advantage of domains over facets, are comparable to what is often reported for the original PID-5 (e.g., Zimmermann et al., 2019). The MIC indices are very similar to those reported by Maples et al. (2015), though some were far larger than the .50 threshold, indicating possible excessive item redundancy. This might suggest that internal consistency (i.e., the general degree of item intercorrelation) was prioritized over unidimensionality (i.e., whether items measure a single latent construct) in the PID-5-FBF item selection (i.e., when items were selected from the original PID-5 item pool), which might have resulted in a selection containing mostly similar items (instead of a fuller theoretical content coverage; Clark & Watson, 1995). Consistent with this hypothesis, Maples et al. (2015) have reported that the mean MIC of their derivation sample was slightly higher for the PID-5-FBF (.41 for domains, .54 for facets) than for the original PID-5 (.36 for domains, .43 for facets). In psychometric theory, this is referred to as the "attenuation paradox" (e.g., Briggs & Cheek, 1986)[5].

In addition, the expected five-factor structure of the French PID-5-FBF was obtained. Very neat loadings of facets on domains were obtained with the 15-facet method, containing no cross-loadings. The solution with 25 facets required some adjustments, but it nevertheless allowed reaching a good fit. This supports the assumption that each higher-order domain taps onto different constructs of pathological personality. Results are in line with those obtained for

---

[5] Simply put, "a scale will yield far more information—and, hence, be a more valid measure of a construct—if it contains more differentiated items that are only moderately intercorrelated" (Clark & Watson, 1995, p. 316).

the original PID-5 (Roskam et al., 2015; Somma, Krueger, Markon, & Fossati, 2019), and for the PID-5-FBF (Maples et al., 2015), which obtained clearly delineated domains. Some of the cross-loadings of the unadjusted model (with the 25-facet method) were similar to those from a facet-focused meta-analysis (e.g., Restricted Affectivity, Callousness; Watters & Bagby, 2018). This reiterates that the PID-5 (and the PID-5-FBF) seems to have a complex structure. While this might be partly explained by theoretical arguments (e.g., some facets pertain to multiple concepts), it might also call for some revision of the instrument since it makes the interpretation of results more ambiguous in both research and clinical practice (Sorrel et al., 2021). This would be consistent with a recent structural review in which the authors concluded that a revised version of the PID-5 should identify, among all facets, a list of 15 primary facets (that ideally contain no cross-loadings) for making up each higher-order domain (Clark & Watson, 2022).

Negative Affectivity (primarily) and Detachment (secondarily) were more closely aligned with measures of internalizing pathology, mostly as expected. Both showed strong associations with measures of depression and anxiety (PSI, ECR-12), in comparison with the other domains. Negative Affectivity also showed an association with the vulnerable component of narcissism (B-PNI), corroborating previous results suggesting that negative self-evaluation and low self-esteem characterizing narcissistic vulnerability are associated with negative emotions (Schoenleber et al., 2015). Among all domains, Detachment showed the strongest associations with intimacy impairment (SIFS) and avoidance (ECR-12). Furthermore, in partial support to our initial hypotheses, Disinhibition (but less so Antagonism) was the most closely aligned with measures of externalizing pathology, notably with impulsivity (BIS-11). Antagonism showed stronger associations with pathological narcissism, especially with grandiosity (B-PNI). As predicted, Psychoticism had the least clear nomological network (as shown by weak to moderate correlations with many variables); however, like all domains, it correlated strongly with

personality impairment (SIFS variables). Indeed, no clear pattern emerged, even for its individual

facets (Cognitive and Perceptual Dysregulation, Eccentricity, Unusual Beliefs and Experiences).

Since it contains psychotic- and dissociation-like symptoms (e.g., Widiger & Crego, 2019), it

seems that it did not align precisely with any of the other available measures; however, external

indices of thought disorders were underrepresented in the present study, and including such

measures might have yielded more definitive results for the Psychoticism domain and its facets.

Measurement Invariance

Between men and women, the most severe level of MI was obtained (i.e., full strict MI),

as expected. These findings are mostly in line with previous findings, where scalar measurement

invariance was supported between sexes for the original PID-5 (Suzuki et al., 2019), as well as

partially supported for the 25-item version (Gomez et al., 2022)[6], and confirm that the PID-5-

FBF conceptualizes pathological personality traits similarly between sexes and in a comparable

way to the original version. This men-women equivalence is similar to what was reported for the

Five-Factor Model (Samuel et al., 2015), and is perhaps slightly better than what was reported for

categorical PDs (Jane et al., 2007). This article provides strong evidence that meaningful PID-5-

FBF comparisons can be made between men and women (drawn from the same sample), in both

clinical and research settings.

Across samples, full metric invariance could be reached. In substantive terms, this means

that the five-factor structure and the facet loadings were generally similar across the three groups

(community, private practice clients, and outpatients with PD). Nonetheless, theoretically, failing

to reach (at least) full scalar invariance implies that a difference between two (or three) observed

group means cannot confidently be considered to reflect genuine differences on a trait (Fischer &

---

[6] After adjustments were made at the scalar invariance step, full MI was also reported at the strict level (Gomez et al., 2022).

Karl, 2019; Putnik & Bornstein, 2016). This result might seem to fall below what was reported

for the original PID-5 (Bach et al., 2018), for which full scalar MI was reported, at the domain

level[7]. For the Italian PID-5-FBF, even if the indices seem generally similar to ours, scalar

invariance was reported (Somma, Krueger, Markon, Borroni, et al., 2019). However, the

approach taken in the present study seems to have used more numerous and stringent criteria

(e.g., ΔMc near .00, ΔCFI and ΔTLI equal or inferior to 0.010, ΔRMSEA equal or inferior to

0.015). It is likely that conclusions would have been very similar to the two aforementioned

studies if the focus of the invariance analysis had been on general goodness-of-fit indices. In

addition, unlike those two studies, it should be mentioned that the present study was not

conducted with only two samples (community, psychiatric), but rather with three (i.e., with the

addition of private practice clients), which might explain the results, at least in part (e.g., the PID-

5 might function slightly differently among private practice clients).

Furthermore, very few previous studies had compared the differences between available

scoring procedures. Watters et al. (2019) recommended using the 15-facet scoring method for

research purposes, since it generates very similar mean results to the 25-facet method. The

present study provided further support for this conclusion, this time by addressing the issue from

a factor analytic standpoint. Still, there might be some specific contexts where the use of the 25-

facet method might be sensible because some theoretically/empirically important facets are not

considered with the 15-facet method. Moreover, the ESEM model with the 15-facet method was

excellent from the start, while it required adjustments with the 25-facet method (for the

invariance analysis across samples). The result for the latter method is aligned with what was

previously reported for the original PID-5 (Bach et al., 2018; Sorel et al., 2021). The factor

---

[7] The authors reported partial strict MI as well, but, as they stated, the general goodness-of-fit indices fell below the conventional standards (Bach et al., 2018).

structure was most robust (i.e., invariant) with the 15-facet method and required fewer

adjustments at each step, enabling more meaningful and reliable comparisons in research and

clinical contexts. This result is unsurprising since the 15-facet method incorporates fewer facets,

so fewer parameters had to be estimated. Pragmatic considerations would also call for an

advantage for the 15-facet method, since researchers are unlikely to systematically use adjusted,

partially invariant models (and even less so clinicians).

