Level of personality functioning and its relationship with core schemas in anxiety and mood disorders

Katerina Naumova [1] *, Florijan Naumov [2]

Abstract

Background: The DSM-5 Alternative model for personality disorders initiated a growing body of research on deficits in self-functioning and interpersonal relatedness. However, fewer studies have focused on personality impairments in anxiety and mood disorders. Furthermore, cognitive theory proposes that core beliefs, primarily negative self-schema, determine the development and maintenance of personality dysfunction. Thus, the objective of this study was to examine the severity of personality psychopathology in anxiety and mood disorders and its relationship with core beliefs about self and others.

Method: The participants were outpatients (N = 92, mean age: 28.6 years) diagnosed with anxiety disorders, mood disorders and mixed anxiety and depressive disorder. A demographically matched community sample (N = 92, mean age: 30.2 years) was included as a comparison group. Both samples completed the LPFS-BF 2.0, a measure of impairments in self and interpersonal functioning and the Brief Core Schema Scales that assess global negative and positive self and other evaluations.

Results: As expected, disturbances in self and interpersonal functioning were significantly higher in outpatients relative to controls. Outpatients also endorsed significantly less positive beliefs about self and others and significantly more negative self-beliefs. However, they did not differ significantly from controls in negative beliefs about others. Hierarchical multiple regression analyses revealed that after controlling for the effects of gender and age, only negative self-schema was a significant predictor of impaired self-functioning among outpatients, while both negative self and negative other schemas predicted impaired interpersonal functioning.

Conclusion: The findings are in line with the cognitive model of personality disorders and highlight the need to assess personality functioning before and during treatment of anxiety and mood disorders.

[1] Department of Psychology, Faculty of Philosophy, Ss. Cyril and Methodius University in Skopje, Republic of North Macedonia

[2] University Clinic of Psychiatry, Medical Faculty, Ss. Cyril and Methodius University in Skopje, Republic of North Macedonia

E-mail corresponding author: knaumova@fzf.ukim.edu.mk

1. Introduction

The Alternative Model for Personality Disorders (AMPD) introduced in Section III of the DSM-5 (American Psychiatric Association [APA], 2013) is a dimensional hybrid approach that primarily defines personality disorders based on the assessment of difficulties in personality functioning (Criterion A) and the presence of maladaptive personality traits (Criterion B) (Morey et al., 2015). During the past decade, over two hundred studies have been conducted on the AMPD, although the vast majority have focused on the style of personality pathology rather than the core features of personality dysfunction (for reviews, see Hoopwood, 2019; also Zimmerman et al., 2019). The debate on the incremental validity of the two primary criteria is ongoing (e.g. Sharp & Wall, 2021; Widiger, Bach et al., 2019); however, the clinical utility of the pantheoretical conceptualization of Criterion A has been empirically supported (Bender et al., 2018a; Waugh, 2019).

Based on contemporary psychodynamic, attachment, interpersonal and social-cognitive theories (Bender et al., 2011; Modica, 2015; Waugh et al., 2017), the level of personality functioning is operationalized in the AMPD as severity of pathology in the domains of self-functioning (i.e., impairments in identity integration and self-direction) and interpersonal functioning (i.e., impairments in capacities for empathy and intimacy) (Krueger & Hobbs, 2020; Pincus & Roche, 2019). In other words, maladaptive personality functioning denotes an intrapsychic delay that interferes with an individual's capacity to regulate oneself and relate with others (Sharp & Wall, 2021). Criterion A, thus, assesses intrinsic processes that should be the primary treatment target in various psychotherapeutic approaches (Pincus et al., 2020; Rodriguez-Seijas et al., 2019) since they determine current and future functioning, as well as the course of treatment.

Several measures for the assessment of Criterion A have been developed since the original Level of Personality Functioning Scale was published in the DSM-5 (APA, 2013). Expert ratings based on structured/semi-structured interviews are considered the best practice (Bender et al., 2018b; Hutsebaut et al., 2017; Thylstrup et al., 2016); however, they impose specific resource requirements. Therefore, recently validated self-report measures (e.g., Huprich et al., 2018; Hutsebaut et al., 2016; Morey, 2017; Roche et al., 2016; Weekers et al., 2019) have been applied more frequently both in clinical and community samples since they provide a more feasible initial screening procedure.

