abstract: 236 words

manuscript: 2611 words

references: 319 words

tables: 2

supplements: 4

DSM-5 Assessments of the Level of Personality Functioning: Intrapersonal and Interpersonal Functioning

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This research was supported by a special fellowship of the FWO research fund Flanders (1901315N).

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DSM-5 Assessments of the Level of Personality Functioning: Intrapersonal and Interpersonal Functioning

Objective. In DSM-5, Section III, the Level of Personality Functioning (LPF) was proposed as a severity index of personality disorders (PDs), but as it reflects both trait-like (availability) and state-like (accessibility) features, of which, moreover, the relationship with the experience of patients is unclear, we critically examined LPF in patients with general psychopathology.

Method. This study compared the validity of the direct Inventory of Personality Organization (IPO), and the indirect Differentiation-Relatedness Scale (DRS) LPF-measure, in relation to measures of intrapersonal and interpersonal functioning. The sample consisted of 70 inpatients with general psychopathology and no primary PDs. Associations of both measures with DSM-PDs were examined, with and without controlling for clinical distress.

Results. The IPO was significantly related to age and clinical distress. When controlling for clinical distress, the IPO was still associated with cluster A (odd) and B (erratic) PD features, high levels of self-criticism, conflict in relationships and low levels of adaptive coping strategies. The DRS was only related to the schizotypical PD.

Conclusions. In patients with general psychopathology, both the IPO and the DRS, appear to have limitations in measuring LPF. The IPO seems to be prone to state effects, although correlations with PDs remained significant when controlling for clinical distress. The DRS seemed to be more independent from clinical distress but was unexpectedly unrelated to features of personality pathology. DRS reflects availability, while IPO also reflects different degrees of accessibility of LPF in PDs.

To overcome problems of categorical classification of personality disorders (PDs) such as lack of therapeutic specificity, a dimensional Alternative Model of Personality Disorders (AMPD) has been proposed in DSM-5, Section III (Diagnostic and Statistical Manual of Mental Disorders, 5th edition; APA, 2013). It consists of a hybrid system of the level of personality function (LPF, criterion A), indicating presence and severity of PDs with impairments in mental representations of self and interpersonal functioning, and the style of PDs with maladaptive traits (criterion B). The proposal of the AMPD suggests the independence of criteria A and B, but the debate about the relationship between the two dimensions remains unresolved (Widiger et al., 2018). Evidence is accumulating that impairments in mental representations of the self in relation to that of others as developed in object relations hamper personality integration and thus underlie personality pathology (Lowyck, Luyten, Verhaest, Vandeneede, & Vermote, 2013). However, it is not clear yet whether LPF could be implied by the maladaptive traits, form a separate trait or could be a general factor of psychopathology underlying both traits and symptoms (Widiger et al., 2018). As, however, the state-trait model of Zuroff, Blatt, Sanislow, Bondi, & Pilkonis (1999) suggests that the availability (content and structure) of mental representations is quite stable but that the accessibility may fluctuate in temporary (mood) states and context, we investigated the impact of clinical distress on a direct and indirect LPF measure. Because a range of newer instruments is still being validated, we compared an already extensively investigated self-report measure to a performance-based measure of LPF (Huprich, Auerbach, Porcerelli, & Bupp, 2016), to refine the construct as called for by the HitOP consortium (Widiger et al., 2018). The Inventory of Personality Organization (IPO; Lenzenweger, Clarkin, Kernberg, & Foelsch, 2001) as the direct measure, reveals a conscious representation of LPF, while the Differentiation and Relatedness Scale (DRS; Diamond et al., 2014) as the indirect measure, reveals the object-related representation of LPF.

DRS and IPO.

The ORI-Differentiation and Relatedness Scale as an indirect measure of LPF.