Private Practice Clients

It was predicted that mean differences would be found between samples, which was

mostly supported, at least at the domain level. By far, and as expected, outpatients had higher

scores (i.e., more trait pathology) in comparison with the other two samples. The private practice

sample seems to have scores that are more similar to the community sample than to the

outpatients, which also brings support to the discriminating ability of the instrument. Clinical

versus nonclinical sample structural differences were small, which would be consistent with what

is generally observed among personality/psychopathology inventories, that is, normality and

abnormality are generally represented on a single, common spectrum (Bach et al., 2018;

O'Connor, 2002). On the contrary, at the mean level, the *position* of each sample was expected to

differ on that spectrum, following a theoretical gradient of psychopathology (i.e., community <

private practice clients < outpatients). The domains of Negative Affectivity, Disinhibition, and

Detachment seem to be particularly important in differentiating the three samples (i.e., higher

effect sizes were found). Negative Affectivity and Disinhibition showed the expected pattern of

differences (i.e., community < private practice clients < outpatients), but not Detachment (for

which private practice clients < community < outpatients). This last result might have to be

considered cautiously, since it might reflect a sampling bias pertaining to the location where the

data was collected (some professionals were specialized in couple/marital difficulties and were

treating clients who, e.g., might have some desire to work on their relational patterns; also, "severely" detached [e.g., schizoid] clients might be unlikely encountered in this clinic). To the best of our knowledge, this is the first study that has investigated the MI of the PID-5/PID-5-FBF among clients drawn from private practice. Until now, AMPD research has mostly assimilated "clinical" samples with psychiatric or correctional samples. Nevertheless, our group reiterates that more research is needed in that population (*reference hidden for blind review*), especially considering that a substantial proportion of practitioners work with those clients. More research would also help to promote knowledge transfer. It has been shown that, when provided with empirically supported information, private practice clinicians are more likely to use it to guide their decision-making (Stewart & Chambless, 2007). Providing clinicians with evidence-based information pertaining to assessment tools (e.g., the PID-5), with a benevolent attitude (e.g., in a clinical workshop), might be a first step toward that direction.

AMPD-Based Diagnoses

Of note, the two facets that make up the narcissistic AMPD-based diagnosis—Grandiosity and Attention-Seeking—showed very limited endorsement across all samples and poorly differentiated clinical and nonclinical samples (e.g., $\eta^2 = .01$ and $\eta^2 = .02$, respectively; see Table S7). More specifically, Grandiosity was not significantly different between the community and outpatient samples, and Attention-Seeking was not significantly different between the private practice and outpatient samples. While the absence of full MI between samples precludes strong conclusions on this topic, this study would not be the first to report a low endorsement rate of those facets (e.g., Somma, Krueger, Markon, Borroni, et al., 2019). On the one hand, previous research reported that narcissistic individuals are usually not bothered by the examiner's perceptions and therefore do not tend to underreport (e.g., Sleep et al., 2017). On the other hand, more recent research has shown that self-reported dimensional measures of narcissism only

moderately correlated with a clinician-administered diagnostic interview assessing narcissistic

PD, showing the limits of the former for screening purposes (Baggio et al., 2022). These

observations might suggest that: (a) those two facets are poorly captured by the PID-5 (e.g., items

might be too "direct" or transparent); (b) these specific traits are more reluctantly acknowledged

in general (e.g., eliciting more shame and prompting a defensive response pattern); (c) the

grandiosity of narcissistic patients may be "deflated" or less apparent when they finally seek

consultation; and/or (d) patients lacked insight (e.g., narcissistic PD outpatients, which were well

represented in the sample, might unrealistically see themselves as modest and discreet). These

potentially overlapping possibilities warrant further investigation. Nonetheless, these results call

into question the use of the PID-5-FBF in making an AMPD-based narcissistic diagnosis.

Limitations, Future Directions, and Strengths

First, the test-retest reliability of the PID-5-FBF, as well as its temporal MI, could not be

assessed. It would be important to identify those properties for the PID-5-FBF, since they may

have important clinical implications for repeated measurement (e.g., to assess true clinical

change). Second, the sample constitution should also be taken into account, since (a) the

community sample was not recruited through a probabilistic design, so it might not perfectly

represent the general population (e.g., they might have been attracted to the study because they

had some specific personality characteristics); and (b) very few ethnic and cultural information

was available (even though it should be assumed that the majority of participants, among all

samples, was White and had French as first language), which prevents from making strong

inferences as to the appropriateness of the PID-5-FBF for patients from a minority cultural group.

Future research should put more focus on ethnic, sexual diversity (e.g., nonbinary people), and

cultural differences, since previous research has shown some important differences in this regard

pertaining to the invariance of the PID-5; for instance, the PID-5 might not be recommended at

this time for Black patients (as suggested by Bagby et al., 2022). Third, while data were provided for facet- and domain-level MI, it would be important to narrow the scope at the item level (e.g., using Item Response Theory, as proposed by Suzuki et al., 2019). This would allow ruling out or identifying potential biases in the response patterns between men and women and/or across different populations. Fourth, very few information pertaining to diagnoses and consultation motives were available for the private practice sample. This makes the exact constitution of the sample somewhat unclear. Future studies should document those aspects more precisely as they have important implications for generalizability and comparability of findings. Finally, monomethod assessment is likely to lead to inflated coefficients with external criteria (e.g., Zimmermann et al., 2019), so future research should further document the convergent-divergent validity of the PID-5/PID-5-FBF using a multimethod design (e.g., with informant reports, interviews, etc.). Nevertheless, this initial validation has strong internal and external validity, since it studied the psychometric properties of the PID-5-FBF in many samples (including two clinical samples), which increases the generalizability of conclusions and reduces bias due to homogeneous sampling. In addition, this study provides much needed data pertaining to private practice clients.

Implications

From a psychometric standpoint, the French version of the PID-5-FBF had generally good to excellent basic validity and reliability indices. Therefore, those properties seem to be generally similar to those obtained elsewhere (Maples et al., 2015), providing initial support for its use in research and clinical practice. However, the literature is not entirely clear as to what to do in the presence of partial invariance or noninvariance (Gregorich, 2006; Putnik & Bornstein, 2016). Indeed, in general, the magnitude of the difference is somewhat hard to estimate, as well as its practical implications (Putnik & Bornstein, 2016). According to some, latent means (not

observed means) can be confidently compared when partial scalar measurement is reached (e.g., Gregorich, 2006). In the present case, the fact that latent and observed mean differences showed an identical pattern might suggest that some cautious comparisons could be made, at least at the domain level. This would be a similar conclusion to what was reported for the original PID-5, that is, that clinical and nonclinical samples can be compared at the domain level (Bach et al., 2018). According to others, reporting that no direct between-group comparisons can be made (at least between some groups) is important in and of itself (Fischer & Karl, 2019). Finally, it has also been suggested that, since little is known pertaining to the real-world implications of departures from invariance, a "gateway" approach would be precipitated (i.e., a systematic rejection of noninvariant models). Instead, it is proposed to argue (when appropriate) why small deviations should not be seen as meaningful (Putnik & Bornstein, 2016). Since the departures reported in this study are rather small (pertaining to the invariance among samples), we would be inclined to adopt this latter point of view, at least until more research is available to quantify its "clinical significance." If clinically significant, however, those differences might call for the establishment of different norms for each clinical population (e.g., norms for outpatients, inpatients, inmates, private practice clients).

