

## **RELIABILITY AND VALIDITY OF THE DUTCH DIMENSIONAL ASSESSMENT OF PERSONALITY PATHOLOGY-SHORT FORM (DAPP-SF), A SHORTENED VERSION OF THE DAPP-BASIC QUESTIONNAIRE**

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The Dimensional Assessment of Personality Pathology-Basic Questionnaire (DAPP-BQ) appears to be a good choice for the assessment of personality pathology. However, due to its length, administration of the instrument is rather time-consuming, hindering standard inclusion of the DAPP-BQ in a battery of assessment instruments at intake. We developed the 136-item DAPP-SF (Short Form), and investigated its psychometric characteristics in various samples, i.e., a community-based sample ( $n = 487$ ), patients with mood-, anxiety-, and somatoform disorders ( $n = 1,329$ ), and patients with personality disorders ( $n = 1,393$ ). Results revealed high internal consistency for almost all dimensions. The factor structure appeared almost identical as compared to the factor structure of the original DAPP-BQ, and was shown to be invariant across the various patient and community samples. Indices for convergent, discriminant and criterion related validity were satisfactory. It is concluded that the good psychometric characteristics of the original DAPP-BQ were preserved in the shortened version of the instrument.

The limitations of categorical models of personality disorders (PD; Widiger & Samuel, 2005) have led to the development of various dimensional alternatives to assess maladaptive personality traits. Widiger and Simonsen (2005) reviewed 18 alternative proposals for a dimensional classification of PDs. They concluded that most of these proposals share a common hierarchical structure with at the higher level 4 to 5 domains and at the lower level 15 to 30 dimensions. One of these hierarchical models is the dimen-

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sional model developed by Livesley and colleagues (Livesley, Jackson, & Schroeder, 1991; Livesley, Jang, & Vernon, 1998). Livesley began by composing a list of trait descriptors and behaviors characteristic of DSM-III and DSM-III-R Axis II categories. This resulted in a large set of dimensions, which could be deemed prototypical for these DSM diagnoses. Initially, 79 (and later 100) dimensions were identified by grouping traits together that appeared to characterize each DSM disorder. Items for these 100 dimensions were written and through an iterative process of factor-analysis and item rewriting or elimination, the number of relevant dimensions was reduced to 18, assessed by a questionnaire comprising 290 items, the Dimensional Assessment of Personality Pathology-Basic Questionnaire, (DAPP-BQ; Livesley & Jackson, 2006). The DAPP-BQ thus comprises 18 subscales, covering clinically relevant dimensions of personality pathology: Submissiveness, Cognitive Distortion, Identity Problems, Affective Lability, Stimulus Seeking, Compulsivity, Restricted Expression, Callousness, Oppositionality, Intimacy Problems, Rejection, Anxiousness, Conduct Problems, Suspiciousness, Social Avoidance, Narcissism, Insecure Attachment, and Self-harm. Second-order factor analysis revealed that these 18 subscales cluster into four broad higher-order constructs: Emotional Dysregulation, Dissocial Behavior, Inhibition, and Compulsivity. These four factors were consistently found with the original Canadian instrument (Livesley et al., 1998) but also with translations of the instrument in German (Pukrop, Gentil, Steinbring, & Steinmeyer, 2001), Chinese (Zheng et al., 2002) and Dutch (van Kampen, 2002; van Kampen, 2006b). The construct validity of these four second-order factors was supported by a large study among personality disordered patients, respondents from the general community, and twin pairs (Livesley et al., 1998). Factor analyses of DAPP-BQ data from these samples consistently yielded the four factors. Moreover, multivariate analysis of the twin data of these samples also yielded these four factors for the association with genetic and environmental influences/variables/factors (Livesley et al., 1998). The four factors converge well with four of the "big five" or five-factor model dimensions as assessed by the NEO PI-R (McCrae & Costa, Jr., 1999): Emotional Dysregulation with Neuroticism, Dissocial Behavior with Antagonism, Inhibition with Extraversion, and Compulsivity with Conscientiousness (cf. Widiger & Simonsen, 2005).

The DAPP-BQ has good psychometric properties (Livesley, 1998). These psychometric qualities are preserved in the Dutch translation of the instrument (van Kampen, 2002; van Kampen, 2006b). The DAPP-BQ is, however, rather lengthy. With 290 items, completion of the questionnaire takes on average 45 minutes; inclusion of the full length DAPP-BQ in a comprehensive assessment battery will take up a large proportion of the assessment time. Therefore, we were interested in composing a shortened version of the instrument. Each dimension of the DAPP-BQ (except for Self-harm and Suspiciousness) is assessed by 16 items. Diminishing the number of items to 6 to 10 per scale might still be sufficient to render

internally consistent dimensions, without changing the original nature of these constructs (Smith, McCarthy, & Anderson, 2000). Therefore, we aimed to shorten the DAPP-BQ, while at the same time preserving its good psychometric properties. Van Kampen (2006a) has described the process of shortening the DAPP and presented preliminary data on the reliability and factor structure of the DAPP-Short Form (DAPP-SF), a 136-item version of the DAPP-BQ. By and large, these preliminary data showed that we succeeded in developing a briefer version with the same dimensional structure as the longer version. Moreover, the subscales had still acceptable reliability coefficients, albeit slightly lower than the Cronbach's  $\alpha$  values for the full version. A limitation of the study of Van Kampen (2006a) was that it was confined to respondents from the general community. For the present study we analyzed data from two groups of patients as well: personality disordered patients and patients with mood-, anxiety, and somatoform disorders. The primary aim of the present study was to determine whether shortening of the scales of the DAPP-BQ from usually 16–17 items to 6–10 items per scale can be done without diminishing its favorable psychometric. More specifically, to determine whether the high internal consistency of the scales and its factorial structure are preserved in spite of shortening the instrument to less than 50% of its original size.

## **METHOD**

### **RESPONDENTS**

Data from three samples were used: a community sample, a sample with patients referred for treatment of personality psychopathology and a sample referred for mood, anxiety, or somatoform disorders.

The community sample was obtained in 2004/2005 by collecting completed questionnaires from 478 subjects from the general population (van Kampen, 2006a). The sample was drawn from the patient files of 15 general practitioners from the Dutch cities Amsterdam, The Hague, Tilburg, Groningen, Leiden, Heerlen, Kerkrade, Waddinxveen, Ermelo, Reusel, and Laren. The response rate was 32.2%.

The first patient sample consisted of patients referred for personality pathology and/or personality disorders (PD patients sample). It comprised 1,393 patients from six mental health care institutes in the Netherlands (i.e., Center of Psychotherapy De Viersprong, Halsteren; Altrecht, Utrecht; Zaans Medical Center De Heel, Zaandam; Center of Psychotherapy De Gelderse Roos, Lunteren; Mental Hospital for Western North-Brabant (GGZWNB), Bergen op Zoom; Center for Psychotherapy Mentrum, Amsterdam). These institutes offer outpatient, day hospital and/or inpatient psychotherapy. Data were collected from June 2003 until May 2005.