Diamond and Blatt's DRS (Diamond et al., 2014) is a 10-level ordinal subscale of the ORI (inter-rater reliability of ORI is .70, p=0.0005, Vermote, 2005). It assesses the LPF as representational levels for mother, father, (therapist), peer, and self, resulting from dialectics between relatedness and self-definition. Blatt's theory and assessment have influenced the proposed two-dimensional LPF-Scale in DSM-5, Section III. The DRS measures the transition from impairments in basic differentiation between self and others, with lack (level1) or confusion (level 2) of boundaries (e.g. *flood of details with a sense of confusion*), over attempts to establish and maintain object and self-constancy by the use of mirroring (level 3) idealization and denigration (level 4) or oscillation between both (level 5) (e.g. *extreme one-sided description*), to differentiated and integrated concepts of self and others (level 6), with increasing tolerance for ambiguities (level 7), (e.g. *integration of disparate aspects*), and the capacity for empathic (level 8), reciprocal (level 9) relationships with a mutual reflective construction of meaning (level 10) (e.g. *understanding the perspective of the other*) (Diamond et al., 2014). Reliability of the DRS is good, DRS ICC = .83 (Shrout & Fleisch) (Diamond et al., 2014), and concurrent and discriminant validity is solid (Calamaras, Reviere, Gallagher, & Kaslow, 2016). Because Blatt's theory is rooted in object-relational thinking and attachment theory, it is assumed that the levels of representation of significant others might differ, depending on differing dyads with the self.

The Inventory of Personality Organization as a direct measure of LPF.

The IPO is a self-report measure of LPF, assessing features seen as typical key dimensions in LPF (Widiger et al., 2018, p.3). The IPO derives from the theory of Kernberg, stating that the quality of object relations results in a continuum of ego functioning from normal to severe,

with three organization levels. Combinations of impairments in three key subscales of IPO determine the levels. These scales measure 1) identity confusion (ID, 21 items) as poor understanding of self and others (e.g. 'I pick up hobbies and interests and then drop them'), 2) the use of primitive defenses (PD, 16 items) as splitting and projection (e.g. 'I feel I don't get what I want'), and 3) problems with reality testing (RT, 20 items) as maintaining empathy with ordinary social criteria of reality (e.g. 'I feel that my wishes or thoughts will come true as if by magic'). While the neurotic level may show avoiding defenses against inner conflicts, the borderline level shows impairments in ID and PD, and the psychotic level shows problems in RT moreover. Studies have revealed excellent internal consistency and test-retest reliability (r = .72-.83, Lenzenweger et al., 2001) and supported convergent, concurrent and discriminant validity (e.g., Lenzenweger et al., 2001; Lowyck et al., 2013; Smits, Vermote, Claes, & Vertommen, 2009).

While existing research has provided evidence for the reliability and validity of both the DRS and the IPO, the only study that directly compared the relationship between both instruments and features of clinical functioning (Lowyck et al.,2013) found that correlations between IPO and DRS were only small to medium and therefore initiated the measurement of complementary personality aspects. DRS predicted depression severity, clinical symptoms, and self-harm, IPO predicted clinical symptoms, interpersonal problems, and self-harm. As, however, this study included a sample of disordered personality patients, it remains unclear to what extent these findings generalize to patients with general psychopathology and only secondary personality pathology and to what extent these associations reflect clinical distress, PD traits or/and impaired personality functioning.

Therefore, in this study, we investigated associations of IPO and DRS with features of possible cognitive, intrapersonal and interpersonal dysfunction in a sample of patients with general psychopathology, with and without controlling for clinical distress. In this sample,

PDs were less severe, and chronic psychosis was excluded, but functional impairment and subjective distress, two prerequisites for diagnosis of PD in DSM-5, were present.

We expected more severe personality pathology traits and PDs, more self-criticism and dependency, and more maladaptive interpersonal functioning and coping with higher IPO scores and lower DRS scores. Indeed, impairments of LPF can be understood as impaired object relations, manifested in impaired identity, self-directedness, interpersonal empathy, and intimacy (see AMPD). Following previous findings with IPO and DRS, we did not expect relationships with age, gender, or educational level. In keeping with the nature of PD, we hypothesized no influence of clinical distress in the relationship between PDs and DRS and IPO.