Conclusion

This study sought to investigate the psychometric properties of the PID-5-FBF among French-speaking populations. Indices of reliability and validity were generally good to excellent, providing initial support for its use in clinical and research settings. The instrument was fully invariant between sexes and partially invariant across samples. The 15-facet domain scoring procedure showed a notable advantage in both factor and MI analyses. An important implication is that it supported the use of the instrument among diverse populations, including private practice clients, an understudied group.

Declarations

Conflict of Interest: All authors have no conflict of interest of any kind to disclose.

Ethics approval: The standards of the 1964 Declaration of Helsinki and its later amendments (or its equivalent) were respected during this study. The project was approved by three ethics committees: Université du Québec à Trois-Rivières, Université Laval, Centre intégré universitaire de santé et de services sociaux de la Capitale-Nationale [Integrated University Health and Social Services Center of the Capitale-Nationale] Sectoral Research Ethics Committee in Neurosciences and Mental Health.

Consent to participate: All participants granted consent to participate in this study, which had no impact on their access to services (in the case of clinical samples).

Consent to publish: All participants granted permission to use their data for research purposes and for publication, which had no impact on their access to services (in the case of clinical samples).

References

American Educational Research Association, American Psychological Association, & National

Council on Measurement in Education. (2014). *Standards for educational and psychological

testing*. American Educational Research Association.

American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders*

(5th ed.). https://doi.org/10.1176/appi.books.9780890425596

Asparouhov, T., and Muthén, B. (2009). Exploratory structural equation modeling. *Structural

Equation Modeling*, *16*(3), 397–438. https://doi.org/10.1080/10705510903008204

Bach, B., Maples-Keller, J. L., Bo, S., & Simonsen, E. (2016). The alternative DSM–5

personality disorder traits criterion: A comparative examination of three self-report forms in

a Danish population. *Personality Disorders: Theory, Research, and Treatment, 7*(2), 124–

135. https://doi.org/10.1037/per0000162

Bach, B., Sellbom, M., & Simonsen, E. (2018). Personality Inventory for DSM-5 (PID-5) in

clinical versus nonclinical individuals: Generalizability of psychometric features.

Assessment, *25*(7), 815–825. https://doi.org/10.1177/1073191117709070

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*(1), 82–90.

https://doi.org/10.1037/pas0001085

Baggio, S., Iglesias, K., Duarte, M., Nicastro, R., Hasler, R., Euler, S., Debbané, M., Starcevic,

V., & Perroud, N. (2022). Validation of self-report measures of narcissism against a

diagnostic interview. *PLoS ONE, 17*(4), e0266540.

https://doi.org/10.1371/journal.pone.0266540

Baylé, F. J., Bourdel, M. C., Caci, H., Gorwood, P., Chignon, J.-M., Adés, J., & Lôo, H. (2000).

Structure factorielle de la traduction française de l'échelle d'impulsivité de Barratt (BIS-10)

[Factor structure of the French translation of the Barratt Impulsivity Scale (BIS-

10)]. *Canadian Journal of Psychiatry/Revue canadienne de psychiatrie, 45*(2), 156–165.

https://doi.org/10.1177/070674370004500206

Bradley, S., Roberge, P., Service, J., Vasiliadis, H.-M., & Drapeau, M. (2019). Psychotherapy in

the private sector: A survey of licensed psychologists and psychotherapists in Quebec.

Canadian Journal of Counselling and Psychotherapy, 53(1). https://cjc-

rcc.ucalgary.ca/article/view/61191

Brennan, K. A., Clark, C. L., & Shaver, P. R. (1998). Self-report measurement of adult romantic

attachment: An integrative overview. In J. A. Simpson & W. S. Rholes (Eds.), *Attachment

theory and close relationships* (pp. 46–76). Guilford.

Briggs, S. R., & Cheek, J. M. (1986). The role of factor analysis in the development and

evaluation of personality scales. *Journal of Personality*, *54*(1), 106–148.

https://doi.org/10.1111/j.1467-6494.1986.tb00391.x

Browne, M. W. (2001). An overview of analytic rotation in exploratory factor

analysis. *Multivariate Behavioral Research, 36*(1), 111–

150. https://doi.org/10.1207/S15327906MBR3601_05

Chen, F. F. (2007). Sensitivity of goodness of fit indexes to lack of measurement invariance.

Structural Equation Modeling, 14(3), 464–504. https://doi.org/10.1080/10705510701301834

Cheung, G. W., & Rensvold, R. B. (2002). Evaluating goodness-of-fit indexes for testing

measurement invariance. *Structural Equation Modeling, 9(2),* 233–255.

https://doi.org/10.1207/S15328007SEM0902_5

Chodos, H. (2017). *Options for improving access to counselling, psychotherapy and psychological services for mental health problems and illnesses* (report). Mental Health Commission of Canada. https://www.mentalhealthcommission.ca/wp-content/uploads/drupal/2017-07/Options_for_improving_access_to_counselling_psychotherapy_and_psychological_servic es_eng.pdf

Clark, L. A., & Watson, D. (1995). Constructing validity: Basic issues in objective scale development. *Psychological Assessment, 7*(3), 309–319. https://doi.org/10.1037/1040-3590.7.3.309

Clark, L. A., & Watson, D. (2022). The trait model of the DSM–5 alternative model of personality disorder (AMPD): A structural review. *Personality Disorders: Theory, Research, and Treatment, 13*(4), 328–336. https://doi.org/10.1037/per0000568

Comrey, A. L., & Lee, H. B. (1992). *A first course in factor analysis*. Psychology Press.

