The Inventory of Personality Organization–Revised

Construction of an Abridged Version

Dirk J.M. Smits[1,3], Rudi Vermote[2], Laurence Claes[3], and Hans Vertommen[3]

[1]HU Brussel, Part of Association K.U. Leuven, Belgium, [2]UPC-KUL, Campus Kortenberg and KUL, Department of Medicine, Belgium, [3]K.U. Leuven, Department of Psychology, Belgium

Abstract. The Inventory of Personality Organization (IPO, Kernberg & Clarkin, 1995; Lenzenweger, Clarkin, Kernberg, & Foelsch, 2001) is a self-report instrument intended to measure a patient's level of personality organization. This manuscript describes the development of a shortened version of the IPO (the IPO-R). Construct validity of the IPO-R is determined by investigating (a) its latent structure, (b) the equivalence of this latent structure in a normal and a clinical sample (structural validity), and (c) differences between mean scores of the IPO-R scales for a normal population, axis-I disordered and axis-II disordered patients (concurrent validity). The IPO-R showed adequate construct validity in a normal and a clinical sample.

Keywords: personality organization, inventory, personality structure, structural diagnosis, Kernberg

Introduction

Every person has a characteristic way of thinking, feeling, behaving, and relating to others, which can be summarized by the concept "personality." Individual differences in personality functioning are often described in terms of personality traits (e.g., Pervin & John, 1999; Widiger, 2003). These traits can be defined as "stylistic and habitual patterns of cognitions, affect, and behavior" (Emmons, 1982, p. 32). If one or more aspects of personality result in a significant level of social or occupational dysfunction, a personality disorder can be present. Such a personality disorder is often described in terms of a DSM-IV (APA, 1994) personality disorder diagnosis. Apart from this atheoretical classification, Kernberg (1984, 1996) developed a psychodynamic model of personality dysfunctioning, assuming that personality disorders emanate from a confluence of neurobiologically mediated and environmentally mediated factors. To explain the development of personality dysfunctioning, Kernberg introduced the concept of *personality organization*. He discerned three levels of personality organization: the neurotic, the borderline, and the psychotic level. An individuals' level of personality organization can be described by its position along three dimensions: (1) reality testing, which refers to the "capacity to differentiate self from nonself, intrapsychic from external stimuli, and to maintain empathy with ordinary social criteria of reality" (Kernberg, 1996, p. 120); (2) dominance of primitive defense mechanisms, such as projection, denial, dissociation, or splitting; and (3) identity diffusion, which refers to those psychological and behavioral indicators that derive from a poorly integrated identity, particularly poorly integrated concepts of self and significant others. The *neurotic personality organization* is defined by an intact reality testing, mature defense mechanisms such as reaction formation, isolation, undoing, suppression and repression, and no identity diffusion. The *borderline personality organization* is characterized by broadly intact reality testing, predominance of primitive defense mechanisms, and marked identity diffusion. Finally, the *psychotic personality organization* is characterized by impairments in all three dimensions.

The borderline level of personality organization defines the underlying developmental matrix from within which all forms of personality disorders arise, except for the obsessive-compulsive personality disorder, which is seen as having a neurotic personality organization (Kernberg, 1984, 1996). However, cluster A personality disorders (paranoid, schizoid, and schizotypal), which represent the habitual use of a primitive defense, will "load" more toward the psychotic end of the continuum. Those personality disorders representing reliance on more mature defenses, e.g., cluster C personality disorders (active-avoidant, obsessive-compulsive, and dependent) will load more toward the neurotic pole. For example, a greater proportion of obsessive people will be at the neurotic end of the dimension than at the psychotic one (McWilliams, 1994).

To assess an individual's position along the three major dimensions, Kernberg and colleagues developed the Inventory of Personality Organization (IPO, Kernberg & Clarkin, 1995; Lenzenweger, Clarkin, Kernberg, & Foelsch,

© 2009 Hogrefe Publishing

DOI 10.1027/1015-5759.25.4.223

2001). The IPO is intended to aid in the assessment of the behaviors and psychological features reflective of those three dimensions in clinical and nonclinical populations (Lenzenweger et al., 2001, p. 578). In study, we focused on the three core scales of the IPO and used the version with 57 items (Lenzenweger et al., 2001). Lenzenweger et al. (2001) and Normandin et al. (2002) investigated its basic psychometric properties (internal consistency, test-retest reliability, latent structure) in normal sample (university students) and found the questionnaire to be two or three dimensional.