Method

Participants

Seventy inpatients (Caucasian, 35 males) aged 18 to 60 ($\overline{x}$ = 36.6, SD 11.9) were included, consecutively admitted for specialized diagnosis and brief psychotherapy. The only inclusion criterion was general psychopathology (Supplement S1), but patients with manifest psychosis, cognitive deterioration, were selected out before admission to the ward. The mean level of education was higher secondary education (level 3, from 1= primary education to 6 = university).

Measurements

Clinical Distress

The *Symptom Checklist-90* (SCL-90; Arindell & Ettema, 1986) is a 90 items self-descriptive scale with eight subscales and a total scale. Patients rate each item on a 5-point Likert scale. The subscales are summed up.

Psychiatric Symptoms

Beck Depression Inventory (BDI; Van der Does, 2002) is a 21-item self-descriptive 4-point (0-3) scale multiple-choice inventory with three subscales. Total severity score is the sum (max. 63) and can be minimal (0-13), light (14-19), moderate (20-28) or severe (29-63). *Dissociation Questionnaire* (DIS-Q; Vanderlinden, Van Dyck, Vertommen, Vandereycken, & Verkes, 1993) is a 63-item self-descriptive questionnaire with a 5-point Likert scale for degrees of dissociative experiences with four subscales. The total score is summed up.

Personality pathology

Descriptive DSM IV-TR

ADP-IV (Schotte & De Doncker, 1996) consists of 94 trait-distress items, each criterion of DSM-IV-TR scoring the typicality of the trait on a 7-point Likert scale. If score ≥5, then distress is scored on a 3-point Likert scale. Trait and distress scores are summed up for every dimension, and a categorical score is calculated following a DSM-IV-TR algorithm with combinations of cut-offs for traits and distress. After that, the diagnosis of clusters A, B, and C is calculated.

Criterion A DSM 5, Section III

The Depressive Experience Questionnaire (DEQ; Luyten, Corveleyn, & Blatt, 1997) is a 66-item self-descriptive questionnaire, with a 7-point Likert scale with three factors, self-criticism and dependency were used as dimensions of LPF. Scores were calculated using factor scores and loadings of the original DEQ (same psychometric characteristics).

The Differentiation and Relatedness Scale (DRS-ORI; Blatt, Wein, Chevron, & Quinlan, 1979) is a 10-point ordinal clinician rating scale of LPF. It is indirect because the aim is obscure for the subject. The performance-based LPF is scored on the *Object Relations Inventory*, a semi-structured interview in which subjects are asked to describe important others (i.e., mother (DR-M), father (DR-F), peers (DR-P) and self (DR-S)) as detailed as possible. Then, DRS is used to assess the ability to understand both oneself and one's

interpersonal matrix. For a full description of the use of DRS and ORI, see Diamond et al. (2014). The same levels can be clinically rated (after training for reliability) for different significant others like the mother (DR-M), the father (DR-F), the self (DR-S), a peer (DR-P) or a therapist (DR-T).

The Inventory of Personality Organization is a self-report instrument and hence a direct measure of LPF with 136 items on a 5-point Likert scale and 9 subscales of which Identity Diffusion (ID), Primitive Defense (PD) and Reality Testing (RT) are keys to determine the organization level by different combinations (see introduction).

Functional outcome

Progressive Matrices (PM; Raven, 2006) estimates IQ by 60 multiple-choice items in 5 sets of visual pattern detection with increasing difficulty. The rough score is converted into a percentile according to a set of criteria such as age.

Quality of Relationships Inventory (QRI; Pierce, Sarason, & Sarason, 1991) is a self-report scale with 25 items scored on a 4-point Likert scale with three calculated subscales: support, conflict, and depth.

Utrechtse Coping Lijst (UCL; Schreurs & van de Willige, 1988) is a self-report scale with 47 items scoring on a 5-point scale the frequency of using a specific coping (seven subscales).

Procedures

The ethics committee of NPO Emmaus, Mechelen, and the University of Antwerp, Belgium, approved this study. The assessment was part of the routine treatment, except for the ORI. Patients were informed about the study, filled in coordinates and demographical data, and provided written informed consent. Then, in the first two weeks of admission, they got a psychiatric diagnosis (S1), an interview with the ORI, and they digitally filled in the clinical questionnaires.