Davis, M. H. (1983). Measuring individual differences in empathy: Evidence for a multidimensional approach. *Journal of Personality and Social Psychology, 44*(1), 113–126. https://doi.org/10.1037/0022-3514.44.1.113

Diguer, L., Turmel, V., Brin, J., Lapointe, T., Chrétien, S., Marcoux, L.-A., Mathieu, V., & Da Silva Luis, R. (2020). Traduction et validation en français du Pathological Narcissism Inventory [Translation and validation in French of the Pathological Narcissism Inventory]. *Canadian Journal of Behavioural Science/Revue canadienne des sciences du comportement, 52*(2), 115–120. https://doi.org/10.1037/cbs0000140

Fischer, R., & Karl, J. A. (2019). A primer to (cross-cultural) multi-group invariance testing possibilities in R. *Frontiers in Psychology, 10*, Article 1507. https://doi.org/10.3389/fpsyg.2019.01507

Gamache, D., Savard, C., Leclerc, P., & Côté, A. (2019). Introducing a short self-report for the

assessment of DSM-5 Level of Personality Functioning for personality disorders: The Self

and Interpersonal Functioning Scale. *Personality Disorders: Theory, Research, and

Treatment*, *10*(5), 438–447. http://dx.doi.org/10.1037/per0000335

Gamache, D., Savard, C., Leclerc, P., Payant, M., Berthelot, N., Côté, A., Faucher, J., Lampron,

M., Lemieux, R., Mayrand, K., Nolin, M. C., & Tremblay, M. (2021). A proposed

classification of ICD-11 severity degrees of personality pathology using the Self and

Interpersonal Functioning Scale. *Frontiers in Psychiatry*, *12*, Article 628057.

https://doi.org/10.3389/fpsyt.2021.628057

Gilet, A.-L., Mella, N., Studer, J., Grühn, D., & Labouvie-Vief, G. (2013). Assessing

dispositional empathy in adults: A French validation of the Interpersonal Reactivity Index

(IRI). *Canadian Journal of Behavioural Science/Revue canadienne des sciences du

comportement*, *45*(1), 42–48. http://dx.doi.org/10.1037/a0030425

Gomez, R., Watson, S., Brown, T., & Stavropoulos, V. (2022). Personality inventory for DSM–

5-Brief Form (PID-5-BF): Measurement invariance across men and women. *Personality

Disorders: Theory, Research, and Treatment.* Advance online

publication. https://doi.org/10.1037/per0000569

Gregorich S. E. (2006). Do self-report instruments allow meaningful comparisons across diverse

population groups? Testing measurement invariance using the confirmatory factor analysis

framework. *Medical Care*, *44*(11 Suppl 3), S78–S94.

https://doi.org/10.1097/01.mlr.0000245454.12228.8f

Hamp, A., Stamm, K., Lin, L., & Christidis, P. (2016). *2015 APA survey of psychology health

service providers*. Center for Workforce Studies, American Psychological Association.

https://www.apa.org/workforce/publications/15-health-service-providers

Hopwood, C. J., & Donnellan, M. B. (2010). How should the internal structure of personality

inventories be evaluated? *Personality and Social Psychology Review*, *14*(3), 332–346.

http://dx.doi.org/10.1177/1088868310361240

Hopwood, C. J., Kotov, R., Krueger, R. F., Watson, D., Widiger, T. A., Althoff, R. R., Ansell, E.

B., Bach, B., Bagby, R. M., 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., …

Zimmermann, J. (2018). The time has come for dimensional personality disorder

diagnosis. *Personality and Mental Health, 12*(1), 82–86. https://doi.org/10.1002/pmh.1408

Hu, L.-t., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis:

Conventional criteria versus new alternatives. *Structural Equation Modeling, 6*(1), 1–55.

https://doi.org/10.1080/10705519909540118

Ilfeld, F. W. Jr. (1976). Further validation of a psychiatric symptom index in a normal

population. *Psychological Reports*, *39*(3, Pt 2)J2, 1215–1228.

https://doi.org/10.2466/pr0.1976.39.3f.1215

Jane, J. S., Oltmanns, T. F., South, S. C., & Turkheimer, E. (2007). Gender bias in diagnostic

criteria for personality disorders: An item response theory analysis. *Journal of Abnormal

Psychology, 116*(1), 166–175. https://doi.org/10.1037/0021-843X.116.1.166

Kerber, A., Schultze, M., Müller, S., Rühling, R. M., Wright, A. G. C., Spitzer, C., Krueger, R.

F., Knaevelsrud, C., & Zimmermann, J. (2022). Development of a short and ICD-11

compatible measure for DSM-5 maladaptive personality traits using ant colony optimization

algorithms. *Assessment*, *29*(3), 467–487. https://doi.org/10.1177/1073191120971848

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*(9), 1879–1890. http://dx.doi.org/10.1017/S0033291711002674

Krueger, R. F., Derringer, J., Markon, K. E., Watson, D., & Skodol, A. E. (2013). *The*

Personality Inventory for DSM-5 Brief Form (PID-5-BF) [Psychometric test] .

file:///C:/Users/phili/Downloads/APA_DSM5_The-Personality-Inventory-For-DSM-5-Brief-

Form-Adult.pdf

Lafontaine, M.-F., Brassard, A., Lussier, Y., Valois, P., Shaver, P. R., & Johnson, S. M. (2016).

Selecting the best items for a short-form of the Experiences in Close Relationships

questionnaire. *European Journal of Psychological Assessment, 32*(2), 140–

154. https://doi.org/10.1027/1015-5759/a000243

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*(4), 1195–1210. https://doi.org/10.1037/pas0000120

Marsh, H. W., Morin, A. J., Parker, P. D., & Kaur, G. (2014). Exploratory structural equation

modeling: An integration of the best features of exploratory and confirmatory factor analysis.

Annual Review of Clinical Psychology, *10*, 85–110. https://doi.org/10.1146/annurev-clinpsy-

032813-153700

Newsom, J. T. (2015). *Longitudinal structural equation modeling*. Routledge.

Nunnally, J. C. (1978). *Psychometric theory*. Tata McGraw-Hill Education.

O'Connor, B. P. (2002). The search for dimensional structure differences between normality and

abnormality: A statistical review of published data on personality and

psychopathology. *Journal of Personality and Social Psychology, 83*(4), 962–

982. http://dx.doi.org/10.1037/0022-3514.83.4.962

Patton, J. H., Stanford, M. S., & Barratt, E. S. (1995). Factor structure of the Barratt

Impulsiveness Scale. *Journal of Clinical Psychology*, *51*(6), 768–774.

https://doi.org/10.1002/1097-4679(199511)51:6<768::AID-JCLP2270510607>3.0.CO;2-1

Préville, M., Boyer, R., Potvin, L., Perreault, C., & Légaré, G. (1992). *La détresse

psychologique : détermination de la fiabilité et de la validité de la mesure utilisée dans

l'enquête Santé Québec 87* [Psychological distress: Determining the reliability and validity

of the measure used in the Santé Québec survey 87]. Ministère de la Santé et des services

sociaux du Québec.

http://www.santecom.qc.ca/Bibliothequevirtuelle/santecom/35567000006905.pdf

Putnick, D. L., & Bornstein, M. H. (2016). Measurement invariance conventions and reporting:

The state of the art and future directions for psychological research. *Developmental Review,

41*, 71–90. https://doi.org/https://doi.org/10.1016/j.dr.2016.06.004

Roskam, I., Galdiolo, S., Hansenne, M., Massoudi, K., Rossier, J., Gicquel, L., & Rolland, J.-P.