Within the three-factor solution, all factors are highly correlated (Primitive Defenses with Identity Diffusion = .97, Primitive Defenses with Reality Testing = .71 and Identity Diffusion with Reality Testing = .67; Lenzenweger et al., 2001, p. 581), so that their interpretation and differentiation is not straightforward. Also, the factorial structure of the IPO was only investigated in a university student population, so that generalization to a clinical sample is not self-evident. It was our aim to create an *abridged inventory*, called IPO-Revised (IPO-R; reduction rate of at least 20%) with a clear structure and interpretation (no cross-loadings and lower between factor-correlations), with a minimal loss of information (a high correlation with the original IPO-scores), and tested in a normal and a clinical sample. In Study 1, the construction of the IPO-R will be described. Construct validity was investigated in Study 2 and 3. In Study 2, the latent structure of the IPO-R was investigated in a normal and in a clinical sample (structural validity). Finally, in Study 3, the concurrent validity of the IPO-R was investigated, by comparing the IPO-R scores for a normal sample, clusters of personality disordered patients, patients with only an axis-I diagnosis, and psychotic patients.

Study 1: Construction of IPO-R: Latent Structure in a Normal Sample

In the studies of Lenzenweger et al. (2001) and Normandin et al. (2002), the latent structure of the IPO was tentatively concluded to be three dimensional. However, the factors representing identity diffusion and primitive defences were highly correlated (.97). In Kernberg's theory (1996), those two dimensions also coincide: Persons without a personality disorder are located at the lower end of both dimensions, whereas persons with a serious personality dysfunction are located at the high end for both dimensions. Therefore, a priori, an empirical separation of both dimensions can be expected to be difficult. The reality testing dimension, by contrast, differentiates persons with a psychotic personality organization. Based on these arguments, we hypothesized that a three-dimensional model would *not* show an improved fit in comparison with a two-dimensional model in which the dimensions of identity diffusion and primitive defenses are collapsed.

As mentioned earlier, it was our aim to reduce the total number of items with a minimal loss of information. Therefore, only items with a factor loading of at least .40 will be retained. Second, also items with high cross-loadings will be removed.

Method

Subjects

The normal sample comprised 411 first-year psychology students. The sample comprised 79 males and 320 females (for 12 persons the gender was unknown), reflecting the gender distribution among psychology students. Their mean age was 18.49 (*SD* = 3.03).

Measures

The IPO is a 57-item self-report questionnaire with three scales, each relevant to a different dimension of Kernberg's personality organization model. The Reality Testing impairments (RT) scale comprises 20 items, the Identity Diffusion (ID) scale 21 items, and the Primitive Defense (PD) scale 16 items. In a normal sample all three scales show adequate internal consistency (Cronbach's $\alpha > .81$) and adequate short term test-retest reliability ($r > .72$) (Lenzenweger et al., 2001).

A native English-speaking person, who had lived for several years in a Dutch-speaking environment, translated the IPO-items into Dutch. The translation was checked by means of a back-translation by a professional Dutch-English interpreter. Participants scored all items on a 5-point Likert scale (1 = *never true*, 3 = *sometimes true*, 5 = *always true*).

Procedure

The Dutch translation of the IPO was administered to 411 psychology students. Participation in the study was a partial fulfillment of a course requirement to participate in research.

Results and Discussion

The latent structure of the IPO was investigated by means of confirmatory factor analysis (CFA) upon the polychoric correlations. Polychoric correlations were used for two reasons. First, the distribution over the response categories was rather skewed for many items, which polychoric correlations can deal with, assuming an underlying normal distribution, and second, no assumptions need to be made regarding the interval scale level of the responses. The parameter values of these models were estimated with

 © 2009 Hogrefe Publishing

LISREL 8.70 (Jöreskog & Sörbom, 2004) using a maximum likelihood approach. Fit of the CFA models was determined according to the approach and the cutoff criteria proposed by Hu and Bentler (1998, 1999): A good fitting model yields a standardized root mean squared residual (SRMR) close to or below .09 and a comparative fit index (CFI) close to or higher than .95. The incremental fit of different nested models was evaluated with the Tucker-Lewis (1973) nonnormed incremental fit index (NNFI), which is a measure of the degree of improvement in fit (specifically, the proportionate reduction in the fitting function), obtained when moving from a less restricted to a more restricted model. AIC (Akaike's Information Criterion; Akaike, 1987) was used to determine the relative goodness-of-fit for nonnested models (Schermelleh-Engel & Moosbrugger, 2003).