Statistical analysis

Statistical analyses were performed using SPSS 22.00 (IBM corp., 2013). Pearson's correlations between DRS levels rated on ORI descriptions of self, mother, father and peer and IPO-ID, IPO-PD and IPO-RT were calculated (*p< .05, **p<.01). Next, correlations were calculated for DR-S, DR-M, DR-F, DR-P and IPO- ID, PD and RT as aspects of LPF measures and clinical distress and symptoms (SCL-90, BDI, DIS-Q), differentiated criterion A dimensions of AMPD (DEQ), DSM-IV-TR PDs (ADP-IV) and functional relational (QRI) and coping (UCL) measures. Partial correlations were calculated to control for clinical distress covarying for SCL-90. Comparison of correlations was tested with Fisher z or Hoerger Z-scores for dependent correlations. Comparison of categorical groups (gender) was calculated for IPO-ID, IPO-PD, and IPO-RT with ANOVA and Bonferroni correction for multiple comparisons.

Results

Convergent validity of DRS and IPO

Results indicated that DRS and IPO do not correlate (DR-S: r IPO-ID = .11, r IPO-PD = .12, r IPO-RT = .09, p>.05) (S2). But, while subscales of IPO correlated comparably high (r IPO-ID/RT = .54**, r IPO-PD/RT = .58**, r IPO-ID/PD = .66**), correlations between DRS representations diverged in very small correlations with DR-P (r DR-F = .27*), moderate correlations with DR-S (all = .34**) and a high correlation between DR-M and DR-F (r = .54**).

Associations of DRS and IPO with stable and fluctuating variables

Neither DRS nor IPO correlated with gender, level of education, or IQ (S3), stable factors in personality development. Temporary and dynamic measures such as age (r = .28-.31*) (S3), clinical distress (r SCL-90 = .57-.61**), symptoms of depression (r BDI = .436-.558**) and especially the more fluctuating symptoms of dissociation (r DISQ = .717-.786**) all correlated with IPO (S4).

Controlling for clinical distress in associations of DRS and IPO with functional measures

Therefore, we re-ran correlations with traits of PD, coping, and relational functioning, controlling for clinical distress (see table 1). While DRS was not related to coping measures and relational functioning (table 2), all IPO measures were related to self-criticism and dependency (table 1), to most coping measures, and conflict in relationships (table 2). Although there was a significant impact of clinical distress for self-criticism and dependency, only correlations between IPO and self-criticism remained after controlling for clinical distress (r IPO-ID = .528**, r IPO-PD = .452**, r IPO-RT = .215*). Hence, self-criticism appeared to be a structural deficit in impaired IPO (LPF), while dependency seemed to be explainable by contextual, interpersonal, and distress features.

Correlations of DRS and IPO with PDs controlling for clinical distress: three types

Correlations of DRS (DR-S and DR-P) with PDs were surprisingly limited to cluster A, the schizoid, schizotypical, borderline and histrionic PD and, after controlling for clinical distress, only DR-S was related with exclusively the schizotypical PD. This particular PD has been questioned as a PD and would rather suggest a genetic vulnerability like schizophrenia (Lenzenweger, 2015). IPO correlated with all PDs, but after controlling for clinical distress, three types appeared. First, correlations of the IPO with cluster C seemed to be merely state-dependent, while, second, correlations with cluster A or B remained strong, even if they too showed important impact of clinical distress. Third, PDs typically associated with extreme internalizing (schizoid and avoidant) and externalizing (antisocial, histrionic, passive-aggressive, and narcissistic) traits, seemed to be independent of clinical distress. Thus, descriptive PDs showed three types, according to susceptibility to distress.