(2015). The psychometric properties of the French version of the Personality Inventory for

DSM–5. *PLoS ONE*, *10*, Article e0133413. http://dx.doi.org/10.1371/journal.pone.0133413

Samuel, D. B., South, S. C., & Griffin, S. A. (2015). Factorial invariance of the five-factor model

rating form across gender. *Assessment*, *22*(1), 65–75.

https://doi.org/10.1177/1073191114536772

Schoenleber, M., Roche, M. J., Wetzel, E., Pincus, A. L., & Roberts, B. W. (2015). Development

of a brief version of the Pathological Narcissism Inventory. *Psychological Assessment, 27*(4),

1520–1526. https://doi.org/10.1037/pas0000158

Sellbom, M., Graham, J. R., & Schenk, P. W. (2006). Incremental validity of the MMPI–2

Restructured Clinical (RC) scales in a private practice sample. *Journal of Personality

Assessment, 86*(2), 196–205. https://doi.org/10.1207/s15327752jpa8602_09

Sharma, S., Durvasula, S., & Ployhart, R. E. (2011). The analysis of mean differences using

mean and covariance structure analysis: Effect size estimation and error rates. *Organizational*

Research Methods, 15(1), 75–102. https://doi.org/10.1177/1094428111403154

Sleep, C. E., Sellbom, M., Campbell, W. K., & Miller, J. D. (2017). Narcissism and response

validity: Do individuals with narcissistic features underreport psychopathology?

Psychological Assessment, *29*(8), 1059–1064. https://doi.org/10.1037/pas0000413

Somma, A., Krueger, R. F., Markon, K. E., Borroni, S., & Fossati, A. (2019). Item response

theory analyses, factor structure, and external correlates of the Italian translation of the

Personality Inventory for DSM-5 Short Form in community-dwelling adults and clinical

adults. *Assessment, 26*(5), 839–852. https://doi.org/10.1177/1073191118781006

Somma, A., Krueger, R. F., Markon, K. E., & Fossati, A. (2019). The replicability of the

personality inventory for DSM–5 domain scale factor structure in U.S. and non-U.S.

samples: A quantitative review of the published literature. *Psychological Assessment, 31*(7),

861–877. http://dx.doi.org/10.1037/pas0000711

Sorrel, M. A., García, L. F., Aluja, A., Rolland, J.-P., Rossier, J., Roskam, I., & Abad, F. J.

(2021). Cross-cultural measurement invariance in the Personality Inventory for DSM-5.

Psychiatry Research, *304*, Article 114134. https://doi.org/10.1016/j.psychres.2021.114134

Stewart, R. E., & Chambless, D. L. (2007). Does psychotherapy research inform treatment

decisions in private practice? *Journal of Clinical Psychology*, *63*(3), 267–281.

https://doi.org/10.1002/jclp.20347

Suzuki, T., South, S. C., Samuel, D. B., Wright, A. G. C., Yalch, M. M., Hopwood, C. J., &

Thomas, K. M. (2019). Measurement invariance of the DSM–5 Section III pathological

personality trait model across sex. *Personality Disorders: Theory, Research, and Treatment,*

10(2), 114–122. https://doi.org/10.1037/per0000291

Ten Berge, J.M.F., & Sočan, G. (2004). The greatest lower bound to the reliability of a test and

the hypothesis of unidimensionality. *Psychometrika*, *69*(4), 613–625.

https://doi.org/10.1007/BF02289858

Watters, 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*(9), 1255–1260.

http://dx.doi.org/10.1037/pas0000605

Watters, C. A., Sellbom, M., & Bagby, R. M. (2019). Comparing two domain scoring methods

for the Personality Inventory for DSM–5. *Psychological Assessment, 31*(9), 1125–

1134. https://doi.org/10.1037/pas0000739

Widiger, T. A., & Crego, C. (2019). HiTOP thought disorder, DSM-5 psychoticism, and five

factor model openness. *Journal of Research in Personality, 80*, 72–77.

https://doi.org/10.1016/j.jrp.2019.04.008

Zimmermann, J., Kerber, A., Rek, K., Hopwood, C., & F Krueger, R. (2019). A brief but

comprehensive review of research on the Alternative DSM-5 Model for Personality

Disorders. *Current Psychiatry Reports*, *21*(9), Article 92. http://dx.doi.org/10.1007/s11920-

019-1079-z

Table 1

*Reliability Indices of the Personality Inventory for DSM-5 Faceted Brief Form Domains and Facets (*N = 1358)

	Community (n = 526)			Private Practice (n = 544)			Outpatients with PD (n = 288)			All samples (N = 1358)		
Variables	ω	α	MIC	ω	α	MIC	ω	α	MIC	ω	α	MIC
PID-5-FBF domains												
Negative Affectivity	.90	.90	.42	.88	.88	.37	.85	.85	.33	.90	.90	.43
Detachment	.91	.90	.44	.88	.87	.36	.85	.85	.33	.91	.90	.44
Antagonism	.88	.88	.38	.87	.86	.36	.90	.90	.42	.89	.88	.39
Disinhibition	.89	.89	.39	.89	.89	.39	.85	.85	.33	.90	.90	.42
Psychoticism	.91	.89	.41	.85	.84	.31	.87	.86	.34	.89	.88	.38
PID-5-FBF facets												
Anhedonia	.89	.88	.65	.86	.85	.59	.83	.83	.55	.89	.89	.67
Anxiousness	.88	.88	.66	.86	.86	.61	.85	.84	.57	.88	.88	.65
Attention-Seeking	.89	.88	.65	.89	.88	.65	.91	.91	.72	.89	.89	.67
Callousness	.84	.84	.58	.82	.82	.54	.81	.81	.52	.83	.83	.56
Cog. and Perc. Dys.	.74	.74	.42	.64	.62	.30	.69	.67	.34	.70	.69	.36
Deceitfulness	.82	.81	.52	.71	.70	.37	.85	.85	.58	.81	.80	.50
Depressivity	.88	.87	.64	.85	.84	.57	.80	.80	.50	.88	.88	.65
Distractibility	.92	.92	.74	.93	.93	.76	.91	.90	.70	.93	.93	.76
Eccentricity	.91	.91	.71	.87	.87	.62	.86	.85	.59	.89	.89	.67
Emotional Lability	.82	.81	.52	.83	.82	.53	.83	.82	.54	.86	.85	.58
Grandiosity	.78	.78	.48	.76	.76	.45	.79	.79	.48	.77	.77	.47
Hostility	.83	.80	.49	.84	.82	.52	.82	.80	.49	.84	.83	.54
Impulsivity	.87	.87	.63	.89	.89	.68	.90	.90	.68	.90	.90	.69
Intimacy Avoidance	.86	.85	.58	.77	.74	.44	.84	.82	.54	.85	.83	.55
Irresponsibility	.68	.68	.35	.63	.62	.30	.68	.67	.34	.69	.68	.35
Manipulativeness	.80	.79	.49	.78	.77	.47	.85	.84	.57	.81	.80	.51
Perseveration	.80	.79	.51	.74	.73	.73	.80	.79	.48	.80	.80	.51
Restricted Affectivity	.84	.83	.55	.83	.82	.53	.75	.73	.40	.81	.80	.50