Based on the best fitting model, a two-step item-reduction procedure was followed to reach a reduction rate of at least 20% (maximum 46 remaining items): (1) items for which the expected cross-loadings were higher than .20 (modification indices), as well as (2) items with a factor loading smaller than .40 were removed. Correlations with the original IPO-scores (two-dimensional variant) were used to investigate the information loss resulting from the reduction of items.

Three CFA models were fitted to the IPO-R: (1) M_1: a single-factor model in which all items load on a common factor (general psychopathology) (CFI = .92, SRMR = .09, AIC = 5329.22), (2) M_2: a two-factor model in which the ID and PD items load on Factor 1 and the RT items on Factor 2 (CFI = .95, SRMR = .09, AIC = 3919.19), and (3) M_3: a three-factor model in which each item loads on one of the three theoretically defined factors (CFI = .95, SRMR = .09, AIC = 3984.33).

Both the two and three-factor model fit our data, confirming the results of Lenzenweger et al. (2001). However, the three-factor model did not provide an improvement of fit compared to the two-factor model (M_1–M_2: χ^2 = 1412.03, *df* = 1, NNFI = .40; M_2–M_3: χ^2 = 28.86, *df* = 2, NNFI = .01). Moreover, the correlation between the factors for Identity Diffusion and Primitive Defenses in M_3 was

Table 1. Factor loadings: two factor models in the nonclinical and clinical sample

	Nonclinical sample (Study 1)				Clinical sample (Study 2)	
	Original IPO		IPO-R		IPO-R	
item	1	2	1	2	1	2
1	0.52	–	.54	–	.54	–
2	0.35	–				
3	–	0.33	.46	–	.59	–
4	0.51	–	.50	–	.52	–
5	0.44	–	.44	–	.35	–
6	0.30	–				
7	–	0.44	.55	–	.56	–
8	0.63	–	.61	–	.51	–
9	0.51	–	.49	–	.31	–
10	0.32	–				
11	–	0.45	–	.46	–	.34
12	0.44	–	.47	–	.50	–
13	–	0.72	–	.73	–	.65
14	0.21	–				
15	–	0.62	–	.62	–	.55
16	–	0.65				
17	0.56	–	.56	–	.50	–
18	0.28	–				
19	0.43	–				
20	–	0.76	–	.78	–	.84
21	0.40	–				
22	0.61	–	.63	–	.59	–
23	0.72	–	.73	–	.65	–
24	–	0.80	–	.81	–	.42
25	–	0.81	–	.84	–	.81
26	0.29	–				
27	0.41	–				
28	0.58	–	.62	–	.53	–
29	0.47	–	.44	–	.45	–
30	–	0.66	–	.64	–	.53
31	0.46	–	.45	–	.34	–
32	0.46	–	.43	–	.33	–
33	0.41	–	.42	–	.51	–
34	–	0.80	–	.82	–	.76
35	0.53	–	.53	–	.52	–
36	0.58	–	.59	–	.47	–
37	–	0.54				
38	–	0.81	–	.83	–	.77
39	0.47	–	.44	–	.51	–
40	0.48	–	.46	–	.47	–
41	0.56	–	.55	–	.64	–
42	0.64	–	.62	–	.60	–
43	0.20	–				
44	0.45	–	.43	–	.48	–
45	0.61	–	.62	–	.41	–
46	0.48	–	.46	–	.30	–
47	0.41	–				
48	0.62	–	.64	–	.54	–
49	0.62	–	.67	–	.53	–
50	0.54	–	.55	–	.43	–
51	–	0.33	.42	–	.46	–
52	–	0.59				
53	–	0.35				
54	–	0.40	.57	–	.37	–
55	–	0.50	–	.49	–	.43
56	–	0.62	–	.62	–	.43
57	–	0.22				

© 2009 Hogrefe Publishing

Table 2. Means, standard deviations, and Cronbach α per gender for RT and PD/ID scale of IPO–R, nonclinical and clinical sample