The second patient sample included 1,329 individuals who were referred by their general practitioner for treatment of mood-, anxiety-, or somatoform disorders (MAS patients sample). They had been referred to various

outpatient clinics of the Rivierduinen Mental Hospital (in Leiden, Alphen aan de Rijn, Leidschendam, Voorhout, and Gouda). Inclusion started at March 2004 and lasted until September 2005.

As part of the standard intake procedure in these institutions, patients of both samples completed a battery of assessment instruments to measure psychopathology and underwent a semi-structured interview for personality disorders (PD patient sample) or an interview to assess the presence of mood-, anxiety-, or somatoform disorders (MAS patient sample). Participation of all patients was voluntary. Informed consent is not mandatory under Dutch law when the administration of the battery of measurement instruments is part of the routinely performed intake procedure, does not involve an additional risk or burden, and data are analyzed anonymously. For this reason, informed consent was only asked if the patient participated in additional research. If written informed consent of patients was not obtained during such follow-up investigations, the patient was also removed from the present database. In compliance with Dutch law, all data were anonymized before analysis commenced.

#### MEASUREMENT INSTRUMENTS

The DAPP-SF comprises 136 of the original 290 items of the DAPP-BQ. The items are rated on a 5-point Likert scale, with scores ranging from 1 (very unlike me) to 5 (very like me). Selection of the 136 items of the DAPP-SF is described by Van Kampen (2006a). Basically, the highest loading items for each subscale were selected according to the following algorithm: if the full subscale had a Cronbach's  $\alpha$  coefficient between 0.70 and 0.79 10 items with the highest general factor loadings were selected. For scales with  $\alpha$ ; coefficients ranging between 0.80 and 0.89, 8 items were selected, and 6 items were selected if  $\alpha$  was 0.90 or higher. In addition to these psychometric considerations, the content of the items was also taken into account. Items that were highly similarly phrased or that used identical words were replaced by other scale items which had the next high loadings. Each iteration of the item selection procedure was followed by calculation of Cronbach's  $\alpha$  in two randomly drawn subsamples from the total sample who had completed the DAPP-BQ to ensure that the internal consistency of the DAPP-SF scales would be at least  $\alpha = 0.75$ .

The DAPP-SF was the sole instrument in the community sample. In addition to the DAPP-SF, PD patients completed at intake the Symptom Checklist-90-Revised (SCL90-R; Derogatis, 1975b) and the MAS patients completed the Brief Symptom Inventory (BSI; Derogatis, 1975a). The BSI is a shortened 53-item version of the SCL-90. On these checklists of 90 or 53 items with descriptions of symptoms, the respondent indicates to what extent they have been bothered by each symptom in the last week, including today (0 = not at all, 4 = extremely). The SCL-90/BSI comprise among others subscales for somatic complaints, depression, anxiety, phobic avoidance, and interpersonal sensitivity. The total score on the instru-

ments are generally perceived as highly reliable indexes of general psychopathology.

#### DIAGNOSTIC INTERVIEWS

Two diagnostic interviews were administered, one in each clinical sample. The PD patients were interviewed with the Structured Interview for DSM-IV Personality (SIDP-IV; Pfohl, Blum, & Zimmerman, 2006). This interview is based on predecessors (the SIDP for DSM-III and the SIDP-R for DSM-III-R) with good psychometric characteristics. The SIDP-IV comprises 10 sections, covering different life areas (activities and interests, work, close relationships, social contacts, emotions, observations, self-perception, perception of others, stress and anger, and social conformism). Questions pertaining to DSM-IV PD criteria are thus weaved through these sections and the interview follows a natural course, rather than being a list of questions to assess whether criteria are met or not. For each PD diagnoses the interview yields two scores: a dichotomous score for the diagnostic status and a dimensional score for the severity of the PD. The Dutch version of the SIDP-IV has good inter-rater reliability (Damen, De Jong, & Van der Kroft, 2004).

The diagnostic status of MAS-patients was assessed with the MINI-plus (Sheehan et al., 1998). The MINI-plus is a standardized diagnostic interview comprising 26 modules in which the presence or absence of DSM criteria for the main psychiatric disorders (including mood-, anxiety-, psychotic-, somatoform-, addictive-, and eating disorders) is investigated. Each module starts with one or two screening questions. If these are answered affirmatively, additional questions from the module are asked. Lecrubier et al. (1997) report sufficient reliability for most modules. Inter-rater reliability ranged from  $\kappa = 0.88$  to 1.00, test-retest reliability ranged from 0.76 to 0.93, validity was demonstrated by sufficient concordance with the CIDI (kappa's ranged from  $\kappa = .36$  for Generalized Anxiety Disorder to 0.82 for Alcohol Dependence).

#### STATISTICAL ANALYSES

The frequency distribution of responses on individual items of the DAPP-SF were investigated on skewness and kurtosis. Reliability in terms of internal consistency of the DAPP-SF dimensions was examined by calculating Cronbach's  $\alpha$ . The factor structure of the dimensions was investigated with Explorative Factor Analysis (Principal Component Analysis) followed by oblimin rotation, the indicated rotation approach when correlated factors can be expected (Floyd & Widaman, 1995). Factorial invariance among the three samples was assessed by calculating phi coefficients of factor similarity (Tucker, 1951). Convergent and discriminant validity was investigated by assessing the association of the DAPP-SF scales with subscales of the SCL-90 and the BSI and the association between scores on DAPP-SF dimensions and scores based on the SIDP interview. Discrimi-

nant validity was examined by comparing DAPP-SF scores for subgroups within the group of personality disordered patients.

**RESULTS**

**SAMPLES DESCRIPTION**

The community sample ( $N = 478$ ) was recruited from the patients list of 15 general practitioners. The full description of this sample, recruitment procedures, and results regarding their DAPP-SF scores are presented by van Kampen (2006b, 2006a). The PD sample initially comprised 1,393 individuals. Of these patients, only 1,091 (78.3%) met criteria for one or more PDs according to the SIDP-IV. All subsequent analyses were based on this subsample of 1,091 PD-patients. The MAS patient sample comprised 1,329 patients.