Rigid Perfectionism	.85	.84	.56	.82	.80	.51	.84	.83	.56	.85	.84	.56
Risk Taking	.84	.83	.57	.83	.83	.55	.88	.88	.64	.86	.86	.61
Separation Insecurity	.86	.85	.59	.80	.79	.48	.84	.84	.57	.85	.84	.58
Submissiveness	.83	.83	.55	.85	.85	.59	.86	.86	.61	.85	.85	.59
Suspiciousness	.80	.80	.52	.69	.69	.38	.76	.76	.44	.80	.79	.51
Unusual B. and Exp.	.79	.77	.46	.69	.68	.37	.71	.70	.37	.75	.74	.42
Withdrawal	.86	.85	.60	.82	.82	.55	.79	.79	.49	.85	.84	.58

Note. Cog. and Perc. Dys. = Cognitive and Perceptual Dysregulation; DSM-5 = *Diagnostic and Statistical Manual of Mental Disorders*, 5th edition; MIC = mean inter-item correlation; Outpatients with PD = outpatients with personality disorder; Unusual B. and Exp. = Unusual Beliefs and Experiences.

Table 2

Best Fitting Factor Model of the Personality Inventory for DSM-5 Faceted Brief Form Trait Scales: Standardized Factor Loading and Factor Correlations Based on Robust Maximum Likelihood Exploratory Structural Equation Modeling Factor Analysis Using the 15-Facet Scoring Procedure (N = 1358)

	Domains				
Facets	Negative Affectivity	Detachment	Antagonism	Disinhibition	Psychoticism
Anxiousness	**.72**	.16	.06	-.08	.02
Emotional Lability	**.65**	.08	-.08	.16	.12
Separation Insecurity	**.62**	-.15	.10	.11	-.02
Anhedonia	.25	**.62**	.06	.06	-.01
Intimacy Avoidance	-.09	**.63**	-.05	.06	.04
Withdrawal	-.05	**.86**	.03	-.02	.02
Deceitfulness	-.01	.02	**.74**	.22	-.05
Grandiosity	.02	.09	**.59**	-.17	.10
Manipulativeness	.04	-.06	**.88**	-.04	.01
Distractibility	.27	.06	-.11	**.51**	.02
Impulsivity	.13	-.04	.08	**.58**	.07
Irresponsibility	-.17	.07	.12	**.76**	.06
Cog. and Perc. Dys.	.03	-.04	-.05	.05	**.77**
Eccentricity	.02	.22	.09	.14	**.41**
Unusual B. and Exp.	-.02	-.07	.02	-.06	**.96**
Factor inter-correlations					
Detachment	.39				
Antagonism	.19	.29			
Disinhibition	**.60**	.45	**.50**		
Psychoticism	.40	.48	.44	**.53**	

Note. Factor loadings displayed after Target rotation. Factor loadings ≥ .30 and inter-factor correlations ≥ .50 are **bolded**. Cog. and Perc. Dys. = Cognitive and Perceptual Dysregulation; DSM-5 = *Diagnostic and Statistical Manual of Mental Disorders*, 5th edition; Unusual B. and Exp. = Unusual Beliefs and Experiences.

THE FRENCH PID-5-FBF

Table 3

Best Fitting Factor Model of the Personality Inventory for DSM-5 Faceted Brief Form Trait Scales: Standardized Factor Loading and Factor Correlations Based on Robust Maximum Likelihood Exploratory Structural Equation Modeling Factor Analysis Using the 25-Facet Scoring Procedure (N = 1358)

Facets	Domains				
	Negative Affectivity	Detachment	Antagonism	Disinhibition	Psychoticism
Anxiousness	**.68**	.24	.07	-.14	.10
Emotional Lability	**.63**	.11	-.12	.25	.15
Hostility	.29	.29	.07	.29	.01
Perseveration	**.43**	.23	.08	.21	.06
Restricted Affect	**-.42**	**.53**	.26	.04	-.01
Separation Insecurity	**.59**	-.03	.13	.09	-.01
Submissiveness	**.45**	.12	.15	-.04	-.06
Anhedonia	.21	**.73**	.05	.04	.03
Depressivity	.25	**.65**	-.01	.10	.09
Intimacy Avoidance	-.09	**.63**	-.06	.09	.09
Suspiciousness	.22	**.41**	.16	.03	.24
Withdrawal	-.08	**.75**	.01	.03	.10
Attention-Seeking	.27	**-.35**	**.53**	.16	-.04
Callousness	**-.30**	**.33**	**.41**	.22	.01
Deceitfulness	.01	-.01	**.79**	.12	-.04
Grandiosity	-.06	.03	**.65**	-.15	.11
Manipulativeness	-.01	-.13	**.88**	-.05	.03
Distractibility	**.36**	.12	-.11	**.37**	.03
Impulsivity	.15	-.06	.04	**.76**	-.01
Irresponsibility	.05	.09	.23	**.47**	.06
Rigid Perfectionism	**.41**	.25	.15	-.14	.08
Risk Taking	-.17	-.08	.16	**.51**	.26
Cog. and Perc. Dys.	.07	-.00	-.03	.01	**.76**
Eccentricity	.02	.21	.10	.15	**.42**
Unusual B. and Exp.	-.02	-.08	-.00	-.01	**.94**

Factor inter-correlations				
Detachment	.28			
Antagonism	.21	.35		
Disinhibition	.39	.41	**.55**	
Psychoticism	.30	.42	.47	**.52**

Note. Factor loadings displayed after Target rotation. Factor loadings ≥ .30 and inter-factor correlations ≥ .50 are **bolded**. Cog. and Perc. Dys. = Cognitive and Perceptual Dysregulation; DSM-5 = *Diagnostic and Statistical Manual of Mental Disorders*, 5th edition; Restricted Affect. = Restricted Affectivity; Unusual B. and Exp. = Unusual Beliefs and Experiences.

Table 4

Convergent and Divergent Validity of the Personality Inventory for DSM-5 Faceted Brief Form Domains and Facets (N = 1358)