	Males			Females			Total sample		
	Mean	*SD*	α	Mean	*SD*	α	Mean	*SD*	α
Nonclinical sample									
RT	20.02	6.86	.87	18.47	5.67	.84	18.78	5.94	.85
PD/ID	67.53	15.23	.89	63.68	14.67	.91	64.44	14.84	.90
Clinical sample									
RT	19.47	6.75	.82	17.65	7.09	.85	18.74	6.96	.83
PD/ID	75.08	18.39	.90	77.18	19.50	.91	75.86	18.35	.90

Note. RT = Reality Testing Impairments Scale; PD/ID = Primitive Defenses/Identity Diffusion Scale.

very high (.92), which makes them hardly distinguishable. Therefore, we opted for the more parsimonious two-factor model. Factor loadings are described in Table 1 (column 1 to 3).

Construction of the IPO-R

For a clear interpretation of each IPO-R scale, high single-factor loadings are preferable. In the two-factor CFA, each item loaded on one factor (see Table 1, column 2 and 3). For each item, the target factor was determined based on the results of Lenzenweger et al. (2001). Looking at the details of the CFA-solution, for several items (18, 37, 46, 52, 57) a serious cross-loading (> .20) was suggested (modification indices). Some other items had low loadings on their target factor, whereas modifications indices indicated a high loading on the other factor (3, 7, 51, 53, 54). Finally, not all items obtained the required high loading (> .40). Therefore, a second two-factor model was fitted in which (a) cross-loading items were removed, and (b) Items 3, 7, 51, 53, 54 were switched to the suggested factors. Based on this solution, items that did not load .40 at their corresponding factor were removed. The reduced item pool comprises 11 RT items and 30 items related to the Primitive Defenses/Identity Diffusion (PD/ID) dimension (see Table 1, gray marked items were not included in the IPO-R), so that our criterion of at least 20% item reduction was reached (item reduction = 28%). This final two-factor model fits our data very well (CFI = .97, SRMR = .07, AIC = 1985.99). The between-factor correlation is low enough to justify that they both have a unique contribution (r = .62). The factor loadings can be found in Table 1, columns 4 and 5. Differences between the IPO and the IPO-R can be derived from Table 1 by comparing columns 2 and 3 with columns 4 and 5. For a description of the items, see the Appendix.

The reduced scales showed high internal consistency: Cronbach's α equals .85 and .90 for the RT scale and the PD/ID scale, respectively. Moreover, the newly constructed scales correlated highly to the original IPO-scales (.92 and .97, respectively, for the RT and the PD/ID scale), suggesting a minimal loss of information. Means, standard deviations, and Cronbach's α per gender for both IPO-R scales are given in Table 2. These results are discussed in detail after Study 2.

Study 2: Generalization of Latent Structure of the IPO-R to a Clinical Sample

As personality organization is a useful concept in clinical practice, the applicability of the IPO-R in a clinical population is important. Therefore, a similar factorial structure should apply in a clinical sample as in a normal sample (construct validity).

Method

Subjects

The clinical group comprised 176 psychiatric inpatients (93 males and 66 females; for 17 patients, information on the gender was missing) recruited in five different psychiatric hospitals from the Dutch-speaking part of Belgium, yielding a subject to variable ratio of more than 5, which is necessary for factor analysis (Bryant & Yarnold, 1995). To obtain a sample with at least half of the patients diagnosed as personality disordered, all patients were recruited from specialized therapeutic units. Patient characteristics in terms of age and civil state are given in Table 2. All patients were briefed about the aims of the study, and signed an informed consent.

Procedure

The IPO-R was administered to patients in the therapeutic unit during an individual contact with their psychologist. Answers were collected on a five-point Likert scale.

Demographics and DSM-IV diagnoses were retrieved from the individual records of the patients (see Table 3). All patients were diagnosed by psychiatrists, who are ex-

 © 2009 Hogrefe Publishing

Table 3. Patient characteristics

		Frequency	%
Age	≤ 19	20	11.4
	20–29	61	34.7
	30–39	46	26.1
	40–49	23	13.1
	≥ 50	17	9.7
	Missing	9	5.1
Civil State	Married	47	27.8
	Single, divorced, widow(er)	122	69.3
	Missing	7	4
Diagnosis	Only axis-I	69	39.2
	cluster A	12	6.8
	cluster B	62	35.2
	cluster C	22	12.5
	PD NOS	11	6.3