Table 1 presents demographic data of the three samples. There was a difference between the two patient samples and the community sample in mean age,  $F(2) = 49,1; p < .001, \eta^2 = 0.03$ ) and all three groups differed

**TABLE 1. Demographic Data and Descriptive Data Regarding the Diagnostic Status**

	<b>Normals</b>	<b>MAS patients</b>	<b>PD patients</b>
Males	154 (32.4%)	463 (34.8%)	385 (35.3%)
Females	322 (67.6%)	866 (65.2%)	706 (64.7%)
Age	36.0 ( $\pm 11.6$ )	37.6 ( $\pm 12.2$ )	33.1 ( $\pm 9.6$ )
Diagnostic status	N (%)		
MAS patients			
No dep/anx/som	218 (16.4)		
Mood disorder	274 (20.6)		
Anxiety disorder	303 (22.8)		
Somatoform disorder	81 (6.1)		
Mood- and Anxiety	316 (23.8)		
Mood- and Som.	34 (2.6)		
Anxiety- and Som.	57 (4.3)		
Mood-, Anx-, and Som.	46 (3.5)		
Total	1329		
PD patients			
A 301.0 Paranoid	72 (6.5)		
A 301.20 Schizoid	14 (1.2)		
A 301.22 Schizotypal	15 (1.2)		
A total	101 (9.3)		
B 301.7 Antisocial	33 (3.0)		
B 301.83 Borderline	176 (16.3)		
B 301.50 Histrionic	41 (3.8)		
B 301.81 Narcissistic	57 (5.2)		
B total	307 (28.1)		
C 301.82 Avoidant	168 (15.4)		
C 301.6 Dependent	96 (8.8)		
C 301.4 Obsessive	153 (14.0)		
C total	417 (38.2)		
PD NOS	266 (24.3)		
Total	1091		

Notes. MAS = Mood-, anxiety-, or somatoform disorder; PD = Personality disorder; PD NOS = Personality Disorder not otherwise specified.

significantly amongst each other (all  $p < .002$ , Bonferonni corrected). The gender distribution did not differ significantly for the three groups,  $\chi^2(2) = 1.30, p = 0.52$ ). Table 1 also presents data regarding the diagnostic status of patients from both clinical samples. Diagnosis of the MAS patients were first grouped into the three main groups of mood-, anxiety-, and somatoform disorders. Most patients met criteria for more than one DSM-IV diagnosis. The MAS patients are grouped by singular diagnoses of Mood-, Anxiety-, or Somatoform disorder and all possible combinations of co-morbid conditions.

Table 1 presents diagnostic information on the PD patient sample. PD patients had often co-morbid PD diagnoses. To form the diagnostic groups according to the three main DSM clusters a hierarchical procedure was followed. First, we checked whether the patient met criteria for a Cluster A diagnosis. If so, this diagnosis was assigned to the patient. For the remaining patients we checked whether a Cluster B diagnosis was met and, if so, this diagnosis was assigned. Next, a Cluster C diagnosis was assigned to those remaining patients that met criteria for C. A personality disorder not-otherwise-specified (PD NOS) diagnosis was assigned to patients who did not meet criteria for a Cluster A/B/C diagnosis, but who did meet the criterion of at least 10 PD-criteria (cf., Verheul & Widiger, 2004). The frequency of diagnoses for each cluster is presented in Table 1. A similar strategy was followed to establish the frequency of diagnoses within each cluster. When comorbid diagnoses within a cluster were present we assigned a diagnoses to a patient which had the lowest relative frequency in the entire group, for the remaining patients with a comorbid diagnoses the next frequent diagnosis was assigned, and so on.

## BASIC PSYCHOMETRICS

The frequency distribution of responses on individual items of the DAPP-SF were investigated in the three samples. Items with a highly skewed or peaked distribution carry in general little informative value. Many items were skewed in the community sample (36 items, 26.5%, met skewness  $\geq 1.00$ ), but for an instrument intended for clinical use, this is to be expected. More important is the frequency distribution of items in the clinical samples. Skewed items in the MAS sample were items 40, 68, 78, 89, 90, 97, 107, 123, and 129 (all due to negative responding). Skewed items in the PD sample were item 1 (due to affirmative responding) and item 68, 89, 90, 123, and 129 (all due to negative responding). Four out of these five negatively skewed items were part of the Conduct Problems dimension.

Next, psychometric characteristics of the DAPP-SF dimensions were investigated for the community sample, the MAS patients, and the PD patients. All dimensions have frequency distributions that come close to a normal curve with the exception of one dimension: Conduct Problems. This scale is somewhat skewed and peaked in all samples. Alphas range from  $\alpha = .78$  to  $.89$  for the community sample, from  $\alpha = .81$  to  $.91$  for the

MAS patients and from  $\alpha = .76$  to  $.91$  for PD patients, denoting acceptable internal consistency of the dimensions. Table 2 presents only the results for the MAS patients and the PD patients. The results for the community sample were similar (see van Kampen, 2006a).

#### ASSOCIATION AMONG SCALES OF THE DAPP-SF

The distinctness of the dimensions was investigated by calculating Pearson correlation coefficients between the subscale scores. In the PD sample the mean correlation among DAPP-SF dimensions was  $r = .30$  (range  $r = -.30$  to  $r = .72$ ). The highest correlation was between Affective Lability and Anxiousness ( $r = .72$ ). The latter subscale is also associated with Submissiveness, Cognitive Distortion, and Identity Problems. Identity Problems was also considerably associated with Affective Lability and Oppositionality. However, only 11 out of all possible 153 correlation coefficients are larger than  $r = .50$ , denoting at least 25% shared variance. Overall, these results support the uniqueness of each scale of the DAPP-SF. The correlation coefficients for MAS patients are slightly higher, but reveal the same pattern.

#### CONVERGENT AND DISCRIMINANT VALIDITY

Next, we investigated convergent and discriminant validity by calculating correlation coefficients of DAPP scales with SCL-90 subscales in the PD sample and with BSI subscales in the MAS sample. Tables 3 and 4 present these correlations. The most substantial associations yield support for the convergent validity of subscales. For instance, in the PD sample the highest correlation is between Identity Problems and Depression ( $r = -.69$ ; in the MAS sample  $r = .68$ ). The next highest correlation in the PD sample is between Suspiciousness and Interpersonal Sensitivity ( $r = .68$ ). In the MAS sample a similar association is found between Suspiciousness and Paranoid ideation ( $r = .71$ ). Also Social Avoidance and Interpersonal Sensitivity are associated in both samples ( $r$  values  $.68$  and  $0.70$ , respectively). In general, however, the association between DAPP dimensions and the severity of Axis I psychopathology as assessed by the SCL-90/BSI is low (most scales correlate below  $r = .50$  (implying  $<25\%$  covariance). Exceptions are the DAPP-SF dimensions Cognitive Distortion, Identity Problems, and Social Avoidance. As most associations are inconsequential, this can be taken as support for the discriminant validity of the DAPP-SF dimensions.