Considering the frequent co-occurrence of personality and clinical disorders (Friborg et al., 2013, 2014; Links & Eynan, 2013), recent studies have increasingly been oriented towards assessment of personality functioning in anxiety and mood disorders, investigating assumptions based on various conceptual models. The literature suggests that internalizing psychopathology

gradually increases with the severity of personality dysfunction (Krueger, 2005; Liotta, 2013; Markon, 2010), although a bidirectional relationship could also be expected (Bienvenu & Stein, 2003; Hakulinen et al., 2015; Klein et al., 2011). Even though the evidence so far has been predominantly derived from measures not specific to the AMPD (Behn et al., 2018; Crempien et al., 2017; Gruber et al., 2020), the findings suggest that significant deficits in self and interpersonal mechanisms and processes are associated with various anxiety and mood disorders, and that personality functioning also influences treatment outcomes. Additionally, one study also found that separate anxiety disorders do not differ in the level of personality functioning (Doering et al., 2018). Thus, further evaluation of personality deficits in internalizing psychopathology is relevant both from a conceptual and a clinical perspective (Kraus et al., 2020; Widiger et al., 2019b).

Personality problems have recently also been investigated in relation to cognitive theories of personality disorders (Arntz & Lobbestael, 2018). Beck's cognitive model postulates that personality disorders refer to pervasive, self-perpetuating and dysfunctional cognitive-interpersonal cycles (Leahy et al., 2005; Pretzer & Beck, 2005). The internal control system, based on core beliefs, is posited to play a crucial role in personality dysfunction (Beck, 1996, 2015). More specifically, self-directed regulatory processes are defined as more relevant than other-directed regulatory processes (Pretzer & Beck, 2005). Of note, negative self-evaluations derived from self-schemas are conceived as the core inner-directed control functions that determine the development of personality pathology (Beck, 2015; Leahy et al., 2005). Likewise, Young's integrative model (Young & Lindemann, 2002) proposes that various early maladaptive schemas can form the core of one's self-concept and thus underlie personality disorders (Jovev, & Jackson, 2004).

Only two studies have so far examined the association between the level of personality functioning and early maladaptive schemas and modes in a clinical and forensic sample (Bach & Anderson, 2020; Bach & Hutsebaut, 2018). However, to our knowledge, no studies have investigated broader self and other schemas in relation to personality impairments, although the four areas of personality deficits could be perceived as expressions of these core beliefs (Bach et al., 2015). Additionally, even though the literature suggests that negative self-schemas are prominent in depression and anxiety (Dozois & Beck, 2008; Hawke & Provencher, 2011, 2013; Merlo et al., 2018), few studies have assessed both positive and negative evaluations of self and others in internalizing disorders. The initial findings are mixed and suggest that less positive views of others predict generalized anxiety disorder in community adults (Koerner et al., 2015), whereas, in community youths, negative self-beliefs predict both depression and anxiety

symptoms, while the lack of positive self-beliefs predicts only depression symptoms (Cowan et al., 2019).

In light of the clinical relevance of personality functioning, as well as the need to investigate its relationship with other constructs, the objectives of the present study are to examine the severity of personality psychopathology in anxiety and mood disorders, and to determine the predictive utility of core schemas for deficits in self and interpersonal functioning. Based on the literature and empirical evidence, we anticipated that: a) the level of personality functioning in individuals diagnosed with internalizing disorders is significantly lower relative to a control group; b) negative self evaluations are a stronger predictor of personality dysfunction in anxiety and mood disorders than negative other and positive self and other evaluations. Consistent with the transdiagnostic approach to emotional/internalizing disorders (Bullis et al., 2019) and the transdiagnostic perspective of the AMPD (Waugh, 2019), we did not focus on differences among diagnostic categories.

2. Method

2.1 Participants and procedure

Outpatients diagnosed with anxiety and mood disorders (N = 92, 63% female, M_{age}= 28.6 ± 9.4, range:18-65 years) are included in this study, selected from a larger sample of adult outpatients referred to psychological counselling between December 2018 and June 2019. Over half of the participants have been diagnosed with anxiety disorders (n = 49), while mood disorders (n = 22) and mixed anxiety and depressive disorder (n = 21) were less prevalent. All invited outpatients agreed to participate in the study and provided informed consent.