Note. Cluster A = Paranoid personality disorder, Schizoid personality disorder, Schizotypal personality disorder; cluster B = Antisocial personality disorder, Borderline personality disorder, Histrionic personality disorder, Narcissistic personality disorder; cluster C = Avoidant personality disorder, Dependent personality disorder, Obsessive-compulsive personality disorder.

perts in DSM-IV classification. Based on the diagnoses, patients were grouped into 4 categories: axis I disordered, and the three clusters (A, B, and C) of personality disorders. As expected, personality disordered patients (cluster A, B, and C) were overrepresented. To test whether a similar factorial structure applies in a normal versus clinical sample, Study 1 data were also used.

Results

The same two-factor model as obtained for the normal sample was fitted to the clinical sample. This model was deemed a fit (CFI = .95, SRMR = .09). A more specific test of the equivalence of the factor structure in the normal versus clinical sample was obtained by consecutively fitting three two-sample CFAs. In the first two-sample CFA, the complete structure was kept constant over both samples: factor loadings, between factor-correlation, and error variances (CFI = .97, SRMR normal sample = .07, SRMR clinical sample = .10). In the second CFA, error variances and between factor-correlation were allowed to differ across samples (CFI = .96, SRMR normal sample = .07, SRMR clinical sample = .09), and in the third CFA, the factor loadings were also allowed to differ (CFI = .96, SRMR normal sample = .07, SRMR clinical sample = .09). Note that the CFI refers to the fit of total two-sample CFA, the SRMR is a group-specific measure of fit.

The goodness-of-fit for all three CFAs was reasonable (criteria: CFI > .95, SRMR ≤ .09). It increased slightly when the error variances and the between-factor correlation was allowed to differ across samples, but not when allowing for different factor loadings in addition. This means that a similar factorial structure applies for both the normal and the clinical sample, but that the values for the error variances and correlation between the factors are different. For example, the correlation between the two factors equals .61 in the normal sample versus .62 in the clinical sample.

Descriptive Statistics of IPO-R Scales

Means, standard deviations, and Cronbach's α per gender for both IPO-R scales are given in Table 2. In the normal sample, males scored slightly higher on both IPO-R scales than females (p = .04). However, those differences were small: about 4 points on the 30-items PD/ID scale and 1.6 points on the 11-items RT scale (Cohen's d was .26 and .25, respectively, for the PD/ID and the RT scale). In the clinical sample, no significant gender differences were found. The reliability coefficients were similar across gender and samples.

Discussion of Study 1 and Study 2

Study 1 and Study 2 provide important support for the structural validity of the IPO-R: A similar factorial structure applies in a clinical and a normal sample. The two-sample CFAs demonstrated that, apart from the error variances and the between factor correlation, the factor structure was the same across both samples, meaning that the measured concepts have a similar interpretation in a clinical versus a normal population, and that the IPO-R is applicable in both population types. In addition, each scale displayed an acceptable internal consistency in both samples.

Although, the gender distribution in Study 1 was rather skewed, the results did generalize to a clinical sample with a more balanced gender distribution. Furthermore, the differences between men and women were small in the normal sample and not significant in the clinical sample, suggesting that gender is not an issue here.

Study 3: Concurrent Validity: IPO-R Related to the DSM-IV Personality Clusters

As mentioned in the introduction, scores on the IPO-R scales should differ depending on the level of personality organization. Based on Kernbergs' theory (1989, 1996); one can derive the following predictions for the IPO-R: (1) Persons of the normal sample should obtain the lowest score on the PD/ID scale, followed by patients with an axis-I diagnosis and patients with an axis-II personality disorder. No differences would be expected on the RT scale.

© 2009 Hogrefe Publishing

(2) Within the subset of patients with an axis-II diagnosis, for cluster C patients, a lower score is expected on the PD/ID scale in comparison to cluster A and B patients, and for cluster A patients, a higher score is expected on the RT scale in comparison to cluster B and C patients. (3) In order for the RT scale to be a measure of psychotic symptoms, cluster A and axis–I psychotic patients should obtain a higher score in comparison to the other patients. (4) Finally, it was tested whether cluster A patients obtained a higher RT score than axis-I psychotic patients. If not, the RT scale should be interpreted as a general measure of psychotic symptoms and cluster A patients can only be detected by the combination of both IPO-R scales: i.e., a high PD/ID score and a high RT score.