#### CONSTRUCT VALIDITY: SECOND ORDER FACTOR STRUCTURE OF THE DAPP-SF

The 18 subscales of the DAPP-SF were analyzed with exploratory factor analysis. Four factors were obtained with eigenvalues  $>1.00$ . The scree plot also indicated four to be the most suitable number of factors to retain with

**TABLE 2. Descriptive Statistics of Dimension of the DAPP-SF with MAS Patients and PD Patients**

	Number of items	MAS patients					PD patients				
		alpha	Mean	sd	Skewness (SE = .07)	Kurtosis (SE = .13)	alpha	Mean	sd	Skewness (SE = .07)	Kurtosis (SE = .13)
Submissiveness	8	.86	2.91	0.93	-.08	-.70	.85	3.24	.87	-.27	-.54
Cognitive Distortion	6	.83	2.30	0.96	.53	-.47	.84	2.66	.98	.22	-.80
Identity Problems	6	.84	3.00	1.01	-.13	-.81	.78	3.52	.84	-.51	-.06
Affective Lability	8	.83	3.23	0.87	-.28	-.49	.81	3.62	.76	-.47	-.28
Stimulus Seeking	8	.83	2.17	0.82	.77	.18	.85	2.48	.88	.47	-.33
Compulsivity	8	.84	2.84	0.93	.13	-.73	.85	3.01	.90	.05	-.58
Restricted Expression	8	.81	3.17	0.88	-.12	-.49	.80	3.33	.81	-.12	-.57
Callousness	10	.81	1.82	0.63	.90	.83	.80	1.99	.62	.64	.29
Oppositionality	10	.87	2.78	0.92	.10	-.70	.86	3.11	.83	-.09	-.60
Intimacy Problems	8	.81	2.35	0.81	.67	.24	.84	2.18	.78	.70	.16
Rejection	8	.84	2.37	0.82	.34	-.47	.84	2.61	.81	.22	-.41
Anxiousness	6	.81	3.30	0.93	-.33	-.47	.80	3.66	.82	-.47	-.30
Conduct Problems	8	.81	1.46	0.59	2.00	4.97	.76	1.61	.63	1.43	2.15
Suspiciousness	8	.91	2.17	1.00	.74	-.36	.91	2.48	.95	.45	-.51
Social Avoidance	6	.88	2.91	1.07	-.02	-.90	.86	3.39	.97	-.38	-.59
Narcissism	8	.83	2.38	0.84	.32	-.42	.82	2.78	.81	.17	-.43
Insecure Attachment	6	.88	2.81	1.12	.21	-.94	.88	2.95	1.06	.06	-.88
Self-harm	6	.88	1.74	0.96	1.28	.69	.90	2.17	1.13	.63	-.54

Notes. NB: PD = Personality Disorder; MAS = Mood-, Anxiety-, or Somatoform disorder

**TABLE 3. Correlation Coefficients (pmcc) Between DAPP-SF Dimensions and SCL-90 Subscales for Personality Disorder Patients**

	SOM	COG	INT	DEP	ANX	HOS	AGO	SLEEP	TOT
Submissiveness	.21**	.36**	.46**	.34**	.32**	.16**	.28**	.15**	.40**
Cognitive Distortion	.44**	.51**	.53**	.47**	.56**	.40**	.48**	.28**	.61**
Identity Problems	.39**	.52**	.58**	.69**	.51**	.36**	.40**	.34**	.66**
Affective Lability	.41**	.42**	.51**	.47**	.50**	.47**	.38**	.26**	.57**
Stimulus Seeking	.15**	.17**	.22**	.15**	.17**	.27**	.11**	.09**	.22**
Compulsivity	.18**	.25**	.19**	.12**	.16**	.10**	.17**	.14**	.21**
Restricted Express.	.19**	.32**	.42**	.34**	.27**	.14**	.24**	.22**	.37**
Callousness	-.01	.03	.13**	.01	.07*	.18**	.09**	-.01	.09**
Oppositionality	.27**	.44**	.34**	.36**	.29**	.30**	.29**	.16**	.41**
Intimacy Problems	.10**	.12**	.17**	.18**	.08*	.05*	.10**	.07*	.16**
Rejection	.05	.02	.03	-.01	.03	.20**	-.02	.06*	.04
Anxiousness	.36**	.48**	.53**	.52**	.47**	.32**	.36**	.30**	.57**
Conduct Problems	.12**	.16**	.22**	.13**	.16**	.33**	.13**	.10**	.22**
Suspiciousness	.32**	.37**	.68**	.37**	.41**	.38**	.39**	.23**	.55**
Social Avoidance	.23**	.38**	.58**	.40**	.35**	.25**	.40**	.17**	.49**
Narcissism	.08*	.14**	.23**	.13**	.15**	.17**	.12**	.05*	.19**
Insecure Attachm.	.32**	.27**	.34**	.32**	.41**	.28**	.41**	.21**	.42**
Self-harm	.27**	.33**	.39**	.57**	.37**	.33**	.30**	.25**	.49**

Notes. BSI subscales: SOM = Somatic Complaints; COG = Cognitive problems; INT = Interpersonal sensitivity; DEP = Depression; ANX = Anxiety; HOS = Hostility; AGO = Agoraphobia; SLEEP = Sleep problems; TOT = Total score  
 \*Correlation is significant at the 0.05 level (2-tailed).  
 \*\*Correlation is significant at the 0.01 level (2-tailed).

these data. The four factors together explained 65.5% of the variance in the community sample, 65.2% of the variance in the MAS sample, and 60.1% of the variance in the PD sample (see Table 5). Looking more closely to the loadings of the factor solution, they appear to be in accordance with

**TABLE 4. Correlation Coefficients (pmcc) Between DAPP-SF Dimensions and BSI Subscales for Mood-, Anxiety-, or Somatoform Disorder Patients**

	SOM	COG	INT	DEP	ANX	HOS	PHOB	PAR	PSY	TOT
Submissiveness	.13**	.38**	.56**	.39**	.25**	.17**	.34**	.40**	.45**	.42**
Cognitive Distortion	.43**	.56**	.47**	.51**	.46**	.44**	.41**	.53**	.58**	.62**
Identity Problems	.33**	.53**	.59**	.68**	.42**	.40**	.43**	.53**	.64**	.65**
Affective Lability	.31**	.46**	.51**	.49**	.43**	.49**	.34**	.45**	.49**	.56**
Stimulus Seeking	.08**	.21**	.11**	.13**	.09**	.25**	.05	.20**	.17**	.18**
Compulsivity	.10**	.22**	.20**	.12**	.18**	.15**	.17**	.24**	.21**	.22**
Restricted Express.	.21**	.35**	.46**	.41**	.25**	.26**	.31**	.43**	.45**	.44**
Callousness	.06*	.17**	.15**	.14**	.11**	.26**	.09**	.28**	.22**	.20**
Oppositionality	.23**	.50**	.42**	.47**	.25**	.36**	.27**	.40**	.44**	.47**
Intimacy Problems	.12**	.07*	.05	.10**	.01	.01	.07*	.07*	.07**	.08**
Rejection	.02	.10**	-.06*	.01	.02	.17**	-.06*	.11**	.06*	.047
Anxiousness	.22**	.44**	.56**	.48**	.39**	.33**	.37**	.46**	.51**	.53**
Conduct Problems	.11**	.21**	.17**	.16**	.13**	.36**	.12**	.29**	.23**	.24**
Suspiciousness	.27**	.42**	.56**	.44**	.35**	.41**	.37**	.71**	.52**	.56**
Social Avoidance	.19**	.41**	.70**	.48**	.35**	.29**	.50**	.50**	.54**	.54**
Narcissism	.03	.21**	.28**	.20**	.14**	.21**	.09**	.29**	.29**	.23**
Insecure Attachment	.27**	.32**	.40**	.37**	.40**	.33**	.43**	.37**	.40**	.46**
Self-harm	.21**	.33**	.36**	.56**	.22**	.34**	.25**	.37**	.46**	.45**

Notes. BSI subscales: SOM = Somatic Complaints; COG = Cognitive problems; INT = Interpersonal sensitivity; DEP = Depression; ANX = Anxiety; HOS = Hostility; PHOB = Phobic anxiety; PAR = Paranoid Ideation; PSY = Psychoticism; TOT = Total score  
 \*Correlation is significant at the 0.05 level (2-tailed).  
 \*\*Correlation is significant at the 0.01 level (2-tailed).

