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Polish adaptation of self-report instruments for studying borderline personality traits – FFBI and FFBI-SF

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Summary

Aim. The article presents the results of research on the Polish adaptation of the self-report questionnaires FFBI (Five Factor Borderline Inventory) and FFBI-SF (Five Factor Borderline Inventory – Short Form), which were developed to measure borderline personality traits.

Method. The study, which consisted of two sessions, included a non-clinical sample of $N = 527$ adults (session 1: $N = 527$; $M_{age} = 32.74$ years; $SD_{age} = 10.12$ years; 44% male; session 2: $N = 315$; $M_{age} = 33.56$ years; $SD_{age} = 10.71$ years; 48.6% male). For convergent and divergent validity, Borderline Personality Disorder Checklist (BPD Checklist), Screening Instrument for Borderline Personality Disorder (SI-Bord), Borderline Personality Inventory (BPI) and Personality Inventory for ICD-11 (PiCD) were used.

Results. The results showed the Polish adaptations of the FFBI and FFBI-SF to be reliable and valid. Cronbach's alpha coefficient for FFBI/FFBI-SF scales scores ranged from 0.80/0.67 to 0.94/0.91 ($M_{\alpha} = 0.89/0.84$). The twelve-factor structure of FFBI/FFBI-SF items was confirmed. All FFBI/FFBI-SF traits are related to borderline facets measured by BPD Checklist, SI-Bord, BPI and pathological personality traits measured by PiCD in an expected way.

Conclusions. Obtained data demonstrate satisfactory internal consistency, factorial validity, and convergent-discriminant validity of the Polish adaptations of FFBI and FFBI-SF in a non-clinical sample.

Key words: borderline personality disorders, FFM, FFBI

Introduction

Borderline personality disorder (BPD) is one of 10 personality disorders listed in the latest classification of Section II of DSM-5 (Diagnostic and Statistical Manual of Mental Disorders, 5th edition) [1] and is characterized by instability in impulse control, affect regulation, interpersonal relationships, and self-image [1, 2]. It is estimated that its average prevalence is 1.4% in the general population, while in the community of people under

psychiatric care – about 10% in outpatients and 20% in patients in hospitals [3]. Apart from the fact that BPD is perceived as one of the most difficult to treat, people affected by it are more stigmatized (marked) by the environment than other personality disorders (PD) [4].

There has been a long debate about the usefulness of the categorical approach (assigning a person to a specific category, disease entity) and dimensionality (describing the severity of certain pathological dimensions) in the context of the conceptualization of mental disorders, including BPD [5, 6]. Recently, more and more often the advantage of the dimensional approach over the categorical one is pointed out [7, 8]. Therefore, many dimensional models of personality disorders have been developed [9]. Some of them refer to the dimensional model of the Big Five [10], which basically describes the healthy personality, but can also be applied to the description of the disturbed personality. This model functions in the literature in various variants [11], and one of the best known and extensive is Costa and McCrae's Five Factor Model (FFM) [12]. It describes personality in 30 facets, grouped into five domains. As it has been shown in many studies, FFM turned out to also be useful for understanding BPD [13–16], and Widiger et al. [16, 17] suggested that borderline may be understood as maladaptive variants of domains and facets distinguished in FFM. Samuel and Widiger [14] conducted a meta-analysis and, taking into account 30 facets of FFM, found positive associations of BPD with all facets of Neuroticism and negative associations with some facets of Extraversion, Agreeableness and Conscientiousness. Similar results were obtained by Distel et al. [18] on a sample of 10,489 twins, who showed that borderline personality traits were explained to the greatest extent by Neuroticism (45%), and much less by Agreeableness (6%), Extraversion (1%), Conscientiousness (1%), and Openness to experience explained less than 1% of the variance.

The FFBI (Five Factor Borderline Inventory) [19] – a self-report questionnaire designed to measure borderline personality traits is proposed for a systematic approach to BPD within the 30 facets FFM model. In this article, we present its Polish adaptation, taking into account both versions: full – 120 items (FFBI) and short – consisting of 48 items (FFBI-SF) [20]. When developing the FFBI, Mullins-Sweatt et al. [19] based on a review of theoretical literature [e.g., 16, 17, 21], empirical research [e.g., 14], as well as surveys of clinicians and researchers [22], identified 11 facets of FFM that were most important for BPD, and then created 12 scales to operationalize these facets. The discrepancy in the number of facets (11) and scales (12) results from the fact that the two scales Affective dysregulation and Fragility were operationalizations of one facet – Vulnerability (from the domain of Neuroticism). The most prominent domain in FFBI is Neuroticism, which has six pathological facet variants. In addition, specific pathological variants of facets from other domains are also present: Trust, Straightforwardness and Compliance from Agreeableness; Deliberation from Conscientiousness. The authors also decided to include one facet of Openness to experience – Fantasy. Consequently, facets from all domains except Extraversion can be found on the FFBI scales. Although the authors cited empirical reports by some researchers on the relationship between Extraversion and BPD [e.g., 14, 18], they ultimately did not introduce it into the FFBI model. A summary of the FFM facets and FFBI scales with example items are presented in Table 1.