The control sample was recruited subsequently from the general population by trained undergraduate psychology students for course credit. Based on self-reported data, potential participants were screened for recent utilization of mental health services (in the past six months). In addition, their current psychological status was assessed with the 53-item Brief Symptom Inventory (Derogatis & Malisaratos, 1983). Data from demographically matched adults not seeking mental health care is included in the analysis (N = 92, 63% female, M_{age}= 30.2 ± 9.3, range:18-52 years). No significant differences were found between outpatients and controls regarding age (t(182) = -1.16, p = .25) or education (χ^2(1) = 0.29, p = .59). Controls reported significantly lower psychological distress (BSI Global Severity Index) relative to outpatients (t(182) = 7.67, p < .001, Cohen's d = 1.13). All individuals recruited for the control sample provided informed consent to participate in the study.

Data in both samples were collected in person. Each participant was administered several self-report measures, including those employed in this study. Procedures performed in the study

were in accordance with the 1964 Helsinki declaration and its later amendments or comparable ethical standards.

The data reported in this manuscript were collected as part of a larger data collection. Some of the data were used in Naumova and Naumov (2022); however, the relationships examined in the present article have not been previously published. A detailed data transparency table was provided at manuscript submission.

2.2 Instruments

The instruments were translated and adapted into the Macedonian language by the authors of the study using the forward translation method and a collaborative review and revision approach. None of the participants reported problems in understanding item content or scale instructions. Considering that the measures have not been previously used in the Macedonian context, their factor structure was tested prior to other statistical analyses.

The Level of Personality Functioning Scale-Brief Form 2.0 (LPFS-BF 2.0; Hutsebaut et al., 2016; Weekers et al., 2019) was used to measure general impairment in personality functioning. The scale was created in line with the AMPD as described in Section III of the DSM-5. It consists of 12 items, one for each facet of Criterion A, comprising two subscales: self-functioning and interpersonal functioning. Participants respond on a 4-point scale (from 1 = *completely untrue* to 4 = *completely true*), with higher scores indicating greater disturbances in personality functioning. Confirmatory factor analyses revealed good fit of the proposed two-factor structure of the scale in both samples. The MLM estimator was used due to multivariate non-normality and samples sizes (outpatients: $\chi^2(52) = 60.81$, $p = .188$, CFI = .96, TLI = .95, RMSEA = .04, SRMR = .07; controls: $\chi^2(52) = 59.39$, $p = .224$, CFI = .98, TLI = .97, RMSEA = .04, SRMR = .06). Cronbach's αs indicate good internal reliability of the subscales (Table 1).

The Brief Core Schema Scales (BCSS; Fowler et al., 2006) were used to assess beliefs about self and others. Each of the four scales consists of 6 items that measure extreme positive, i.e., negative evaluations of self and others. Participants respond on a 5-point scale (from 0 = *I do not believe this* to 4 = *I believe it totally*). Higher scores indicate more positive or more negative core beliefs. Confirmatory factor analyses revealed acceptable fit of the proposed four-dimensional structure of the scale in both samples when correlated errors of selected items were included in the model. The MLM estimator was utilised for these analyses as well (outpatients: $\chi^2(243) = 305.77$, $p = .004$, CFI = .93, TLI = .92, RMSEA = .06, SRMR = .07; controls: $\chi^2(243) = 321.14$, $p = .001$, CFI = .92, TLI = .91, RMSEA = .06, SRMR = .08). The internal reliability of the scales is high in both samples (Table 1).

2.3 Preliminary Data Screening

Missing values analyses revealed a very small percentage of missing data in both samples (< 0.1 %). Little's MCAR test indicated that data were missing completely at random (outpatients: χ^2 = 1581.11, df = 1577, Sig. = .466; controls: χ^2 = 623.37, df = 614, Sig. = .388), therefore we used the EM method for data imputation. Concerning the regression analyses, two outliers were detected in the control sample and one in the clinical sample, based on standardized residual values > ± 3.3. Nevertheless, the inspection of the diagnostic plots showed that these were not influential observations; thus, they were not excluded from the analyses.