**TABLE 5. Factor Loadings of Second Order Principal Component Analyses in the Community Based Sample and in Two Samples of Patients**

Dimension	Population sample				MAS patients				PD patients			
	ED	DB	IH	CO	ED	DB	IH	CO	ED	DB	IH	CO
ED												
Submissiveness	<b>.78</b>	.10	.08	.17	<b>.76</b>	.08	.06	.19	<b>.75</b>	-.08	.19	-.15
Cognitive Distortion	<b>.79</b>	.28	.13	-.03	<b>.71</b>	.41	.15	.03	<b>.64</b>	<b>.43</b>	.34	.17
Identity Problems	<b>.87</b>	.21	.25	-.03	<b>.84</b>	.28	.18	-.01	<b>.71</b>	.29	<b>.48</b>	-.02
Affective Lability	<b>.83</b>	.20	.03	.11	<b>.79</b>	.31	-.12	.16	<b>.74</b>	.34	.11	.25
Oppositionality	<b>.70</b>	<b>.50</b>	.06	-.23	<b>.72</b>	<b>.47</b>	.08	-.19	<b>.59</b>	<b>.46</b>	.13	-.38
Anxiousness	<b>.86</b>	.17	.10	.19	<b>.84</b>	.24	-.06	.24	<b>.82</b>	.12	.22	.19
Social Avoidance	<b>.79</b>	.15	.33	.07	<b>.79</b>	.19	.25	.18	<b>.69</b>	.02	<b>.50</b>	-.07
Suspiciousness	<b>.70</b>	.38	<b>.41</b>	.08	<b>.70</b>	.48	.22	.27	<b>.59</b>	.39	<b>.43</b>	.24
Insecure Attachment	<b>.63</b>	.16	-.28	.24	<b>.65</b>	.14	-.25	.15	<b>.62</b>	.19	-.11	.30
Narcissism	.38	<b>.65</b>	-.27	.25	.42	<b>.68</b>	-.30	.27	<b>.41</b>	<b>.60</b>	-.34	.11
Self-harm	<b>.66</b>	.14	.16	-.20	<b>.56</b>	.23	.24	-.19	.36	.26	<b>.55</b>	.13
DB												
Stimulus Seeking	.23	<b>.69</b>	-.18	-.29	.29	<b>.75</b>	-.13	-.23	.23	<b>.73</b>	.03	-.16
Callousness	.25	<b>.80</b>	.19	-.10	.27	<b>.82</b>	.07	.11	.10	<b>.74</b>	-.09	.00
Rejection	-.07	<b>.73</b>	-.18	.25	.03	<b>.74</b>	-.28	.29	-.05	<b>.68</b>	-.26	.39
Conduct Problems	.25	<b>.63</b>	.11	-.40	.30	<b>.75</b>	.07	-.19	.17	<b>.72</b>	.16	-.14
IH												
Intimacy Problems	.07	-.11	<b>.82</b>	.00	-.02	-.21	<b>.85</b>	-.08	-.07	-.21	<b>.75</b>	-.06
Restricted Expression	<b>.57</b>	.13	<b>.62</b>	.20	<b>.62</b>	.18	.49	.18	.39	.05	<b>.69</b>	-.07
CO												
Compulsivity	.18	-.01	.09	<b>.84</b>	.27	.12	-.01	<b>.87</b>	.22	-.09	.08	<b>.81</b>
Explained Variance	37.7	13.3	7.7	6.8	38.1	13.7	7.5	5.9	30.0	14.9	8.6	6.6

Notes. Extraction Method: Principal Component Analysis; Rotation Method: Oblimin with Kaiser Normalization. Loadings >.40 are shown in bold typeface.

NB: PD = Personality Disorder; MAS = Mood-, Anxiety-, or Somatoform disorder; ED = Emotional Dysregulation; DB = Dis-social Behavior; IH = Inhibitedness; CO = Compulsivity

the second order factor structure of the 18 scales of the DAPP-BQ as comprising four higher order constructs: Emotional Dysregulation, Dissocial Behavior, Inhibitedness, and Compulsivity and complies with the results of Pukrop et al. (2001), Zheng et al. (2002), and van Kampen (2006b). Most dimensions load predominantly on their purported factor. An exception is the subscale Narcissism, which in both clinical samples and in the community sample loads predominantly on Dissocial Behavior instead of Emotional Dysregulation. Furthermore, Restricted Expression loads in two of the three samples predominantly on Emotional Dysregulation instead of Inhibitedness. This finding also replicates the results of van Kampen (2002). In the most relevant sample, the PD patients, the Restricted Expression dimension loads on the factor it is supposed to belong to: Inhibition.

Correspondence between the three factor solutions was calculated with Tucker’s phi coefficients of congruence (Tucker, 1951). This index ranges from 0 to 1.00. A value above .90 denotes a high degree of factorial invariance. Values between .80 and .90 attest that the factors at least resemble each other. Comparison of the PD and the MAS sample at the higher-order level revealed a high degree of factorial invariance (Tucker’s phi: range  $\Phi = .82$  to  $\Phi = .99$ ). The degree of factorial invariance was even higher when comparing the factor solutions of the MAS sample and the community sample (Tucker’s phi: range  $\Phi = .94$  to  $\Phi = 1.00$ ), and slightly lower when comparing PD sample and the population sample (Tucker’s phi’s: range  $\Phi = .80$  to  $\Phi = .99$ ; see Table 6). In sum, with the exception of the fourth factor, the factor solutions are highly congruent.