Procedure

To test these predictions, four ANOVAs were performed on the data from Study 1 and 2.

Results

First, the PD/ID scores and the RT scores for the normal sample, the axis-I diagnosed patients, and the axis-II diagnosed patients were compared, and as expected, the only significant differences were found for the PD/ID scale ($p < .001$). A Tukey post hoc test revealed that the normal sample obtained the lowest score (64.49), the axis-I diagnosed patients were in an intermediate position (72.12), and axis-II diagnosed patients obtained the highest score (78.58). Second, contrary to our expectation, no significant differences were found on both IPO-R scales between the different clusters of personality disorders, although the results show the predicted pattern (PD/ID scale, $p = .58$: cluster A, $\bar{x} = 80.75$, $SD = 12.69$; cluster B, $\bar{x} = 79.85$, $SD = 20.44$; cluster C, $\bar{x} = 75.15$, $SD = 14.66$; RT scale, $p = .35$: cluster A, $\bar{x} = 21.08$, $SD = 8.62$; cluster B, $\bar{x} = 18.00$, $SD = 6.30$; cluster C, $\bar{x} = 18.81$, $SD = 6.75$). Third, the 21 psychotic patients (axis-I or II) obtained a higher RT score (21.81) than all other patients (18.33, $p = .03$). Fourth, within the group of psychotic disordered patients, 12 were diagnosed as personality disordered. No significant difference was found on the RT scale for cluster A patients versus axis-I psychotic patients. However, the personality disordered patients obtained a higher PD/ID score than the axis-I psychotic patients (80.75 versus 67.43, respectively, for cluster A vs. axis-I psychotic patients, $p = .05$).

Discussion

Based on the ANOVAs, it can be concluded that the PD/ID scale differentiates between persons from a normal sample, axis-I disordered patients, and personality disordered patients (axis-II), and as such corresponds to the difference between a neurotic and a borderline or psychotic personality organization.

The RT scale is not a specific measure for the psychotic personality structure, but is sensitive for reality-testing impairments resulting from psychotic symptoms. Therefore, a high PD/ID score and a high RT score are both necessary conditions for diagnosing the psychotic personality.

Finally, our clinical sample was not representative of the general psychiatric population: It comprised only patients from residential therapeutic units, and as such, axis-II disorders were overrepresented. However, the study was aimed at investigating differences between axis-I and axis-II disordered patients and between the three clusters of personality disorders, so that obtaining a reasonable amount of axis-II disordered patients was primordial. Second, the clinical sample was not optimal for detecting differences between personality clusters since cluster A and cluster C patients were underrepresented. However, similar differences in proportions of patient diagnoses are found in the population of psychiatric inpatients: The prevalence of cluster A and C is lower than the prevalence of cluster B or axis-I disorders (Grilo et al., 1998).

General Conclusions and Directions for Further Research

Determining an individuals' level of personality organization can be an important tool for predicting the risk of future pathology. Therefore, based on the IPO, we developed a shorter inventory with a clear structure (no cross-loadings) and with a minimal loss of information comprising 41 items, 30 for the PD/ID scale and 11 for the RT scale (Study 1). The interpretation of the IPO-R scales is highly similar in a normal versus a clinical sample (see two-sample CFAs, Study 2). Moreover, both scales were shown to be internally consistent (Study 1 and 2).

In Study 3, as predicted, differences in IPO-R scores were found between the normal versus clinical sample, and between axis-I versus axis-II disordered patients. However, there still exits a reasonable overlap between scores of a normal versus clinical sample and between personality disordered and axis-I disordered patients, meaning that the IPO-R cannot be the only source of information to map patients to one of the three levels of personality organization. Furthermore, based on IPO-R scales, it was not possible, partly because of the under-representation of cluster A and C patients, to differentiate the three clusters of personality disorders. Finally, as the diagnoses of our clinical sample were made by different psychiatrists, it may be that their reliability is not as high as it would have been when using a more structured method like the SCID-II.