Table 1. **Borderline personality traits in FFM facets and FFBI scales**

	FFM facets	FFBI scales	Sample FFBI items
Neuroticism			
N1	Anxiety	Anxious uncertainty	I tend to be quite anxious I worry a lot about people leaving me
N2	Angry hostility	Dysregulated anger	I have had quite a few angry outbursts My anger often feels out of control
N3	Depression	Despondence	I sometimes feel worthless I often feel sad
N4	Self-consciousness	Self-disturbance	I can be so different with different people that I wonder who I am I tend to feel like I don't belong with anyone
N5	Impulsiveness	Behavioral dysregulation	I frequently have urges to do things that get me into trouble I have done a lot of things impulsively that I later regret
N6a	Vulnerability	Affective dysregulation	My emotions can spiral out of control My mood shifts rapidly from one feeling to another
N6b	Vulnerability	Fragility	Harming myself is one of the few ways I can tolerate my emotions Even minor setbacks can cause a great deal of drama in my life
Openness to experience			
O1	Fantasy	Dissociative tendencies	I have felt that things were unreal and I was detached from life Sometimes I feel like I am no longer connected to my body
Agreeableness			
A1	Trust (low level)	Distrustfulness	I am often distrustful of other people People are not as loyal to me as I wish they were
A2	Straightforwardness (low level)	Manipulativeness	Other people have called me manipulative I have been known to massage the truth to get my way
A4	Compliance (low level)	Oppositional	I will make threats to get people to do things I often get into arguments with people who are close to me
Conscientiousness			
C6	Deliberation (low level)	Rashness	I get into trouble because I don't think things through Others have said that I do not think before I act

Note. N – Neuroticism, O – Openness to experience, A – Agreeableness, C – Conscientiousness. The numbers following the letters refer directly to the facets of the NEO-PI-R.

Research hypotheses

The aim of the study was to develop the basic psychometric characteristics of the Polish versions of the FFBI [19] and FFBI-SF [20] – self-report questionnaires for measuring borderline personality traits. In the presented study, the following were expected:

1) Internal consistency of all scales. This hypothesis was verified using the Cronbach's alpha coefficient and additionally – the McDonald's omega. Cronbach's alpha values similar to the original version of FFBI [19] were expected, where all scales had coefficients above 0.77 (M_{α} = 0.86) and in FFBI-SF above 0.71 (M_{α} = 0.80). Similar values were also obtained in the Persian version of FFBI-SF, where the mean Cronbach's alpha score was 0.70 [23], and in the French FFBI-SF – M_{α} = 0.78 [24].
2) Structural validity, i.e., the 12-factor structure of the Polish version of the FFBI and FFBI-SF, similar to the original versions – full [19] and shortened [20], as well as shortened versions of the Persian [23] and French [24] adaptations. The fit of the theoretical model to the data was assessed on the basis of the following indicators: CFI (Comparative Fit Index), RMSEA (Root Mean Square Error of Approximation) and WRMR (Weighted Root Mean Square Residual). It was expected that all items would build appropriate factors with an acceptable fit of the model to the data, i.e., CFI > 0.900, RMSEA < 0.08 and WRMR < 1.0.
3) Convergent-discriminant validity of the scales. In the literature, there are many models that capture the specificity of borderline personality disorder and tools measuring the dimensions distinguished in the models. Within the framework of this study, the following tools were used: Borderline Personality Disorder Checklist (BPD Checklist) [25], Screening Instrument for Borderline Personality Disorder (SI-Bord) [26] and Borderline Personality Inventory (BPI) [27]. In addition, dysfunctional personality traits distinguished in the ICD-11 were also measured using the PiCD Personality Inventory [28, 29]. In terms of convergent validity, positive high correlations were expected between the FFBI/FFBI-SF and all measures of borderline personality traits except for Impaired reality testing from the BPI. It is worth noting that the BPI is based on the theory of Kernberg [30], who distinguished three levels of personality organization: 1) neurotic, 2) borderline and 3) psychotic. The borderline personality organization is similar to the psychotic one in terms of the dominance of primitive defense mechanisms and the level of disorders of integration and identity stability, while it differs in its function of so-called impaired reality testing. Apart from the obvious manifestations of disorientation, people with BPD have no doubt that they really exist, whereas in psychotic personality there are serious difficulties in assessing reality [31, 32]. Regarding trait-domains with PiCD, with reference to the model of BPD in DSM-5 [1], it was hypothesized that there are significant associations between traits measured by FFBI/FFBI-SF and Negative affectivity, Disinhibition, Dissociality and Anankastia,

as measured by PiCD. Furthermore, in terms of discriminant validity, correlations between traits measured with FFBI/FFBI-SF and the conceptually non-corresponding Detachment from PiCD were predicted to be lower than those indicative of convergent validity, as Detachment is pathologically low Extraversion, and no facet of Extraversion is found in FFBI.