**CONSTRUCT VALIDITY: COMPARISON OF SUBGROUPS OF PD PATIENTS**

Table 7 shows DAPP-SF mean scores (and standard deviations) for subgroups of PD patients. Comorbidity among PDs is ignored in these analyses. Overall, the results support the construct validity of the scales. For

**TABLE 6. Congruence (Tuckers phi) Between Factor Loadings of the Three Samples**

	PD Sample				Normal sample			
	ED	DB	IH	CO	ED	DB	IH	CO
MAS								
ED	0.99	0.80	0.74	0.64	1.00	0.82	0.70	0.60
DB		0.98	0.60	0.48		0.99	0.59	0.42
IH			0.87	0.41			0.95	0.45
CO				0.82				0.94
PD								
ED					0.99	0.79	0.66	0.58
DB						0.98	0.55	0.35
IH							0.90	0.46
CO								0.80

Notes. NB: PD = Personality Disorder; MAS = Mood-, Anxiety-, or Somatoform Disorder; ED = Emotional Dysregulation; DB = Dissocial Behavior; IH = Inhibitedness; CO = Compulsivity

**TABLE 7. Means of Patients Meeting Criteria for Personality Disorders (Irrespective of Comorbid Status)**

Pers. Disorder	Paranoid 79		Schizoid 17		Schizo- typical 14		Antisocial 50		Borderline 272		Histrionic 37		Narcis- sistic 84		Avoidant 374		Dependent 149		Obsessive- Compul- sive 290	
	mean	sd	mean	sd	mean	sd	mean	sd	mean	sd	mean	sd	mean	sd	mean	sd	mean	sd	mean	sd
<b>N</b>																				
Submissiveness	3.49	0.76	3.27	0.78	3.10	0.84	3.01	0.82	3.40	0.79	3.44	0.87	3.00	0.80	3.71	.70	3.92	0.69	3.32	0.81
Cognitive Distortion	3.27	0.92	3.11	1.32	3.89	0.86	3.05	1.07	3.32	0.92	3.21	0.88	2.98	0.90	2.84	1.01	2.98	0.99	2.83	0.98
Identity Problems	3.81	0.70	3.84	0.71	4.15	0.74	3.69	0.96	3.92	0.75	3.75	0.80	3.58	0.67	3.86	0.70	3.91	0.72	3.62	0.79
Affective Lability	4.00	0.62	3.54	0.85	4.10	0.52	3.89	0.74	4.19	0.52	4.12	0.56	3.67	0.67	3.78	0.69	3.91	0.69	3.79	0.72
Stimulus Seeking	2.74	0.85	2.31	0.72	3.13	0.84	3.64	0.73	3.11	0.91	3.26	0.86	2.79	0.82	2.38	0.87	2.51	0.90	2.35	0.81
Compulsivity	3.25	0.95	3.18	0.94	2.86	1.21	2.66	0.90	3.01	0.94	3.00	0.99	3.00	0.87	3.14	0.88	3.11	0.90	3.51	0.90
Restricted Expression	3.73	0.74	3.95	0.65	3.82	0.74	3.46	0.76	3.39	0.76	3.09	0.71	3.39	0.71	3.74	0.71	3.43	0.80	3.46	0.78
Callousness	2.30	0.70	1.97	0.81	2.36	0.70	2.52	0.74	2.18	0.66	2.09	0.62	2.53	0.73	2.00	0.66	1.93	0.65	1.96	0.59
Oppositionality	3.37	0.84	3.03	0.85	3.80	0.54	3.61	0.78	3.47	0.79	3.55	0.80	3.40	0.78	3.31	0.80	3.48	0.76	3.12	0.82
Intimacy Problems	2.30	0.82	2.55	0.88	2.64	1.12	1.97	0.69	2.17	0.82	2.02	0.73	1.99	0.66	2.31	0.81	2.14	0.74	2.30	0.81
Rejection	2.85	0.78	2.56	0.86	2.72	0.81	3.03	0.70	2.84	0.84	3.27	0.82	3.26	0.75	2.38	0.84	2.30	0.82	2.82	0.84
Anxiousness	3.98	0.73	3.75	0.86	4.08	0.61	3.62	0.82	4.05	0.66	3.99	0.62	3.61	0.75	3.99	0.67	4.07	0.68	3.89	0.77
Conduct Problems	2.00	0.78	1.90	0.67	2.21	0.75	2.62	0.73	2.02	0.78	1.90	0.62	1.83	0.68	1.61	0.64	1.64	0.64	1.57	0.61
Suspiciousness	3.54	0.92	2.50	1.00	3.17	0.92	2.92	0.87	2.96	0.99	2.70	1.05	2.70	0.87	2.81	0.95	2.74	0.98	2.63	1.01
Social Avoidance	3.79	0.83	3.85	0.89	4.15	0.80	3.27	1.00	3.61	0.89	3.13	0.96	3.26	0.93	4.14	0.64	3.84	0.84	3.51	0.93
Narcissism	2.91	0.71	2.19	0.96	2.65	0.89	3.06	.65	3.10	0.80	3.43	0.73	3.32	0.71	2.78	0.81	2.89	0.80	2.84	0.80
Insecure Attachment	3.26	0.97	2.77	1.12	2.63	1.24	3.24	1.12	3.49	0.99	3.31	1.11	2.84	0.99	3.09	1.09	3.71	0.96	3.04	1.06
Self-Harm	2.49	1.26	3.01	0.99	3.11	1.26	2.40	1.20	2.82	1.20	2.39	1.27	1.99	0.95	2.41	1.19	2.51	1.24	2.25	1.17

example, looking *row-wise* at Table 7, the highest score on Cognitive Distortion is found among patients with Schizotypal PD. Similarly, patients with Borderline PD have their highest score on Identity Problems and Affective Lability, whereas patients with Antisocial, Obsessive-Compulsive, Schizoid, and Paranoid PD score the highest on Stimulus Seeking, Compulsivity, Restricted Expression, and Suspiciousness, respectively. Looking *column-wise* at Table 7, the 149 patients with Dependent PD score the highest on the Anxiousness scale, the 272 patients with Borderline PD score the highest on Affective Lability, patients with Narcissistic PD have their highest score on Identity Problems but score also high on Narcissism, and patients with Avoidant PD score the highest on Social Avoidance, et cetera.

We contrasted the scores of the four PD groups, i.e., patients belonging to the DSM clusters A, B, and C, and patients PDNOS. The four groups differ significantly among each other, multivariate  $F(54, 2619) = 7.66, p < .001$ . Univariate results, depicted in Table 8, reveal significant group differences on all scales. Follow-up tests (pairwise comparisons with t-tests) indicate that the most consistent difference is present between Cluster A patients on the one hand and Cluster C and PD NOS patients on the other, with Cluster A patients scoring higher on most scales. When looking at specific dimensions, Stimulus Seeking and Cognitive Distortion distinguish best between these four groups. Cluster B patients score the highest on Stimulus Seeking, Cluster A patients score particularly high on Cognitive Distortion (see Figure 1 and Figure 2).