2.4 Statistical analysis

Confirmatory factor analyses were conducted in R (R Core Team, 2020) with the Lavaan package (Rosseel, 2012). Model fit was determined by the range of several indices (Hu & Bentler, 1999): for good fit - CFI and TLI ≥ .95, RMSEA and SRMR ≤ .06; for acceptable fit - CFI and TLI ≥ .90, RMSEA and SRMR ≤ .08. All other analyses were conducted in SPSS 24.0.

3. Results

The comparison of the clinical and control sample in the level of personality functioning (Table 1) revealed greater disturbances both in self and interpersonal functioning among outpatients. They also endorsed more negative beliefs about themselves and less positive beliefs about themselves and others. However, they did not differ significantly from controls in negative beliefs about others. It is of note that large effect sizes were found for self-functioning and negative self-schema.

Table 1. Descriptives, Cronbach's alphas and mean differences

	Outpatients		Controls			
LPFS-BF 2.0	*M (SD)*	*a*	*M (SD)*	*a*	*t(182)*	Cohen's *d*
Self-functioning	13.80 (4.66)	.82	10.36 (4.06)	.86	5.35***	0.79
Interpersonal functioning	11.62 (3.63)	.67	10.14 (3.42)	.77	2.85**	0.42
BCSS	*M (SD)*	*a*	*M (SD)*	*a*	*t(182)*	*d*
Negative self-schema	6.89 (5.18)	.82	3.05 (3.47)	.81	5.92***	0.87
Positive self-schema	14.53 (4.78)	.82	17.49 (4.77)	.86	-4.20***	0.62
Negative other-schema	7.29 (5.03)	.90	6.12 (4.36)	.89	1.69	0.25
Positive other-schema	11.32 (3.96)	.84	12.98 (5.13)	.92	-2.46*	0.36

Note. LPFS-BF 2.0 = Level of Personality Functioning Scale-Brief Form 2.0; BCSS = Brief Core Schema Scales

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

For a more nuanced insight into the level of personality functioning among outpatients with internalizing disorders, we conducted an additional item-level comparison analysis (Table 2). In the AMPD area of identity, outpatients seemed to struggle most with negative views about themselves and uncontrollable emotional changes, although, relative to controls, they also reported experiencing a more pronounced lack of knowledge of themselves. In the area of self-direction, outpatients struggled with greater deficits in understanding one's thoughts and feelings and the sense of direction in their lives. In the area of empathy, outpatients experienced greater difficulties in understanding the responses of others to their behaviour, whereas in the area of intimacy, they experienced greater vulnerability once relationships with others tended to become more personal.

Table 2. Item-level differences in the level of personality functioning among outpatients and controls

LPFS-BF 2.0 Items	Outpatients	Controls		
Identity	M (SD)	M (SD)	t(182)	Cohen's d
I often do not know who I really am	2.03 (.98)	1.62 (.88)	3.02**	0.44
I often think very negatively about myself	2.47 (1.08)	1.65 (.79)	5.83***	0.87
My emotions change without me having a grip on them	2.50 (1.06)	1.66 (.88)	5.81***	0.86
Self-direction	M (SD)	M (SD)	t(182)	d
I have no sense of where I want to go in my life	2.27 (1.16)	1.76 (.95)	3.26**	0.48
I often do not understand my own thoughts and feelings	2.29 (1.03)	1.62 (.84)	4.86***	0.71
I often make unrealistic demands on myself	2.24 (1.08)	2.04 (.97)	1.29	0.19
Empathy	M (SD)	M (SD)	t(182)	d
I often have difficulty understanding the thoughts and feelings of others	1.95 (.94)	1.82 (.86)	0.98	0.14
I often find it hard to stand it when others have a different opinion	1.98 (1.07)	1.75 (.82)	1.66	0.24
I often do not fully understand why my behavior has a certain effect on others	2.13 (1.09)	1.75 (.83)	2.66**	0.39
Intimacy	M (SD)	M (SD)	t(182)	d
My relationships and friendships never last long	1.58 (.92)	1.34 (.72)	1.98	0.31
I often feel very vulnerable when relations become more personal	2.29 (1.01)	1.86 (.92)	3.04**	0.44
I often do not succeed in cooperating with others in a mutually satisfactory way	1.70 (.86)	1.63 (.86)	0.51	0.08

Note. LPFS-BF 2.0 = Level of Personality Functioning Scale-Brief Form 2.0; items are grouped according to AMPD Criterion A domains

** $p < .01$, *** $p < .001$.

Bivariate correlations (Table 3) revealed similar patterns of associations between core schemas and psychological functioning in both samples. Negative beliefs about self were strongly positively correlated with deficits in self-functioning and moderately correlated with deficits in interpersonal functioning. As would be expected, negative beliefs about others were more relevant for interpersonal problems than for impairments in self-functioning. On the other hand, positive beliefs had small to moderate negative associations with both domains of personality functioning.