Method

Participants and procedure

A total of 527 adult Poles aged 18-70 years (non-clinical group) participated in the study. Study participants completed the toolkit in two sessions with a 7-day rest between sessions. In the first research session 527 people participated (M_{age} = 32.74 years; SD_{age} = 10.12 years; 44% male), while in the second session – 315 people (M_{age} = 33.56 years; SD_{age} = 10.71 years; 48.6% male). In the first session, only the tools for measuring BPD were included, while in the second – for measuring the pathological dimensions of personality in the ICD-11 model. Most of the respondents had completed higher education (63.8% in the first session; 66% in the second session), and one third had secondary education (33.8% in the first session and 33.1% in the second session). It was an online self-report study. The link to the previously prepared toolkit was sent out to different people and also placed on different thematic groups on social media. The survey was completely anonymous. Participation in the study was voluntary, and each participant had the right to stop at any time. A total of 120 people were excluded from the analyses due to insufficient time needed to complete the questionnaire (< 1200 s.). The study was conducted in accordance with the recommendations of the Ethical Committee of the Cardinal Stefan Wyszyński University in Warsaw (reference number: RDpsy-U-02/03/2021). A small payment in the form of a gift voucher in the amount of PLN 30 was provided for participation in the study.

Measures

Five-Factor Borderline Inventory (FFBI; FFBI-SF)

The FFBI [19] is a 120-item self-report questionnaire for measuring 12 trait-facets of BPD. FFBI-SF [20] is its shortened version for measuring the same scales and consists of 48 items. In the original version, there are 10 items for each scale, while there are four in the shortened version (selected out of 10). A 5-point Likert scale is used to evaluate the test items, ranging from 1 (*that the statement is false or that you strongly disagree*) to 5 (*that the statement is definitely true or you strongly agree*). Cronbach's alpha coefficients are presented in Table 2. The Polish version of the questionnaires is available from the first author.

Borderline Personality Disorder Checklist (BPD Checklist)

The self-report BPD Checklist [25] contains 47 items rated on a 5-point Likert scale, ranging from *not at all* to *extremely*. These items are grouped into nine scales corresponding to the DSM-IV / DSM-5 criteria: 1) Abandonment, 2) Relationships, 3) Identity disturbance, 4) Impulsivity, 5) (Para)suicide, 6) Affective instability, 7) Emptiness, 8) Anger-control and 9) Dissociation. Each scale is rated with several items (ranging from three to nine). The feeling of Emptiness is the only scale with only one item. In this study, Cronbach's alpha coefficients ranged from 0.74 to 0.91 ($M_{\alpha} = 0.84$). Reliability was not calculated for the Emptiness scale, as this criterion is measured by only one item (correlation with the overall score at $r = 0.75$).

Screening Instrument for Borderline Personality Disorder (SI-Bord)

SI-Bord [26] is a screening tool for borderline personality disorder, consisting of five items, to which respondents respond on a 5-point Likert scale from 1 (*does not describe me at all*) to 5 (*describes me very well*). In the tested sample, Cronbach's alpha for the entire scale was 0.85.

Borderline Personality Inventory (BPI)

BPI [27, Polish adaptation: 33] is a 53-item questionnaire measuring the traits of borderline personality organization with a dichotomous response scale (*true-false*). It is based on Kernberg's structural theory of personality organization [30] and the DSM-IV criteria for borderline disorder. It consists of four scales: 1) Identity diffusion, 2) Primitive defense mechanisms, 3) Impaired reality testing and 4) Fear of closeness. In this study, Cronbach's alpha coefficients ranged from 0.69 to 0.84 ($M_{\alpha} = 0.77$).

Personality Inventory for ICD-11 (PiCD)

PiCD [28, Polish adaptation: 34] is a 60-item self-report questionnaire designed to measure five pathological trait-domains (Negative affectivity, Detachment, Dissociality, Disinhibition and Anankastia) distinguished in ICD-11. Each domain consists of 12 items rated on a 5-point Likert scale from 1 (*strongly disagree*) to 5 (*strongly agree*). In the tested sample, Cronbach's alpha coefficients ranged from 0.83 to 0.92 ($M_{\alpha} = 0.87$).

Results

Table 2 presents descriptive statistics (mean, standard deviation, skewness, and kurtosis) and reliability indicators (Cronbach's α and McDonald's ω) for the Polish adaptation of the FFBI and FFBI-SF questionnaires, and their intercorrelations are provided in Table 4. Intercorrelations of the FFBI and FFBI-SF scales were quite high and sometimes very high (FFBI: $r_{min} = 0.48$; $r_{max} = 0.89$; FFBI-SF: $r_{min} = 0.38$; $r_{max} = 0.81$).

Cronbach's alpha coefficients for FFBI ranged from 0.80 to 0.94 (M_{α} = 0.89), while McDonald's omega ranged from 0.81 to 0.94 (Mω = 0.89). For the FFBI-SF scale, they ranged from 0.67 to 0.91 (Mα = 0.84), while McDonald's omega ranged from 0.73 to 0.92 (Mω = 0.85), which suggests that the reliability of both tools is satisfactory and acceptable. With regard to FFBI-SF, with one exception (Oppositional: 0.67), all Cronbach's alpha rates for the individual scales were greater than 0.80. It is worth noting that the alpha coefficients are comparable to those obtained in the original version by Mullins-Sweatt et al. (M_{α} = 0.86) [19] and DeShong et al. (M_{α} = 0.80) [20], or even slightly better.