The correspondence of the DAPP-SF scores and results obtained from the diagnostic interview was investigated by calculating correlation coefficients between scores on the DAPP-SF scales and severity score on the SIDPS for subgroups of PD patients. This severity score is a score assigned by the interviewer to denote the gravity of each PD diagnosis the patient suffers from according to the SIDP-IV diagnostic interview. The associations that emerged clearly underscore the validity of the DAPP-SF dimensions. For patients with a Paranoid PD, the severity of their condition is predominantly associated with Suspiciousness ( $r = .28, p < .01$ ). For the Borderline PD, severity is associated with Affective Lability ( $r = .25, p < .01$ ), Self-harm ( $r = .24, p < .01$ ) and Identity Problems ( $r = .20, p < .01$ ). Severity of Narcissistic PD, is negatively associated with Submissiveness ( $r = -.27, p < .05$ ) and positively with Rejection ( $r = .23, p < .05$ ). Severity of Dependent PD is associated with Affective Lability ( $r = .24, p < .01$ ) and Insecure Attachment ( $r = .16, p < .05$ ). Severity of Avoidant PD is associated with Social Avoidance ( $r = .25, p < .01$ ). Finally, severity of Obsessive-compulsive PD is associated with Compulsivity ( $r = .32, p < .01$ ).

## DISCUSSION

The psychometric characteristics of the DAPP-SF generally match the good quality of the original 290-item version of the instrument. Although there is a slight decrease in indices of internal consistency (Cronbach's  $\alpha$ ), al-

**TABLE 8. Means of Subgroups of Personality Disorder Patients, Grouped by Cluster A, B, C, and NOS and Results of Univariate Analysis of Variance and Pairwise Comparisons**

	Cluster A (n = 101)		Cluster B (n = 307)		Cluster C (n = 417)		PD NOS (n = 266)		F(3)	Eta2	Pairwise comparisons
	Mean	sd	Mean	sd	Mean	sd	Mean	sd			
Submissiveness	3.41	.77	3.27	.82	3.57	.79	3.16	.85	14.66	.047	1 = 2; 1 = 3; 1 > 4; 2 < 3; 2 = 4; 3 > 4
Cognitive Distortion	3.29	1.00	3.10	.91	2.59	.96	2.53	.92	27.49	.085	1 = 2; 1 > 3; 1 > 4; 2 > 3; 2 > 4; 3 = 4
Identity Problems	3.82	.70	3.75	.79	3.63	.77	3.43	.84	10.22	.033	1 = 2; 1 > 3; 1 > 4; 2 > 3; 2 > 4; 3 > 4
Affective Lability	3.94	.67	4.00	.63	3.63	.72	3.50	.73	22.91	.072	1 = 2; 1 > 3; 1 > 4; 2 > 3; 2 > 4; 3 > 4
Stimulus Seeking	2.70	.86	3.05	.91	2.22	.79	2.39	.80	44.05	.130	1 < 2; 1 > 3; 1 > 4; 2 > 3; 2 > 4; 3 < 4
Compulsivity	3.20	.99	2.96	.90	3.21	.89	2.93	.91	8.35	.027	1 > 2; 1 = 3; 1 > 4; 2 < 3; 2 = 4; 3 > 4
Restricted Expression	3.75	.71	3.33	.76	3.56	.78	3.18	.80	20.46	.065	1 > 2; 1 > 3; 1 > 4; 2 < 3; 2 > 4; 3 > 4
Callousness	2.26	.72	2.23	.67	1.90	.60	1.89	.54	20.37	.064	1 = 2; 1 > 3; 1 > 4; 2 > 3; 2 > 4; 3 = 4
Oppositionality	3.34	.84	3.43	.79	3.15	.80	3.06	.84	8.76	.029	1 = 2; 1 > 3; 1 > 4; 2 > 3; 2 > 4; 3 = 4
Intimacy Problems	2.34	.86	2.06	.73	2.27	.77	2.17	.85	5.24	.017	1 > 2; 1 = 3; 1 = 4; 2 < 3; 2 = 4; 3 = 4
Rejection	2.81	.79	2.89	.83	2.41	.83	2.58	.75	17.42	.056	1 = 2; 1 > 3; 1 = 4; 2 > 3; 2 > 4; 3 < 4
Anxiousness	3.94	.74	3.88	.74	3.84	.73	3.61	.81	9.78	.032	1 = 2; 1 = 3; 1 > 4; 2 = 3; 2 > 4; 3 > 4
Conduct Problems	2.01	.77	1.96	.75	1.50	.55	1.48	.50	39.37	.117	1 = 2; 1 > 3; 1 > 4; 2 > 3; 2 > 4; 3 = 4
Suspiciousness	3.33	.99	2.76	.94	2.57	.92	2.31	.83	26.52	.082	1 > 2; 1 > 3; 1 > 4; 2 > 3; 2 > 4; 3 > 4
Social Avoidance	3.80	.83	3.45	.93	3.80	.84	3.23	.92	25.08	.078	1 > 2; 1 = 3; 1 > 4; 2 < 3; 2 > 4; 3 > 4
Narcissism	2.80	.81	3.16	.77	2.74	.78	2.70	.83	18.63	.059	1 < 2; 1 = 3; 1 = 4; 2 > 3; 2 > 4; 3 = 4
Insecure Attachment	3.14	1.04	3.30	1.03	3.00	1.09	2.82	1.05	8.43	.028	1 = 2; 1 = 3; 1 > 4; 2 > 3; 2 > 4; 3 > 4
Self-Harm	2.61	1.23	2.52	1.19	2.17	1.13	2.06	1.07	11.67	.038	1 = 2; 1 > 3; 1 > 4; 2 > 3; 2 > 4; 3 = 4
Emotional Dysregulation	3.40	0.53	3.33	0.54	3.15	0.52	2.94	0.56	31.40	.081	1 = 2; 1 > 3; 1 > 4; 2 > 3; 2 > 4; 3 > 4
Dissocial Behavior	2.46	0.59	2.54	0.56	2.01	0.49	2.08	0.47	76.89	.177	1 = 2; 1 > 3; 1 > 4; 2 > 3; 2 > 4; 3 = 4
Inhibitedness	3.05	0.68	2.70	0.60	2.93	0.64	2.68	0.72	15.22	.041	1 > 2; 1 = 3; 1 > 4; 2 > 3; 2 = 4; 3 > 4