Table 3. Correlations between the level of personality functioning and core schemas in outpatients and controls

	Negative self	Positive self	Negative other	Positive other
Self-functioning	.59***	-.39***	.25**	-.22*
	(.70***)	(-.39***)	(.26**)	(-.24*)
Interpersonal functioning	.48***	-.33**	.38***	-.22*
	(.43***)	(-.19*)	(.34***)	(-.29**)

Note. Control sample correlations presented in parentheses.

* $p < .05$, ** $p < .01$, *** $p < .001$.

Two sets of hierarchical regression analyses with bootstrapping were conducted to examine the predictive utility of core schemas for personality dysfunction after controlling for the effects of demographic covariates. In all models, gender and age were entered in the first block and core schemas in the second block. Multicollinearity was not indicated since VIF values ranged 1.00-2.33 and Tolerance values ranged 0.43-0.99.

In the clinical sample (Table 4), demographic covariates accounted for 8% of variance in self-functioning ($F(2,89) = 3.84$, $p < .05$), however, their individual contribution was not significant. Core schemas accounted for additional 30% of variance ($F(4,85) = 10.40$, $p < .001$), with negative beliefs about self being the only dimension with a significant contribution. Demographic covariates were not significant predictors of interpersonal functioning in outpatients ($R^2 = .00$, $F(2,89) = 0.23$, $p = .797$), while core schemas accounted for 29% of variance in this domain ($F(4,85) = 8.65$, $p < .001$). Only negative beliefs about self and others made significant contributions to this model. The difference between the two respective beta weights ($\Delta\beta = .13$) was not significant since the confidence intervals estimated via bias-corrected bootstrapping overlapped by more than 50% (Cumming, 2009; Jones & Waller, 2013). Thus, for the interpersonal functioning of outpatients, negative self-evaluations were not a stronger predictor than negative evaluations of others.

Table 4. Core schemas as predictors of personality functioning in outpatients

Block and Variables	Self-functioning				Interpersonal functioning			
	B	SEB	β	BCa 95% CI	B	SEB	β	BCa 95% CI
Gender	1.85	.98	.19	[-.09, 3.60]	-.47	.79	-.06	[-1.92, 1.13]
Age	-.10	.05	-.20	[-.22, -.02]	-.01	.04	-.04	[-.10, .05]
Negative self	.40	.11	.44**	[.20, .61]	.24	.09	.35*	[.01, .45]
Positive self	-.11	.13	-.11	[-.43, .24]	-.08	.11	-.11	[-.27, .09]
Negative other	.08	.09	.09	[-.12, .31]	.16	.08	.22*	[.01, .33]
Positive other	-.04	.13	-.04	[-.30, .25]	-.02	.11	-.02	[-.28, .25]

Note. Gender = 0-male, 1-female

* $p < .05$, ** $p < .01$, *** $p < .001$.

In the control sample (Table 5), demographic covariates significantly predicted a high percentage of variance in deficits in self-functioning ($R^2 = .20$, $F(2, 89) = 10.79$, $p < .001$), however, only age made a significant contribution to the model, implying that identity and self-direction problems in this sample were predominantly developmental in nature. Core schemas predicted additional 38% of variance in self-functioning ($F(4, 85) = 19.07$, $p < .001$). Again, only negative beliefs about self were a significant predictor of self pathology. Similar to the clinical sample, age and gender were not relevant for interpersonal functioning ($R^2 = .04$, $F(2,89) = 1.86$, $p = .162$), while core schemas predicted 24% of variance in this domain ($F(4,85) = 6.89$, $p < .001$). In controls, only negative beliefs about self significantly contributed to this model.