Table 2. **Descriptive statistics and reliability coefficients of the Polish adaptation of the FFBI and FFBI-SF questionnaires (*N* = 527)**

	M	SD	SKE	K	A	ω
Overall result	2.52/2.33	0.81/0.88	0.63/0.72	-0.35/-0.17	0.97/0.97	0.99/0.97
1. Anxious uncertainty (N1)	2.95/2.87	1.02/1.18	0.20/0.08	-1.00/-1.14	0.91/0.86	0.92/0.87
2. Dysregulated anger (N2)	2.74/2.47	1.03/1.20	0.44/0.58	-0.76/-0.76	0.92/0.90	0.92/0.90
3. Despondence (N3)	2.85/2.63	1.06/1.27	0.27/0.45	-0.98/-1.02	0.90/0.86	0.90/0.86
4. Self-disturbance (N4)	2.53/2.38	1.17/1.23	0.42/0.58	-0.98/-0.86	0.94/0.86	0.94/0.85
5. Behavioral dysregulation (N5)	2.58/2.53	0.85/1.01	0.79/0.76	0.21/-0.12	0.86/0.81	0.87/0.83
6. Affective dysregulation (N6a)	2.57/2.58	1.11/1.19	0.51/0.40	-0.75/-0.91	0.94/0.88	0.94/0.88
7. Fragility (N6b)	2.36/2.03	0.96/1.03	0.79/1.08	-0.14/0.45	0.90/0.80	0.90/0.80
8. Dissociative tendencies (O1)	2.33/1.65	0.82/1.02	1.06/1.61	0.49/1.59	0.86/0.91	0.86/0.92
9. Distrustfulness (A1)	2.57/2.56	0.96/1.11	0.39/0.33	-0.71/-0.91	0.90/0.84	0.90/0.84
10. Manipulativeness (A2)	2.05/1.97	0.85/1.00	1.02/0.98	0.40/0.07	0.88/0.82	0.89/0.83
11. Oppositional (A4)	2.28/1.95	0.72/0.77	0.71/1.07	0.32/1.06	0.80/0.67	0.81/0.73
12. Rashness (C6)	2.37/2.29	0.92/1.10	0.78/0.75	-0.01/-0.37	0.89/0.85	0.89/0.85

Note. The values for FFBI are before the slash and the values for FFBI-SF are shown after the slash.

In order to verify the structural validity of FFBI and FFBI-SF, Confirmatory Factor Analysis (CFA) was performed in the target variant due to the acceptable intercorrelations between the scales. The undoubted advantages of CFA as such are, among others 1) the possibility of checking the fit of the hypothetical factor model to the covariance matrix of observable variables and the estimation of the parameters of the factor model, and 2) the correlation of the observable variables with specific factors according to the theoretical model. In this article, the CFA target variant, the cross-loadings were estimated, but in such a way that they were as close as possible to 0. It was assumed that the measurement is on a categorical scale. The 12-factor solution indices suggest an acceptable level of fit of the model to the data: 1) FFBI: RMSEA

= 0.022; CFI = 0.986; WRMR = 0.607; 2) FFBI-SF: RMSEA = 0.029; CFI = 0.994; WRMR = 0.389. With one exception (the Fragility scale), the analysis revealed higher mean loadings on the appropriate scale in the case of FFBI-SF than FFBI. Additionally, for six FFBI scales (Despondence, Self-disturbance, Behavioral dysregulation, Affective dysregulation, Fragility and Oppositional) and three FFBI-SF (Behavioral dysregulation, Affective dysregulation, and Fragility), small (≤ 0.40) average loadings on the appropriate scales were reported. Means of loadings on the appropriate scales and cross-loadings on FFBI/FFBI-SF scales are shown in Table 3.

Table 3. **Means of appropriate loadings and cross-loadings on FFBI/FFBI-SF scales**

Scales	Mean loadings on appropriate FFBI/FFBI-SF scales	Mean cross-loadings on other FFBI/FFBI-SF scales
1. Anxious uncertainty (N1)	0.40/0.53	0.11/0.09
2. Dysregulated anger (N2)	0.44/0.64	0.11/0.08
3. Despondence (N3)	0.37/0.50	0.11/0.09
4. Self-disturbance (N4)	0.33/0.47	0.11/0.09
5. Behavioral dysregulation (N5)	0.17/0.26	0.11/0.09
6. Affective dysregulation (N6a)	0.25/0.29	0.11/0.10
7. Fragility (N6b)	0.26/0.13	0.10/0.08
8. Dissociative tendencies (O1)	0.55/0.85	0.10/0.08
9. Distrustfulness (A1)	0.61/0.69	0.10/0.08
10. Manipulativeness (A2)	0.53/0.60	0.10/0.08
11. Oppositional (A4)	0.29/0.42	0.10/0.08
12. Rashness (C6)	0.57/0.57	0.10/0.08