	ECR-12 (n = 1065)[a,b]		IRI (n = 813)[a,c]		PSI (n = 543)[b]					BIS-11 (n = 286)[c]				B-PNI (n = 262)[c]		SIFS (n = 741)[b,c]				
	ECR-12 Anxiety	ECR-12 Avoidance	IRI Perspective Taking	IRI Empathic Concern	PSI Total Score	PSI Depression	PSI Anxiety	PSI Anger	PSI Cog. Disturbance	BIS-11 Total Score	BIS-11 Attentional	BIS-11 Motor	BIS-11 Nonplanning	B-PNI Grandiosity	B-PNI Vulnerability	SIFS Total Score	SIFS Identity	SIFS Self-Direction	SIFS Empathy	SIFS Intimacy
PID-5-FBF domains																				
Negative Affectivity	**.65**	.05	-.26	.14	**.61**	**.57**	**.60**	.41	.26	.32	.22	.28	.32	.24	.44	**.63**	**.67**	**.51**	.46	.39
Detachment	.24	.44	-.34	-.24	.46	.47	.32	.31	.29	.15	.11	.10	.18	-.07	.09	**.71**	**.62**	.43	**.50**	**.72**
Antagonism	.17	.16	-.33	-.28	.12	.06	.13	.15	.05	.42	.28	.47	.26	**.65**	.44	.39	.21	.39	.39	.35
Disinhibition	.35	.19	-.39	-.10	.46	.38	.38	.32	.42	**.75**	**.57**	**.66**	**.66**	.30	.40	**.67**	**.56**	**.72**	**.52**	.43
Psychoticism	.19	.19	-.19	-.08	.27	.22	.23	.21	.19	.40	.25	.37	.41	.37	.25	**.54**	.44	.41	.49	.44
PID-5-FBF facets																				
Anhedonia	.28	.30	-.33	-.19	**.54**	**.56**	.39	.38	.28	.23	.20	.15	.24	.10	.22	**.71**	**.69**	.48	**.50**	**.61**
Anxiousness	.47	.04	-.16	.12	**.57**	**.51**	**.61**	.36	.27	.11	.03	.06	.20	.15	.32	**.51**	**.56**	.36	.35	.34
Attention-Seeking	.27	.02	-.18	.03	.09	.04	.12	.10	.03	.43	.30	.45	.32	**.58**	.46	.23	.14	.30	.22	.14
Callousness	.02	.25	-.48	**-.53**	.08	.04	.01	.14	.08	.37	.29	.34	.29	.25	.24	.48	.24	.35	**.52**	**.50**
Cog. and Perc. Dys.	.21	.11	-.11	.00	.25	.23	.19	.15	.24	.27	.17	.23	.28	.28	.22	.38	.32	.29	.34	.31
Deceitfulness	.20	.17	-.34	-.24	.15	.10	.16	.15	.06	.44	.32	.47	.27	**.51**	.38	.46	.29	.48	.42	.37
Depressivity	.35	.25	-.28	-.12	**.57**	**.59**	.44	.37	.34	.33	.28	.24	.33	.11	.31	**.72**	**.73**	.50	.49	**.58**
Distractibility	.31	.11	-.21	.03	.44	.37	.40	.26	.40	.39	.25	.22	**.57**	.04	.21	.47	.45	.46	.35	.28
Eccentricity	.14	.21	-.20	-.12	.23	.18	.21	.19	.11	.39	.24	.35	.42	.30	.22	**.55**	.45	.41	**.51**	.44
Emotional Lability	.46	.06	-.25	.16	**.57**	**.51**	**.51**	.46	.24	.33	.25	.30	.29	.12	.30	**.61**	**.62**	.50	.45	.37
Grandiosity	.11	.14	-.25	-.27	.06	.02	.06	.10	.02	.23	.14	.26	.16	**.55**	.34	.24	.06	.16	.31	.29
Hostility	.30	.12	-.43	-.14	.46	.33	.29	**.59**	.19	.41	.30	.35	.40	.19	.35	**.56**	.45	.44	**.54**	.43
Impulsivity	.30	.14	-.42	-.13	.30	.23	.22	.27	.25	**.68**	**.53**	**.70**	.43	.32	.34	**.60**	.45	**.70**	.48	.38
Intimacy Avoidance	.11	.47	-.20	-.16	.19	.22	.10	.08	.18	.00	-.01	-.03	.05	-.14	.00	.43	.35	.24	.27	**.51**
Irresponsibility	.24	.23	-.35	-.17	.36	.30	.25	.25	.36	**.63**	**.51**	**.59**	.46	.31	.33	**.58**	.46	**.60**	.45	.40
Manipulativeness	.13	.11	-.24	-.21	.10	.04	.12	.12	.04	.37	.24	.43	.24	**.60**	.40	.29	.16	.31	.28	.25

Perseveration	.39	.20	-.38	-.05	.44	.42	.36	.33	.21	.37	.30	.34	.29	.25	.41	**.59**	**.53**	**.50**	**.50**	.40
Restricted Affectivity	-.02	.34	-.27	**-.52**	.01	.00	-.05	.02	.07	.15	.11	.17	.08	.02	.04	.30	.16	.17	.30	.36
Rigid Perfectionism	.29	.08	-.17	.03	.31	.25	.26	.29	.13	.00	-.16	.08	.07	.21	.28	.34	.32	.19	.30	.29
Risk Taking	.05	.13	-.23	-.12	.03	.01	-.01	.04	.10	.47	.32	**.51**	.33	.33	.13	.36	.23	.38	.32	.28
Separation Insecurity	**.67**	.02	-.25	.07	.31	.35	.31	.15	.12	.28	.22	.26	.23	.25	.35	.44	.45	.39	.33	.24
Submissiveness	.34	.10	-.14	.07	.30	.29	.32	.15	.15	.05	-.01	.07	.05	.15	.26	.31	.38	.25	.17	.16
Suspiciousness	.40	.26	-.33	-.10	.42	.37	.32	.34	.23	.31	.21	.28	.30	.32	.40	**.65**	**.53**	.42	**.56**	**.62**
Unusual B. and Exp.	.14	.11	-.15	-.05	.17	.13	.13	.14	.16	.32	.21	.31	.28	.33	.16	.38	.29	.31	.34	.32
Withdrawal	.18	.31	-.32	-.26	.34	.32	.25	.25	.23	.13	.08	.12	.13	-.10	-.01	**.62**	.49	.35	.47	**.68**

Note. Coefficients of ≥.50 are **bolded**. BIS-11 = Barratt Impulsivity Scale, 11th version; Cog. and Perc. Dys. = Cognitive and Perceptual Dysregulation; Cog. Disturbance = Cognitive Disturbance; DSM-5 = *Diagnostic and Statistical Manual of Mental Disorders*, 5th edition; ECR-12 = Experiences in Close Relationships, 12-item version; IRI = Interpersonal Reactivity Index; PSI = Psychiatric Symptom Index; SIFS = Self and Interpersonal Functioning Scale; Unusual B. and Exp. = Unusual Beliefs and Experiences.
[a]Analysis includes the community sample.
[b]Analysis includes the private practice sample.
[c]Analysis includes the outpatients with personality disorder sample.