Although the construct validity of the IPO-R turned out to be satisfactory, there are several reliability and validation studies that should be carried out. Personality organization

 © 2009 Hogrefe Publishing

is a relatively enduring characteristic so test-retest reliability and long-term stability should be investigated. The external validity of the original IPO was supported by its correlations (in a normal sample) with depression, anxiety, psychotic symptoms, irritability, negative affect (all positive), and positive affect (negative) (Lenzenweger et al., 2001). The high correlation between the IPO-R and the original IPO-scores (Study 2) suggests these findings can be generalized to the IPO-R, but further investigations are needed, especially within a clinical sample.

The RT scale turned out to be an indicator for psychotic pathology. However, Spitzer et al. (2006) showed that the reality-testing impairments scale is an important predictor of dissociation. Therefore, the sensitivity of the scale and, primarily, its relation to dissociative disorders should be the subject of future investigations.

To conclude, the IPO-R seems a promising measure of personality organization and a potential aid to predict future pathology and perform risk assessments. However, additional validity studies, primarily for the predictive value of the IPO-R, are necessary.

Acknowledgments

The research was financially supported by a GOA 2000/2-grant from the K.U. Leuven, by postdoctoral fellowship PDM/04/074 from K.U. Leuven Research Fund, and by EHSAL-HUB. We thank the following psychiatric centers and their patients for their kind collaboration: Psychiatrisch Centrum Sint Amedeus (Mortsel), Universitair Centrum Sint-Jozef (Kortenberg), Psychiatrisch Centrum Bethanië (Zoersel), Medisch centrum Sint-Jozef (Munsterbilzen), and Psychiatrisch Ziekenhuis Sancta Maria (Sint Truiden).

References

Akaike, H. (1987). Factor analysis and AIC. *Psychometrika, 52*, 317–332.

American Psychiatric Association (APA). (1994). *Diagnostic and statistical manual of mental disorders DSM-IV.* Washington, DC: Author.

Bryant, F.B., & Yarnold, P.R. (1995). Principal-components analysis and exploratory and confirmatory factor analysis. In L.G. Grimm & P.R. Yarnold (Eds.), *Reading and understanding multivariate statistics* (1st ed., pp. 99–136). Washington, DC: American Psychological Association.

Emmons, R.A. (1982). Exploring the relations between motives and trait: The case of narcissism. In D.M. Buss & N. Cantor (Eds.), *Personality psychology: Recent trends and emerging directions* (pp. 32–44). New York: Springer.

Grilo, C.M., McGlashan, T.H., Quinlan, D.M., Walker, M.L., Greenfeld, D., & Edell, W.S. (1998). Frequency of personality disorders in two age cohorts of psychiatric inpatients. *American Journal of Psychiatry, 155*, 140–142.

Hu, L., & Bentler, P.M. (1998). Fit indexes in covariance structure modeling: Sensitivity to underparameterized model misspecification. *Psychological Methods, 3*, 424–453.

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

Jöreskog, K., & Sörbom, D. (2004). *LISREL 8.70* (Computer program). Lincolnwood, IL: Scientific Software International.

Kernberg, O.F. (1984). *Severe personality disorders*. New Haven: Yale University Press.

Kernberg, O.F. (1996). A psychoanalytic theory of personality disorders. In M.F. Lenzenweger & J.F. Clarkin (Eds.), *Major theories of personality disorder*. New York: Guilford.

Kernberg, O.F., & Clarkin, J.F. (1995).). *The inventory of personality organization*. White Plains, NY: The New York Hospital-Cornell Medical Center.

Lenzenweger, M.F., Clarkin, J.F., Kernberg, O.F., & Foelsch, P.A. (2001). The inventory of personality organization: Psychometric properties, factorial composition, and criterion relations with affect, aggressive dyscontrol, psychosis proneness, and self domains in a nonclinical sample. *Psychological Assessment, 13*, 577–591.

McWilliams, N. (1994). *Psychoanalytic diagnosis: Understanding personality structure in the clinical process.* New York: Guilford.

Normandin, L., Sabourin, S., Diguer, L., Poitras, K., Foelsch, P., & Clarkin, J. (2002). Evaluation de la validité théorique de l'inventaire de l'organization de la personnalité [Evaluation of the theoretical validity of the inventory of personality organization]. *Canadian Journal of Behavioral Science, 34*, 59–65.

Pervin, L., & John, O. (Eds.). (1999). *Handbook of personality* (2nd ed.). New York: Guilford.