In order to verify the strength of the relation between the FFBI/FFBI-SF scales of the validated tools, the *r*-Pearson correlation analysis was performed. There was a significant positive association of FFBI and FFBI-SF with other borderline measures, i.e., BPD Checklist, SI-Bord and BPI. The total scores of FFBI and FFBI-SF had a very strong positive correlation with all the overall scores of the other measures – they correlated most strongly with the overall score of the BPD Checklist ($r = 0.92$). Of the 12 FFBI and FFBI-SF scales, three scales (i.e., Self-disturbance, Affective dysregulation and Fragility) showed the strongest correlation with the overall scores of the other three borderline personality questionnaires (≥ 0.74/ ≥ 0.71). For comparison, the Self-disturbance scale had 10 strong associations: with the BPD Checklist (six associations), SI-Bord (one association) and BPI (three associations), while the Dysregulated anger scale had only one (BPD Checklist). In addition, strong correlations (≥ 0.80) were noted between the corresponding scales: 1) Self-disturbance (FFBI/FFBI-SF) and Identity disturbance (BPD Checklist), and 2) Affective dysregulation (FFBI/FFBI – SF), Affective instability (BPD Checklist) and Mood change (SI-Bord). A strong association was also observed between Fragility (FFBI/FFBI-SF) and Abandonment,

Identity disturbance and Affective instability (BPD Checklist). A convergent validity analysis also showed coherent theoretical correlations between pathological trait domains (PiCD) and the FFBI/FFBI-SF scales. Borderline personality traits were most associated with Negative affectivity, Disinhibition and Dissociality. Only Behavioral dysregulation, Rashness and Manipulativeness correlated (negatively) with Anankastia. With regard to discriminant validity, there were smaller correlations than convergent validity between the traits measured with FFBI and FFBI-SF, and the theoretically noncorresponding Detachment from PiCD. The overall score for the Detachment scale correlated on average (a score lower than the correlations relating to convergent validity) with the overall score of the FFBI/FFBI-SF scales, which confirms the hypothesis of discriminant validity.

The FFBI/FFBI-SF relation pattern with the Impaired reality testing (BPI) scale on psychotic personality organization also requires additional discussion. With one exception, weak to average correlations were found between the FFBI/FFBI-SF scales and the Impaired reality testing scale. The deviation was the Dissociative tendencies scale (positive high correlations $r = 0.52$ were obtained), the test items of which were related to the perception and assessment of reality. It is worth noting that the rates of correlation analyses in the FFBI questionnaire were generally higher than in the shortened version. The results are presented in Table 4.

Table 4. **Correlations between FFBI/FFBI-SF, BPD Checklist, SI-Bord, BPI and PiCD scales**

Scales	Overall score	1	2	3	4	5	6	7	8	9	10	11	12
FFBI/FFBI-SF													
Overall score	-												
1. AU	0.88/0.82	-	0.34/0.41	0.45/0.38	0.44/0.52	0.14/0.22	0.38/0.42	0.21/0.37	0.39/0.42	0.41/0.49	0.18/0.12	0.17/0.31	0.27/0.27
2. DA	0.88/0.80	0.77/0.59	-	0.25/0.30	0.34/0.40	0.03/0.38	0.38/0.35	0.30/0.20	0.27/0.35	0.28/0.33	0.31/0.36	0.21/0.50	0.39/0.43
3. DN	0.89/0.84	0.87/0.78	0.72/0.56	-	0.38/0.46	0.07/0.29	0.35/0.37	0.23/0.28	0.43/0.54	0.42/0.43	0.27/0.28	0.10/0.36	0.23/0.26
4. SD	0.92/0.88	0.83/0.72	0.73/0.61	0.88/0.77	-	0.19/0.36	0.34/0.34	0.26/0.34	0.46/0.59	0.50/0.53	0.30/0.33	0.15/0.35	0.25/0.36
5. BD	0.86/0.85	0.70/0.61	0.80/0.70	0.68/0.62	0.72/0.69	-	0.02/0.29	-0.01/0.19	0.15/0.41	0.11/0.27	0.17/0.33	0.16/0.33	0.09/0.40
6. AD	0.95/0.91	0.85/0.78	0.88/0.77	0.84/0.77	0.86/0.79	0.83/0.75	-	0.24/0.26	0.28/0.46	0.42/0.42	0.26/0.27	0.08/0.40	0.34/0.26
7. FG	0.92/0.89	0.88/0.74	0.76/0.66	0.89/0.79	0.86/0.78	0.74/0.71	0.87/0.81	-	0.37/0.27	0.33/0.36	0.30/0.07	0.10/0.19	0.27/0.11
8. DT	0.79/0.71	0.64/0.52	0.60/0.45	0.70/0.59	0.75/0.62	0.65/0.55	0.71/0.59	0.72/0.62	-	0.45/0.60	0.44/0.42	0.28/0.41	0.36/0.39
9. DF	0.79/0.75	0.67/0.65	0.63/0.50	0.69/0.60	0.76/0.69	0.57/0.53	0.69/0.63	0.70/0.61	0.64/0.54	-	0.44/0.37	0.21/0.46	0.26/0.24
10. ML	0.76/0.72	0.51/0.43	0.62/0.52	0.55/0.48	0.63/0.58	0.68/0.64	0.65/0.56	0.62/0.58	0.61/0.48	0.61/0.54	-	0.40/0.42	0.49/0.50
11. OS	0.73/0.72	0.51/0.49	0.68/0.68	0.50/0.48	0.55/0.54	0.66/0.61	0.65/0.61	0.57/0.60	0.49/0.38	0.58/0.49	0.75/0.64	-	0.18/0.33
12. RN	0.76/0.76	0.55/0.50	0.66/0.63	0.56/0.51	0.60/0.58	0.84/0.84	0.70/0.63	0.62/0.61	0.59/0.47	0.48/0.43	0.65/0.63	0.61/0.58	-
BPD Checklist													
Overall score	0.92/0.92	0.81/0.79	0.77/0.69	0.84/0.80	0.88/0.85	0.77/0.75	0.87/0.84	0.88/0.85	0.78/0.68	0.76/0.71	0.70/0.64	0.64/0.63	0.66/0.65
AM	0.86/0.85	0.80/0.78	0.70/0.62	0.78/0.74	0.81/0.78	0.70/0.68	0.81/0.78	0.86/0.82	0.70/0.60	0.68/0.64	0.63/0.58	0.56/0.56	0.62/0.60
RS	0.73/0.74	0.61/0.62	0.60/0.53	0.62/0.58	0.71/0.71	0.58/0.60	0.67/0.65	0.67/0.66	0.61/0.56	0.71/0.67	0.57/0.53	0.54/0.51	0.51/0.51
ID	0.88/0.88	0.78/0.76	0.71/0.62	0.82/0.78	0.89/0.84	0.71/0.70	0.82/0.79	0.84/0.81	0.75/0.66	0.72/0.67	0.66/0.61	0.57/0.56	0.62/0.61