THE FRENCH PID-5-FBF

Table 5

*Goodness-of-Fit Indices for the Invariance Analysis of the Personality Inventory for DSM-5 Faceted Brief Form Using the 15-Facet Scoring Procedure (*N = *1358)*

Model	$\chi^2(df)$	CFI	TLI	RMSEA [90% CI]	SRMR	ΔCFI	ΔTLI	ΔRMSEA	w	ΔMc	MI Level
ESEM	135.389(40)*	.987	.965	.042 [.034–.050]	0.012	–	–	–	–	–	–
Biol. Sex											
Configural	204.092(80)**	.983	.955	.048 [.040–.056]	0.015	–	–	–	–	–	–
Metric	296.497(130)**	.977	.963	.043 [.037–.050]	0.030	.006	.008	.005	0.056	0.033	Full
Scalar	371.421(140)**	.968	.952	.049 [.043–.055]	0.034	.009	.011	.006	0.114	0.048	Full
Strict	407.130(155)**	.965	.953	.049 [.043–.055]	0.038	.003	.001	.000	0.064	0.015	Full
Sample											
Configural	260.246(120)**	.978	.942	.051 [.042–.059]	0.018	–	–	–	–	–	–
Configural-2[a]	227.628(117)**	.983	.953	.046 [.037–.055]	0.018	–	–	–	–	–	–
Metric	410.191(217)**	.970	.956	.044 [.038–.051]	0.038	.013	.003	.002	0.056	0.063	Full
Scalar	513.176(237)**	.956	.942	.051 [.045–.057]	0.043	.014	.014	.007	0.095	0.059	Not
Scalar-2[b]	471.982(235)**	.963	.950	.047 [.041–.053]	0.041	.007	.006	.003	0.077	0.032	Partial
Strict	775.489(265)**	.919	.904	.065 [.060–.071]	0.058	.044	.046	.018	0.133	0.172	Not
Strict-2[c]	548.477(255)**	.954	.943	.050 [.045–.056]	0.047	.009	.007	.003	0.081	0.039	Partial

Note. The MI Level column indicates whether the model is fully, partially, or not invariant. Biol. Sex = biological sex; CFI = Comparative Fit Index; DSM-5 = *Diagnostic and Statistical Manual of Mental Disorders*, 5th edition; ESEM = exploratory structural equation modeling; MI = measurement invariance; RMSEA = Root Mean Square Error of Approximation; SRMS = Standardized Root Mean Square; TLI = Tucker-Lewis index; w = w-coefficient; ΔMc = McDonald's Noncentrality Index.

[a] Correlation between error terms of Grandiosity and Deceitfulness have been added to the initial model.

[b] Anxiousness' intercept was relaxed.

[c] Five residual variances were relaxed: Intimacy Avoidance, Grandiosity, Irresponsibility, Eccentricity, as well as Cognitive and Perceptual Dysregulation.

* $p < .05$. ** $p < .001$.

THE FRENCH PID-5-FBF

Table 6

*Goodness-of-Fit Indices for the Invariance Analysis of the Personality Inventory for DSM-5 Faceted Brief Form Using the 25-Facet Scoring Procedure (*N = 1358)

Model	$\chi^2(df)$	CFI	TLI	RMSEA [90% CI]	SRMR	ΔCFI	ΔTLI	ΔRMSEA	w	ΔMc	MI Level
ESEM	1160.577(185)**	.932	.890	.062 [.059–.066]	0.025	–	–	–	–	–	–
ESEM[a]	749.569(181)**	.960	.934	.048 [.045–.052]	0.021	–	–	–	–	–	–
Biol. Sex											
Configural	986.033(362)**	.956	.928	.050 [.047–.054]	0.023	–	–	–	–	–	–
Metric	1143.599(462)**	.952	.938	.047 [.043–.050]	0.034	.004	.010	.003	0.052	0.028	Full
Scalar	1251.613(482)**	.946	.933	.048 [.045–.052]	0.036	.006	.005	.001	0.097	0.041	Full
Strict	1342.708(507)**	.942	.931	.049 [.046–.052]	0.042	.004	.002	.001	0.080	0.029	Full
Sample											
Configural	1297.048(543)**	.942	.904	.055 [.052–.059]*	0.028	–	–	–	–	–	–
Metric	1542.276(743)**	.939	.926	.049 [.045–.052]	0.042	.003	.022	.006	0.046	0.020	Full
Scalar	1786.116 (783)**	.923	.912	.053 [.050–.056]	0.048	.016	.014	.004	0.103	0.081	Not
Scalar-2[b]	1674.351(773)**	.931	.920	.051 [.047–.054]	0.045	.009	.006	.002	0.088	0.042	Partial
Strict	2400.351(823)**	.879	.868	.065 [.062–.068]**	0.066	.052	.052	.020	0.159	0.203	Not
Strict-2[c]	1819.051(799)**	.922	.912	.053 [.050–.056]	0.050	.009	.008	.002	0.098	0.045	Partial

Note. The MI Level column indicates whether the model is fully, partially, or not invariant. Biol. Sex = biological sex; CFI = Comparative Fit Index; DSM-5 = *Diagnostic and Statistical Manual of Mental Disorders*, 5th edition; ESEM = exploratory structural equation modeling; MI = measurement invariance; RMSEA = Root Mean Square Error of Approximation; SRMS = Standardized Root Mean Square; TLI = Tucker-Lewis index; *w* = *w*-coefficient; ΔMc = McDonald's Noncentrality Index.

[a] Correlation between error terms for Depressivity and Anhedonia, Deceitfulness and Manipulation, Emotional Lability and Hostility, and Emotional Lability and Restricted Affectivity.

[b] Anxiousness, Anhedonia, Separation Anxiety, Suspiciousness, and Risk Taking's intercepts were relaxed for the three groups.

[c] 12 residual variances were relaxed: [lack of] Perseveration, Depressivity, Intimacy Avoidance, Suspiciousness, Callousness, Deceitfulness, Grandiosity, Irresponsibility, Risk Taking, Eccentricity, Cognitive and Perceptual Dysregulation, and Unusual Beliefs and Experiences.

p < .05. **p* < .001.

THE FRENCH PID-5-FBF

Table 7

Between-Sample Latent Mean Comparisons for the Personality Inventory for DSM-5 Faceted Brief Form Domains Using the 15-Facet Scoring Procedure (N = 1358)

Model and Samples Compared	Negative Affectivity	Detachment	Antagonism	Disinhibition	Psychoticism
	d	*d*	*d*	*d*	*d*
Scalar					
Outpatients with PD vs. Community	1.71***	1.11***	0.14*	1.24***	0.81***
Private Practice vs. Community	0.48***	-0.27**	-0.20**	0.25***	-0.05
Scalar-2					
Outpatients with PD vs. Community	2.05***	1.14***	0.14*	1.19***	0.80***
Private Practice vs. Community	0.65***	-0.25**	-0.20**	0.23***	-0.06
Strict					
Outpatients with PD vs. Community	1.91***	1.09***	0.13	1.08***	0.74***
Private Practice vs. Community	0.63***	-0.26**	-0.20**	0.23***	-0.04
Strict-2					
Outpatients with PD vs. Community	1.95***	1.08***	0.14*	1.15***	0.80***
Private Practice vs. Community	0.64***	-0.26**	-0.20**	0.23***	-0.05

Note. The models displayed are those from Table 5. The community sample was used as the comparison group, so its latent means were constrained to be equal to zero. Effect sizes (*d*) with a positive sign indicate that the other sample (outpatient or private practice) shows a higher latent mean than the community sample, while, conversely, a negative sign indicates that the community sample shows a higher latent mean. DSM-5 = *Diagnostic and Statistical Manual of Mental Disorders*, 5th edition; Outpatients with PD = outpatients with personality disorder.

*p < .05. **p < .01 ***p < .001.