Discussion

Availability and accessibility of LPF

In summary, in this sample, the DRS appeared to be associated with psychotic vulnerability and was not associated with clinical measures of PD-severity (distress, symptoms, traits, or functioning in relationships or coping). DRS measured the *availability* of personality functioning, the structural vulnerability that gives rise to disturbances in the self (Zuroff, Sadikaj, Kelly, & Leybman, 2015). IPO, in turn, was state dependent and was associated with interpersonal functioning, clinical distress, coping, functioning of self, and with all PDs. However, comparisons of correlations between descriptive PDs and IPO (LPF) before and after controlling for clinical distress differentiated three types of PDs by the impact of clinical distress. This difference in impact could be understood as a measure of the *accessibility* of personality functioning, the fluctuation of mental structures by mood, social context, or biological factors.

DRS and IPO complement in differentiating identity integration from clinical distress

In all, the present research reveals an impact of clinical distress on PDs. But, the impact differs depending on the type of PD. The three types revealed in the comparison of the results for IPO and DRS in the present sample indicate that DRS is only useful to detect psychotic PDs (*availability*), IPO is complementary (*availability and accessibility*). IPO shows in high LPF (cluster C) a relationship with PDs determined by clinical distress, in medium LPF (with extreme internalizing or externalizing traits), the presence of clinical distress shows no impact, but in low LPF (cluster A and B), there is a clear impact of both hampered identity integration and clinical distress. Even if the present study is limited in scope due to the specificity of the sample, which is limited to general psychopathology patients, it opens a perspective for reliable measurement of PDs, independent of clinical distress.

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Appendices

Because of reference limitations, we chose to add here the bibliography of the list of assessment instruments. References of conventional standardized assessment instruments were not included in the selective reference list. However, it is possible to consult them in this supplement.

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Table 1

Correlations of the DRS and the IPO with personality disorders as measured with ADP-IV, according to DSM-IVTR criteria and with dependency and self-criticism as measured with the DEQ. Also partial correlations are added, controlled for clinical distress (SCL-90 total score) and significant differences between correlations and partial correlations, calculated with Fisher z, are marked with italics.

	DRS				IPO			*M*	*SD*
	N= 67	N=67	N=47	N=65	N=64	N=64	N=64		
	DR-M	DR-F	DR-P	DR-S	IPO-PD	IPO-ID	IPO-RT		
ADP-IV									
CLUSA	-.048	-.209	-.332*	-.309*	*.778***	*.749***	*.714**	67.26	21.97
control	.006	-.123	-.242	-.242	*.618***	*.557***	*.505***		
CLUSB	.072	-.056	-.246	-.234	.794**	.760**	.735**	97.85	35.65
control	.147	.141	-.168	-.108	.693**	.639**	.600**		
CLUSC	-.008	-.113	-.223	-.184	*.624***	*.648***	*.542***	79.89	24.43
control	.136	.156	-.104	-.079	*.314***	*.337***	*.159*		
PARD	-.018	-.065	-.128	-.200	.747**	*.696***	*.702***	21.74	9.54
control	.067	.094	-.121	-.073	.590**	*.496***	*.514***		
SZD	-.181	*-.256**	-.341*	.181	.399**	.431**	.280**	19.93	7.71
control	-.156	*-.289*	-.285	-.172	.213	.253*	.040		
STD	..036	-.219	-.340*	-.375**	*.775***	*.734***	*.755***	28.59	10.62
control	..084	-.089	-.252	-.302*	*.622*	*.543***	*.587***		
ASD	-.002	.036	-.102	-.092	.654**	.318**	.538	17.70	9.29
control	-.029	-.06	-.053	-.01	.613**	.581**	.462**		
BLD	.012	-.063	-.318*	-.279*	*.764***	*.759***	*.696***	39.67	13.78
control	.110	.124	-.227	-.151	*.604***	*.589***	*.488***		
HISD	.178	-.030	-.326*	-.210	.690**	.645**	.672**	23.28	9.90
control	.236	.215	-.254	-.174	.559**	.487**	.532**		
NARD	.081	-.052	-.010	-.160	.609**	.573**	.614**	21.05	9.36
control	.192	.192	-.005	-.015	.531**	.480**	.538**		
AVD	.002	-.088	-.025	-.186	.564**	.527**	*.417***	26.21	10.05
control	.117	.102	.057	-.086	.354**	.286**	*.125*		
DEPD	-.001	-.089	-.243	-.102	*.553***	*.617***	*.475***	27.41	10.56
control	0.103	.178	-.125	-.038	*.194*	*.285**	*.047*		
OCD	-.026	-.119	-.303*	-.179	*.498***	*.538***	*.529***	26.41	8.56
control	.100	.088	-.210	-.060	*.173*	*.219*	*.220*		
DED	-.013	-.149	-.182	-.291*	*.536***	*.560***	*.421***	27.13	10.53
control	.171	.105	-.058	-.159	*.230*	*.251**	*.033*		