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IS	0.67/0.68	0.48/0.46	0.53/0.50	0.50/0.48	0.57/0.58	0.69/0.68	0.59/0.56	0.56/0.58	0.54/0.46	0.52/0.50	0.63/0.59	0.58/0.53	0.64/0.63
PS	0.65/0.67	0.52/0.49	0.49/0.44	0.60/0.63	0.56/0.55	0.56/0.54	0.59/0.57	0.69/0.71	0.61/0.58	0.48/0.45	0.53/0.50	0.47/0.49	0.52/0.50
AI	0.88/0.86	0.83/0.79	0.76/0.67	0.83/0.79	0.83/0.78	0.72/0.68	0.87/0.84	0.85/0.80	0.68/0.58	0.66/0.62	0.60/0.55	0.57/0.58	0.60/0.58
EN	0.75/0.74	0.70/0.68	0.60/0.52	0.75/0.72	0.77/0.75	0.59/0.57	0.72/0.70	0.72/0.67	0.64/0.53	0.62/0.58	0.52/0.46	0.45/0.42	0.48/0.46
AC	0.81/0.80	0.67/0.62	0.80/0.74	0.69/0.65	0.70/0.68	0.72/0.66	0.79/0.75	0.75/0.75	0.62/0.54	0.62/0.57	0.63/0.57	0.66/0.65	0.60/0.58
DC	0.82/0.83	0.68/0.67	0.68/0.60	0.69/0.65	0.76/0.74	0.66/0.66	0.74/0.70	0.73/0.72	0.76/0.72	0.77/0.74	0.65/0.61	0.59/0.57	0.58/0.59
SI-Bord													
Overall score	0.86/0.85	0.80/0.76	0.74/0.65	0.80/0.76	0.79/0.75	0.72/0.68	0.84/0.82	0.85/0.81	0.66/0.57	0.70/0.66	0.58/0.52	0.58/0.56	0.62/0.59
AA	0.51/0.51	0.54/0.54	0.46/0.41	0.49/0.45	0.43/0.41	0.44/0.43	0.50/0.49	0.55/0.50	0.38/0.31	0.39/0.37	0.28/0.26	0.32/0.30	0.36/0.37
UR	0.64/0.63	0.56/0.53	0.58/0.52	0.53/0.48	0.57/0.57	0.55/0.53	0.62/0.59	0.59/0.57	0.48/0.42	0.57/0.53	0.46/0.43	0.52/0.46	0.50/0.48
IT	0.78/0.76	0.73/0.71	0.65/0.55	0.75/0.71	0.79/0.72	0.63/0.59	0.77/0.74	0.75/0.73	0.62/0.52	0.64/0.61	0.52/0.46	0.46/0.45	0.52/0.48
SH	0.64/0.65	0.53/0.50	0.49/0.44	0.60/0.64	0.56/0.54	0.53/0.52	0.58/0.57	0.68/0.69	0.53/0.49	0.50/0.48	0.50/0.44	0.47/0.49	0.49/0.46
MC	0.80/0.79	0.77/0.71	0.72/0.62	0.76/0.72	0.74/0.69	0.68/0.62	0.82/0.81	0.78/0.73	0.61/0.51	0.62/0.59	0.52/0.47	0.52/0.52	0.56/0.53
BPI													
Overall score	0.87/0.87	0.73/0.69	0.71/0.63	0.76/0.74	0.82/0.79	0.74/0.72	0.80/0.78	0.80/0.79	0.81/0.73	0.73/0.69	0.69/0.64	0.60/0.56	0.66/0.65
IDF	0.78/0.79	0.67/0.65	0.62/0.55	0.72/0.70	0.78/0.74	0.63/0.62	0.72/0.71	0.73/0.70	0.81/0.77	0.66/0.62	0.56/0.52	0.47/0.44	0.54/0.53
PDM	0.84/0.82	0.78/0.74	0.69/0.59	0.77/0.72	0.82/0.76	0.69/0.65	0.79/0.76	0.79/0.75	0.69/0.60	0.71/0.68	0.59/0.54	0.52/0.51	0.58/0.56
IRT	0.40/0.41	0.29/0.29	0.28/0.24	0.31/0.31	0.36/0.35	0.30/0.30	0.33/0.32	0.39/0.38	0.52/0.52	0.39/0.37	0.37/0.37	0.24/0.24	0.30/0.28
FOC	0.77/0.76	0.65/0.61	0.63/0.55	0.70/0.69	0.75/0.73	0.63/0.62	0.72/0.69	0.73/0.72	0.67/0.59	0.65/0.60	0.59/0.53	0.52/0.50	0.54/0.52