Table 5. Core schemas as predictors of personality functioning in controls

Block and Variables	Self-functioning				Interpersonal functioning			
	B	SEB	β	BCa 95% CI	B	SEB	β	BCa 95% CI
Gender	1.17	.80	.14	[-.43, 2.79]	-.41	.73	-.06	[-2.00, 1.07]
Age	-.19	.04	-.43***	[-.26, -.12]	-.07	.04	-.19	[-.16, .01]
Negative self	.67	.10	.58***	[.44, .91]	.39	.11	.40**	[.15, .70]
Positive self	-.04	.08	-.05	[-.24, .14]	-.08	.08	-.12	[-.08, .23]
Negative other	.01	.08	-.01	[-.21, .18]	.09	.09	.11	[-.14, .29]
Positive other	-.11	.07	-.13	[-.26, .04]	-.16	.08	-.23	[-.33, .01]

Note. Gender = 0-male, 1-female

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

In conclusion, the findings fully supported the first assumption that anxiety and mood disorders are related to significant impairments in self and interpersonal functioning. The second assumption was partially confirmed since negative self-schema in outpatients was more relevant than other core schemas only for deficits in self-functioning.

4. Discussion

In line with previous studies, our data provide supporting evidence that anxiety and mood disorders are associated with deficits in personality functioning as conceptualized in the AMPD (Behn et al., 2018; Crempien et al., 2017; Gruber et al., 2020). We found that the domain of self-functioning was more impaired than the domain of interpersonal functioning. At the level of specific personality pathology facets, in the area of identity integration, internalizing disorders were related to greater lack of knowledge and more negative views about oneself, as well as to experiencing lack of control over one's emotional fluctuations. In the area of self-direction, anxiety and mood disorders were related to deficits in the sense of direction of one's life and understanding one's thoughts and feelings. The latter inevitably resulted in deficits in interpersonal capacities, i.e., deficits in empathic understanding of other people's reactions to one's behaviour and the capacity to form and sustain intimate relationships. Considering that maladaptive self-functioning was predominant, we can cautiously conclude that the findings captured the source of personality pathology in outpatients rather than its consequences (Jørgensen, 2018). This means that in line with the pantheoretical conceptualization of the level of personality functioning, internalizing disorders are associated with general adaptive failures of the intrapsychic system to understand and manage the self and coherently integrate aspects of the self (Morey et al., 2011; Sharp & Wall, 2021). Therefore, the sense of autonomy and agency in outpatients is impaired (Bender et al., 2011). Their self-image is distorted; they struggle with setting and pursuing goals, reflecting upon and regulating emotional experiences (Soloff, 2018). Their understanding of others' experiences is also impaired, while close social interactions are perceived as threatening (Pincus et al., 2020).

Taken together, these findings suggest that a more nuanced insight of personality difficulties and strengths in internalizing disorders could increase understanding of determinants and consequences of psychological suffering and inform treatment planning (Bach & Simonsen, 2021; Morey & Benson, 2016). Various therapeutic approaches have recognized the challenges in establishing therapeutic alliance with clients at lower levels of personality functioning (Horowitz, 2013; Simonsen & Simonsen, 2014; Waugh, 2019). Criterion A can thus be used as a primary guide for treatment structure and therapeutic tactics that gradually strengthen the

client-therapist relationship (Morey et al., 2014; Weekers et al., 2020). Previous research has also indicated that treatment outcome in internalizing disorders might be influenced by personality pathology since it threatens treatment adherence, implies more severe general psychopathology, diminishes psychosocial functioning and increases the risk of developing other clinical disorders (Behn et al., 2018; Buer Christensen et al., 2020; Friborg et al., 2014; Gruber et al., 2020). Therefore, the evaluation of the severity of personality deficits could also inform the selection of treatment interventions, especially keeping in mind that general personality dysfunction appears more malleable than specific maladaptive traits (Hoopwood, 2018; Wright et al., 2016).