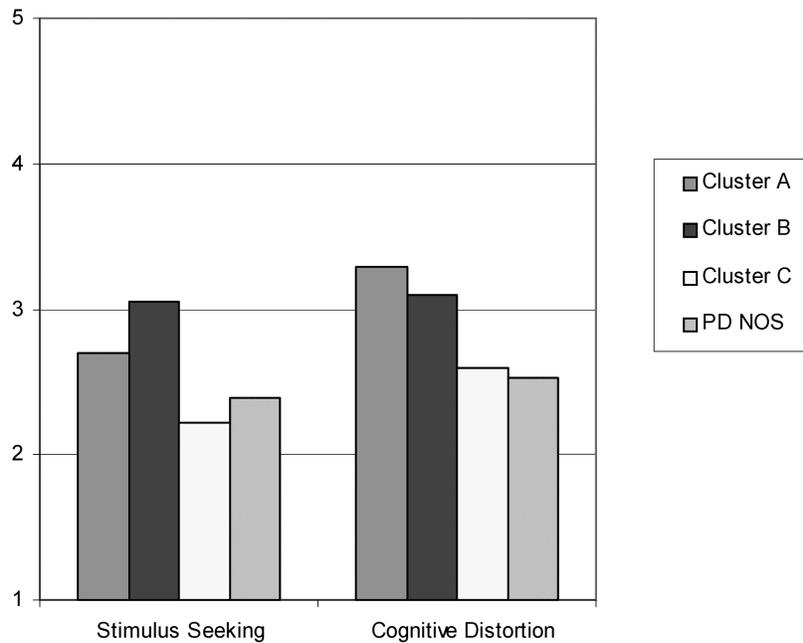


FIGURE 1. Scores of four groups of PD respondents on two best discriminating dimensions (Stimulus Seeking and Cognitive Distortion)

most all  $\alpha$ 's are still larger than .80, which is considered the lower limit for research purposes (Nunnally & Bernstein, 1994). The associations with the SCL-90/BSI generally support the convergent and discriminant validity of the dimensions. The second order factor structure is invariant across a community and two patient samples and similar to the factor structure obtained with the full 290-item Dutch version of the DAPP which was presented by van Kampen (2006). Finally, average scores of subgroups of PD patients support the construct validity of the dimensions.

A strength of the present study is that we had three large datasets at our disposal, allowing for cross-sample comparisons. Thus, the utility of the DAPP-SF could be investigated for assessing various respondents: patients with and without PDs and respondents from the community. The large size of the PD sample allowed for a closer inspection of DAPP profiles for subgroups of patients with specific PDs. Only Schizoid and Schizotypal PD are not well represented in the PD sample and results for these subgroups should therefore be interpreted with caution.

All DAPP SF-subscales except for one had a frequency distribution of scores which came close to a normal curve. The scale for Conduct Problems was the only exception and had a negatively skewed distribution. This scale may be sensitive to socially desirable responses. Although the 50 PD patients with an antisocial PD had a higher mean score than any other subgroup on this scale (which supports the validity of this scale), the

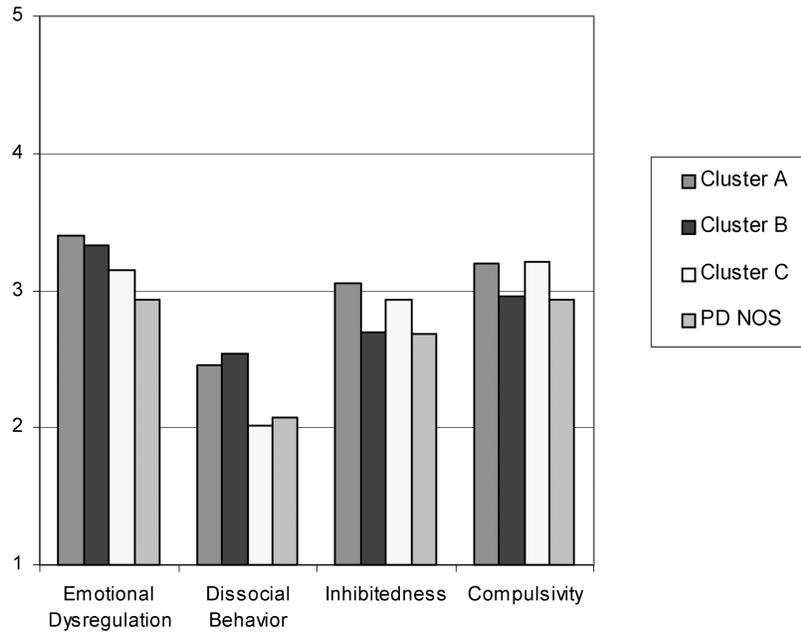


FIGURE 2. Scores of four groups of PD respondents on the four second order factors of the DAPP-SF

mean score of these patients is still a mere  $M = 2.62$ , which is clearly below the mathematical midpoint of the scale. To enhance the psychometric qualities of the DAPP-SF rephrasing some items of this scale (e.g., items 68, 89, 90, and 123) is advisable, as these four items all have skewed and peaked frequency distributions.

The results of the second order factor analyses were also in positive for the psychometric quality of the DAPP-SF. Most dimensions loaded predominantly on their purported factor. An exception is the Narcissism subscale, which loaded predominantly on the Dissocial Behavior factor instead of the Emotional Dysregulation factor in both clinical samples. Van Kampen (2002) found a similar pattern of loadings for Dutch respondents with the full-length DAPP-BQ. It is, therefore, unlikely that this crossloading of Narcissism is due to shortening of the DAPP-BQ. Rather, this may reflect cultural difference between respondents from North-Western Europe and the United States and Canada. In this context it is noteworthy that a similar result has been found with a German sample: Pokrop's non-clinical group (Pukrop et al., 2001). The validity of the second order factors was supported by the finding of distinct scores for subgroups of PD-patients. For instance, Cluster A and Cluster C patients scored high on the Inhibitedness and Compulsivity factors. Patients with cluster B (and Cluster A) diagnoses scored high on the Dissocial Behavior factor.

Correlation coefficients with the SCL90-R/BSI subscales (Table 3 and

Table 4) and correlations with severity scores from the diagnostic interview SIDP-IV, reveal a pattern of associations which is generally in support of the convergent and discriminant validity of the DAPP-SF. Dimensions that assess similar constructs (e.g., interpersonal sensitivity and social avoidance for PD patients or Paranoid Ideation and suspiciousness for MAS patients) are much stronger associated than diverging constructs. Overall, correlations between the DAPP-SF and the SCL90-R/BSI are insubstantial, which is quite an accomplishment of the DAPP-SF, since Axis I and Axis II symptoms are, by themselves, sometimes hard to distinguish and show considerable overlap (Clark, Vittengl, Kraft, & Jarrett, 2003; Widiger, 2003). The most compelling support for the validity of the DAPP-SF dimensional scores comes from the mean scores from subgroups of personality disordered patients (see Table 7). The highest score on the Submissiveness dimension is found in the Dependent PD subgroup; the highest score on the Compulsivity dimension is found in the Obsessive-compulsive PD subgroup, the highest score for Conduct Problems is found in the Antisocial PD subgroup, the highest score on the Suspiciousness dimension is found in the Paranoid PD subgroup, etc. Looking within subgroups, Schizoid PD patients are characterized by especially high scores on the Restricted Expression dimension, Borderlines have their highest score on the Affective Lability dimension, Antisocial PD patients have high scores on Affective Lability and Stimulus Seeking, etc.

In conclusion, the favorable psychometric characteristics of the DAPP-BQ are largely preserved in the shortened version the DAPP-SF. Thus, the gain of reducing the administration time of the instrument by more than 50% has been attained without the cost of reduced reliability of the dimensional scores. The validity of the DAPP-SF is supported by the data of normal respondents, patients with mood-, anxiety, and somatoform disorders, and, most importantly, PD patients with one or more personality disorders.

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