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PiCD													
Overall score	0.79/0.80	0.72/0.70	0.64/0.58	0.72/0.68	0.77/0.73	0.63/0.63	0.75/0.74	0.74/0.71	0.59/0.50	0.70/0.67	0.59/0.53	0.57/0.55	0.50/0.51
NA	0.82/0.80	0.85/0.81	0.73/0.65	0.79/0.74	0.76/0.70	0.69/0.62	0.83/0.81	0.81/0.74	0.58/0.50	0.64/0.60	0.44/0.40	0.46/0.46	0.53/0.51
DH	0.65/0.65	0.49/0.43	0.50/0.46	0.53/0.51	0.55/0.55	0.71/0.70	0.60/0.58	0.56/0.54	0.51/0.41	0.43/0.38	0.52/0.48	0.45/0.44	0.77/0.74
DE	0.36/0.36	0.36/0.39	0.24/0.21	0.40/0.37	0.48/0.44	0.19/0.17	0.33/0.33	0.36/0.32	0.29/0.25	0.48/0.50	0.16/0.12	0.17/0.20	0.04/0.05
DL	0.49/0.52	0.21/0.20	0.37/0.36	0.31/0.33	0.39/0.44	0.42/0.51	0.38/0.35	0.35/0.43	0.41/0.34	0.44/0.39	0.75/0.69	0.67/0.58	0.44/0.48
AK	-0.16/-0.16	0.04/0.09	-0.08/-0.10	-0.07/-0.10	-0.06/-0.10	-0.33/-0.33	-0.10/-0.07	-0.07/-0.09	-0.17/-0.13	-0.05/-0.01	-0.21/-0.20	-0.14/-0.13	-0.52/-0.46

Note. FFBI/FFBI-SF – *Five-Factor Borderline Inventory*; 1. AU – Anxious uncertainty, 2. DA – Dysregulated anger, 3. DN – Despondence, 4. SD – Self-disturbance, 5. BD – Behavioral dysregulation, 6. AD – Affective dysregulation, 7. FG – Fragility, 8. DT – Dissociative tendencies, 9. DF – Distrustfulness, 10. ML – Manipulativeness, 11. OS – Oppositional, 12. RN – Rashness; BPD Checklist – *Borderline Personality Disorder Checklist*; AM – Abandonment, RS – Relationships, ID – Identity disturbance, IS – Impulsivity, PS – (Para)suicide, AI – Affective instability, EN – Emptiness, AC – Anger-control, DC – Dissociation; SI-Bord – *Screening Instrument for Borderline Personality Disorder*; AA – Avoid abandonment, UR – Unstable relationship, IT – Identity disturbance, SH – Self-harm, MC – Mood change; BPI – *Borderline Personality Inventory*; IDF – Identity diffusion, PDM – Primitive defense mechanisms, IRT – Impaired reality testing, FOC – Fear of closeness; PiCD – *Personality Inventory for ICD-11*; NA – Negative affectivity, DH – Disinhibition, DE – Detachment, DL – Dissociality, AK – Anankastia. All the correlations for the FFBI/FFBI-SF, BPD Checklist, SI-Bord and BPI scales are significant at the 0.01 level (two-tailed test). Correlation analysis with PiCD scales was carried out on a group of $N = 315$ people. Correlations equal to and above |0.12| are significant at the 0.05 level (two-tailed test). Correlations equal to and above |0.16| are significant at the 0.01 level (two-tailed test). Intercorrelations between FFBI and FFBI-SF latent variables – above the diagonal. Intercorrelations between FFBI and FFBI-SF raw variables – below the diagonal.