Schermelleh-Engel, K., & Moosbrugger, H. (2003). Evaluating the fit of structural equation models: Tests of significance and descriptive goodness-of-fit measures. *Methods of Psychological Research Online, 8*, 23–74.

Spitzer, C., Barnow, S., Armbruster, J., Kusserow, S., Freyberger, H.J., & Grabe, H.J. (2006). Borderline personality organization and dissociation. *Bulletin of the Menninger Clinic, 70*, 210–221.

Tucker, L.R., & Lewis, C.A. (1973). A reliability coefficient for maximum likelihood factor analysis. *Psychometrika, 38*, 1–10.

Widiger, T.A. (2003). Personality diagnosis disorder. *World Psychiatry, 2*, 131–135.

Dirk J.M. Smits

HUBrussel
Nieuwland 198
B-1000 Brussels
Belgium
Tel. +32 2 5123259
Fax +32 2 5128014
E-mail dirk.smits@hubrussel.be

© 2009 Hogrefe Publishing

Appendix: Items IPO-R

Item		Scale
1.	I feel like a fake or imposter, that others see me as quite different from the way I really am.	PD/ID
3.	When I'm nervous or confused, it seems like things in the outside world don't make sense either.	PD/ID
4.	I feel I'am a different person at home as compared to how I am at work or at school.	PD/ID
5.	I feel I don't get what I want.	PD/ID
7.	I find that I do things which get other people upset and I don't know why such things upset them.	PD/ID
8.	Some of my friends would be surprised if they knew how differently I behave in different situations.	PD/ID
9.	I feel that my tastes and opinions are not really my own, but have been borrowed from other people.	PD/ID
11.	I feel that my wishes or thoughts will come true as if by magic.	RT
12.	People tell me I provoke or mislead them so as to get my way.	PD/ID
13.	I am not sure whether a voice I have heard, or something that I have seen is my imagination or not.	RT
15.	I think I see things which, when I take a closer look, turn out to be something else.	RT
17.	I can't explain the changes in my behavior.	PD/ID
20.	I can see things or hear things that nobody else can see or hear.	RT
22.	I find myself doing things which at other times 1 think are not too wise like having promiscuous sex, lying, drinking, having temper tantrums or breaking the law in minor ways.	PD/ID
23.	People tell me I behave in contradictory ways	PD/ID
24.	I can't tell whether certain physical sensations I'm having are real, or whether I am imagining them.	RT
25.	I hear things that other people claim are not really there.	RT
28.	I act in ways that appear to others as unpredictable and erratic.	PD/ID
29.	People tend to use me unless I watch out for it.	PD/ID
30.	I understand and know things that nobody else is able to understand or know.	RT
31.	My life, if it were a book, seems to me more like a series of short stories written by different authors than like a long novel.	PD/ID
32.	I have favorite people whom I not only admire, but almost idealize.	PD/ID
33.	I pick up hobbies and interests and then drop them.	PD/ID
34.	I have seen things which do not exist in reality.	RT
35.	I find myself doing things which feel okay while I am doing them but which I later find hard to believe I did.	PD/ID
36.	Even people who know me well cannot guess how I'm going to behave.	PD/ID
38.	I have heard or seen things when there is no apparent reason for it.	RT
39.	It is hard for me to be sure about what others think of me, even people who have known me very well.	PD/ID
40.	People tend to respond to me by either overwhelming me with love or abandoning me.	PD/ID
41.	I tend to feel things in a somewhat extreme way, experiencing either great joy or intense despair.	PD/ID
42.	I see myself in totally different ways at different times.	PD/ID
44.	In the course of an intimate relationship, I'm afraid of losing a sense of myself.	PD/ID
45.	My life goals change frequently from year to year.	PD/ID
46.	I am a "hero worshiper" even if I am later found wrong in my judgment.	PD/ID
48.	I fluctuate between being warm and giving at some times, and being cold and indifferent at other times.	PD/ID
49.	I do things on impulse that I think are socially unacceptable.	PD/ID
50.	My goals keep changing.	PD/ID
51.	When everything around me is unsettled and confused, I feel that way inside.	PD/ID
54.	People see me as being rude or inconsiderate, and I don't know why.	PD/ID
55.	I feel as if I have been somewhere or done something before when I really haven't.	RT
56.	I believe that things will happen simply by thinking about them.	RT

The numbers before the items correspond to the numbers used in Table 1.

 © 2009 Hogrefe Publishing