	DRS				IPO			*M*	*SD*
	N=67 DR-M	N=67 DR-P	N=47 DR-S	N=65 DR-F	N=64 IPO-PD	N=64 IPO-ID	N=64 IPO-RT		
PAD	.098	-.049	-.088	-.179	.686**	.673**	.636**	19.39	7.34
control	.279	.155	.013	.055	.519**	.491**	.438**		
DEQ									
DEP	.089	.062	-.235	.057	*.43***	*.464***	*.404***	.096	0.966
controls	.159	.189	-.125	.176	*.115*	*.163**	*.04*		
SC	.013	-.14	-.053	-.165	*.687***	*.7327***	*.572***	.380	1.033
controls	.087	-.03	.141	-.072	*.452***	*.528***	*.215**		

CLUS A = cluster A PD's, CLUS B = cluster B PD's, CLUS C = cluster C PD's, PARD = paranoid PD, SZD = schizoid PD, STP = schizotypal PD, ASD = antisocial PD, BLD = borderline PD, HISD = histrionic PD, NARD = narcissistic PD, AVD = avoidant PD, DEPD = dependent PD, OCD = obsessive-compulsive PD, DED = depressive PD, PAD = passive-aggressive PD, DEQ = Depressive Experience Questionnaire, DEP = DEQ dependency dimension, SC = DEQ self-criticism dimension.
*p < .05 **p < .01

Table 2

Correlations of DRS and IPO with interpersonal functioning, as measured with the QRI, and with Coping as measured with the UCL. Also partial correlations are added, controlled for clinical distress (SCL-90 total score) and significant differences, calculated with Fisher z, are marked with italics

	DRS				IPO				
	DR-M	DR-F	DR-P	DR-S	IPO-ID	IPO-PD	IPO-RT	*M*	*SD*
QRI									
SUPPORT	.144	.115	-.018	.100	.017	-.005	.076	2.811	.737
DEPTH	.082	.032	.054	.204	.100	.093	.143*	2.984	.680
CONFLICT	-.153	-.239	.122	-.090	.291**	.311**	.205**	2.192	.696
UCL									
ACT	-.045	-.067	.094	.026	-.379**	-.292**	-.157*	2.111	.624
PALL	-.064	-.087	-.001	.137	.276**	.253**	.331**	2.328	.547
AVOID	.023	-.119	-.049	-.021	*.452***	*.366***	*.376***	2.289	.525
SOCIAL	.126	.271*	.059	.238	-.180*	-.077	-.069	2.002	.711
PASS	-.082	-.132	-.221	-.189	*.686***	*.61***	*.542***	2.506	.583
EXPR	-.056	.066	-.073	.001	.278**	.357**	.336**	2.050	.675
COMF	.046	.093	.049	.048	-.189*	-.151*	.038	2.281	.583
TOTAL	-.022	-.022	-.025	.119	.211**	.239**	.342**	2.243	.284

QRI (Quality of Relationships Inventory); Subscales of UCL (Utrecht Coping List): ACT = active problem solving, PALL = palliative coping, AVOID = avoidant coping, SOCIAL = seeking social support, PASS = passive reaction, EXPR = expression of emotions, COMF = comforting thoughts, TOTAL = UCLtotal score.
*p < .05 **p < .01

abstract: 236 words

manuscript: 2611 words

references: 319 words

tables: 2

supplements: 4

DSM-5 Assessments of the Level of Personality Functioning: Intrapersonal and Interpersonal Functioning