Table 5. **Correlations between FFBI and FFBI-SF variables**

FFBI \ FFBI-SF	1	2	3	4	5	6	7	8	9	10	11	12
1. Anxious uncertainty (N1)	**0.95**	0.66	0.81	0.75	0.65	0.82	0.79	0.54	0.65	0.45	0.53	0.54
2. Dysregulated anger (N2)	0.70	**0.94**	0.66	0.68	0.73	0.84	0.73	0.49	0.59	0.56	0.69	0.64
3. Despondence (N3)	0.84	0.62	**0.94**	0.81	0.65	0.82	0.83	0.58	0.65	0.49	0.51	0.54
4. Self-disturbance (N4)	0.80	0.64	0.83	**0.95**	0.71	0.84	0.82	0.64	0.72	0.57	0.54	0.58
5. Behavioral dysregulation (N5)	0.64	0.77	0.63	0.70	**0.92**	0.80	0.73	0.53	0.52	0.63	0.64	0.81
6. Affective dysregulation (N6a)	0.80	0.81	0.78	0.81	0.77	**0.96**	0.84	0.60	0.65	0.59	0.65	0.67
7. Fragility (N6b)	0.84	0.66	0.86	0.81	0.72	0.85	**0.94**	0.63	0.66	0.56	0.58	0.61
8. Dissociative tendencies (O1)	0.60	0.54	0.69	0.73	0.65	0.69	0.69	**0.89**	0.60	0.57	0.44	0.57
9. Distrustfulness (A1)	0.67	0.54	0.64	0.73	0.57	0.67	0.66	0.57	**0.95**	0.56	0.52	0.48
10. Manipulativeness (A2)	0.49	0.58	0.54	0.64	0.68	0.61	0.65	0.51	0.57	**0.95**	0.68	0.65
11. Oppositional (A4)	0.48	0.66	0.49	0.56	0.64	0.61	0.58	0.39	0.53	0.72	**0.87**	0.64
12. Rashness (C6)	0.49	0.64	0.53	0.59	0.82	0.65	0.63	0.47	0.43	0.61	0.57	**0.94**

Note. All correlations for the FFBI and FFBI-SF scales are significant at the 0.01 level (two-tailed test). Correlation between the variable measured with the short version and the variable measured with the long version is marked in bold.

Discussion

The aim of the present study was to verify the basic psychometric properties of the Polish adaptation of the FFBI/FFBI-SF questionnaires for measuring borderline personality traits based on the FFM model. The results confirmed the reliability, factor structure as well as convergent and discriminant validity of the tools in the Polish non-clinical group of adults. The analyses showed that the FFBI/FFBI-SF are characterized by good reliability indicators, but it is worth noting that the longer version obtained slightly better indicators than the shorter version. In order to replicate the 12-factor structure of FFBI and FFBI-SF proposed by Mullins-Sweatt et al. [19] and DeShong et al. [20], CFA (target variant) was carried out, which generated a satisfactory fit to the data of both versions. As part of the convergent and discriminant validity analyses, it was found that the FFBI/FFBI-SF scales positively correlate with the BPD Checklist, SI-Bord and

BPI measures, and these are quite high correlations (exception theoretically expected proves the discriminant validity: lower correlations for Impaired reality testing). It is worth adding, however, that the total score for FFBI in both the long and short form was the most closely related to the BPD Checklist. With reference to PiCD, the FFBI/FFBI-SF scales related to Neuroticism, i.e., Anxious uncertainty (N1), Dysregulated anger (N2), Despondence (N3), Self-disturbance (N4), Behavioral dysregulation (N5), Affective dysregulation (N6a) and Fragility (N6b) showed the strongest association with Negative affectivity. Relations between FFBI/FFBI-SF scales with Detachment measured by PiCD were significantly lower than relations between FFBI/FFBI-SF scales and other pathological traits measured by PiCD, which indicates discriminant validity.

As shown in the extensive literature, clinicians and researchers indicate a rather diversified clinical picture of BPD [35]. However, this borderline heterogeneity is not reflected in the results of our research. The high intercorrelations of the FFBI/FFBI-SF scales suggest a more homogeneous BPD structure than a multidimensional one. Certainly, this does not mean that it is not worth distinguishing between facets or types of this disorder. For example, Clifton and Pilkonis [36] postulate that the search for variability should be based, inter alia, on alternative interpersonal and emotional constructs (e.g., character traits or affect regulation strategies), and thus go beyond the DSM diagnostic criteria. Our research does not take into account these additional constructs, but only relies on the pathological characteristics of borderline personality as measured in the general population. It is also worth adding that the normal distribution in the general population of the non-clinical group using the pathological FFBI scales reflects the prevalence of both functional and dysfunctional traits in personality structures. It could be the case that the differentiation of facets (i.e., smaller correlations between the scales) can only be seen in the clinical group. Additionally, despite the high correlation of the scales, factor analysis made it possible to differentiate them, which suggests there may be some intermediate structure – between the general borderline factor and 12 facets distinguished in the FFBI, which is worth checking in further research.

In conclusion, it can be stated that the Polish adaptation of FFBI and FFBI-SF has good psychometric properties and can be used in further scientific research. However, when conducting future research on FFBI/FFBI-SF validation, it would be worth considering the issues that have been omitted here: 1) measurement in a clinical group, 2) additional psychometric characteristics, e.g., taking into account the analysis of the equivalence of the measurement for clinical and non-clinical groups, as well as 3) description of the person being tested by other-informant reports.

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