The data further demonstrated that internalizing disorders were related to more negative self-beliefs and less positive beliefs about self and others, while negative evaluations of others were not as prominent. Even though our findings corroborate the assumption that self-directed processes are more relevant for psychopathology than other-directed processes (Beck, 2015; Pretzer & Beck, 2005), considering that we used a mixed sample of anxiety and mood disorders, further studies could investigate the differentiated role of negative vs positive and self vs other beliefs in separate internalizing disorders. We can, however, conclude that in line with cognitive theory, negative evaluations of self are the most distinctive indicator of internalizing psychopathology (Dozois & Beck, 2008; Hawke & Provencher, 2011, 2013). This is also consistent with the above-discussed findings on maladaptive self-functioning, where a distorted self-representation was at the core of personality deficits, although the BCSS capture a more extreme and diversified negative self-concept (Fowler et al., 2006). The finding that internalizing disorders were associated with less positive evaluations of others is also of note since it can be interpreted as a strategy for one's emotional protection against potential disappointments in close relationships (Koerner et al., 2015), which is in line with outpatients feeling more vulnerable relative to controls in the proximity of intimacy.

Concerning the relationship of core schemas with the level of personality functioning, our study confirmed that negative self-beliefs were the most significant predictor of impaired self-functioning, i.e., that global self-devaluative beliefs underlie deficits in identity integration and self-direction (Beck, 2015; Leahy et al., 2005; Young & Lindemann, 2002). This finding held irrespective of the severity of personality pathology. More specifically, albeit age-related variations in personality problems were detected in controls, negative self-schema was an equally strong predictor of self pathology in both samples. This is consistent with the cognitive model of personality dysfunction (Beck, 2015; Pretzer & Beck, 2005) and suggests that endorsing extremely negative appraisals of oneself increases the likelihood and severity of personality impairments. When it comes to interpersonal functioning, both negative self and negative other

schemas were significant predictors of deficits in regulatory processes in the clinical sample. Considering that negative evaluations of others were a significant predictor only in the clinical sample, while outpatients did not differ from controls in these core beliefs, future studies could further examine whether negative appraisals of others have a differentiated role and help disentangle their potentially reciprocal relationship with impairments in interpersonal functioning (Pincus et al., 2020).

Even though we assessed core schemas from the perspective of the cognitive tradition, it is of note to briefly mention similarities in construct conceptualization from a contemporary psychodynamic perspective and in reference to its clinical utility. The schema model proposed by Slap and Slap-Shelton (1991, as cited in Sperry & Sperry, 2016) is a representative example that involves the ego and sequestered schemas, organized around early traumatic experiences not integrated into the psyche, which shape the cognitive processing of current relationships and situations. The treatment derived from this model is oriented towards working through pathological schemas, gradually enabling the client to achieve integration and a greater degree of self-understanding, i.e., improved self-functioning leading to improved interpersonal functioning. In comparison, cognitive therapy entails two approaches to treating personality dysfunction; one is effective in modifying schemas, whereas the other is effective in mastering personal and relational skills (Beck et al., 2015; Davis, 2018; Sperry & Sperry, 2016). Both types of interventions are also relevant for internalizing disorders since personality psychopathology can be conceptualized using an internalization-externalization model based on maladaptive coping with stress, where internalizing personality pathology is associated with negative emotionality and overcontrol (Wright et al., 2012). Considering that self-other schemas are common to most therapeutic approaches, a treatment framework that integrates challenging core beliefs and interventions aimed at emotional regulation, empathy training, interpersonal skills etc., could be most effective for the wellbeing of clients with co-occurring clinical and personality pathology (Sauer-Zavala et al., 2022; Sperry, 2016).

There are certain potential limitations concerning the results of this study. First, we used a mono-method approach to assess personality functioning and core beliefs. Second, we did not differentiate anxiety from mood disorders. Finally, the control sample was not screened for psychopathology via a diagnostic interview, although they did report significantly lower psychological distress than outpatients. On the other hand, the initial psychometric evaluation of both the LPFS-BF 2.0 and BCSS in this study supports their discriminative ability and utility in diverse clinical and cross-cultural contexts. Furthermore, the study provides insight into how

personality pathology is expressed in internalizing disorders. At the same time, its clinical implications reinforce the recommendation to routinely assess the severity of personality functioning prior treatment (Bach & Simonesen, 2021). Future research could examine personality functioning as treatment outcome (Kraus et al., 2020; Weekers et al., 2019). The present study has also enhanced our understanding of the relevance of self-schema for personality pathology. Consistent with the literature the findings revealed that internal regulatory processes are primary control functions that determine self-pathology, thus indicating that any modality of psychological treatment that addresses extreme negative self-appraisals could also benefit both areas of self-functioning as conceptualized in the AMPD.

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