Self-report assessment of the DSM-IV personality disorders. Measurement of trait and distress characteristics: the ADP-IV

C. K. W. SCHOTTE,[1] D. DE DONCKER, C. VANKERCKHOVEN, H. VERTOMMEN
AND P. COSYNS

From the Department of Psychiatry, University Hospital of Antwerp; Faculty of Psychology, Free University Brussels; and Faculty of Psychology, Catholic University of Leuven, Belgium

ABSTRACT

Background. Self-report instruments assessing the DSM personality disorders are characterized by overdiagnosis due to their emphasis on the measurement of personality traits rather than the impairment and distress associated with the criteria.

Methods. The ADP-IV, a Dutch questionnaire, introduces an alternative assessment method: each test item assesses 'Trait' as well as 'Distress/impairment' characteristics of a DSM-IV criterion. This item format allows dimensional as well as categorical diagnostic evaluations. The present study explores the validity of the ADP-IV in a sample of 659 subjects of the Flemish population.

Results. The dimensional personality disorder subscales, measuring Trait characteristics, are internally consistent and display a good concurrent validity with the Wisconsin Personality Disorders Inventory. Factor analysis at the item-level resulted in 11 orthogonal factors, describing personality dimensions such as psychopathy, social anxiety and avoidance, negative affect and self-image. Factor analysis at the subscale-level identified two basic dimensions, reflecting hostile (DSM-IV Cluster B) and anxious (DSM-IV Cluster C) interpersonal attitudes. Categorical ADP-IV diagnoses are obtained using scoring algorithms, which emphasize the Trait or the Distress concepts in the diagnostic evaluation. Prevalences of ADP-IV diagnoses of any personality disorder according to these algorithms vary between 2·28 and 20·64%.

Conclusions. Although further research in clinical samples is required, the present results support the validity of the ADP-IV and the potential of the measurement of trait and distress characteristics as a method for assessing personality pathology.
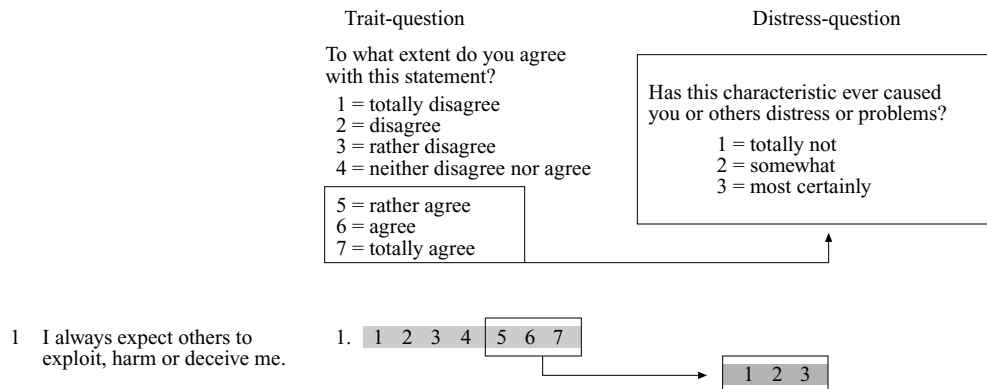
INTRODUCTION

The assessment of the DSM personality disorders (APA, 1980, 1987, 1994) by means of self-report questionnaires is characterized by a poor level of agreement with the semi-structured interviews (Perry, 1992; Zimmerman, 1994). In comparison with the interview method self-report instruments tend to overdiagnose (Hart *et al.* 1993) and display a high sensitivity and a low specificity (Hunt & Andrews, 1992). An important source of this measurement weakness is the fact that many self-report instruments – although developed as measurements of personality disorder pathology – need to be considered as measures of personality traits rather than measures of personality disorder characteristics (Hunt & Andrews, 1992; Schotte *et al.* 1993; Schotte, 1997).

Indeed, the DSM-IV personality disorder definition emphasizes two elementary concepts: (1) the 'Trait' concept, referring to the personality traits, which '…are enduring patterns of perceiving, relating to, and thinking about the

[1] Address for correspondence: Dr C. K. W. Schotte, Department of Psychiatry, University Hospital Antwerp (UZA), Wilrijkstraat 10, B-2650 Edegem, Belgium.

1179

Response format of the ADP-IV items:

| Trait-question | Distress-question |

To what extent do you agree
with this statement?

1 = totally disagree
2 = disagree
3 = rather disagree
4 = neither disagree nor agree

5 = rather agree
6 = agree
7 = totally agree

Has this characteristic ever caused
you or others distress or problems?

1 = totally not
2 = somewhat
3 = most certainly

1 I always expect others to
   exploit, harm or deceive me.

1. 1 2 3 4 | 5 6 7

1 2 3

Sample items of the ADP-IV

Item Number	DSM-IV criterion	ADP-IV question
5	BDL1	I absolutely cannot bear the idea that someone would leave or abandon me: therefore, I will do anything to prevent this.
9	DEP1	I always have difficulty making ordinary, everyday decisions without an excessive amount of advice and reassurance from others.
28	AS3	It is typical for me to act without forethought or without considering possible consequences: e.g. I can decide at the moment to change job, residence or partner.
43	NAR4	In comparison with others I need a lot more admiration and attention to feel well.
44	AV4	I am very shy and vulnerable in social situations because I am always afraid of being criticized or rejected.
59	DE5	It is typical for me to only have an eye for the negative in others.
74	SZ7	I am someone who feels few or no emotions: as such, I do not experience feelings of intense joy or anger.

FIG. 1.   Design of the ADP-IV. (For DSM-IV criteria, see footnote to Table 3.)

environment and oneself, that are exhibited in a wide range of social and personal contexts' (APA, 1994, p. 630); and (2) the dysfunction or 'Distress' element, which stresses the maladaptivity, impairment and distress as consequences of the personality traits, 'Only when personality traits are inflexible and maladaptive and cause significant functional impairment or subjective distress do they constitute personality disorders.' (APA, 1994, p. 630).

Consequently, an adequate diagnostic evaluation of personality pathology within the frame of the DSM-IV conceptualization needs to take both these 'Trait' and 'Distress' elements into account. Unfortunately, many instruments focus much more heavily on the trait aspects than on the general, disorder- or criterion-specific patterns of impairment, distress or dysfunctioning (Klein, 1993). However, the pathology, associated with a given personality trait is not necessarily a direct function of the typicality or quantity of the trait, expressed on a scale of

an interview or questionnaire. Moreover, analyses of the item content of self-report scales (e.g. Schotte *et al.* 1993; Schotte, 1997) used for the diagnosis of the personality disorders, indicate that these items are often not adequately reflecting the dysfunctionality, distress, and pathology of the personality disorders. In other words: these instruments are tapping some dimension of personality but are inappropriate instruments for the assessment of specific personality diagnoses.

The present paper introduces an alternative way of assessing personality disorder characteristics, which is illustrated by the ADP-IV questionnaire (Assessment of DSM-IV Personality disorders; Schotte & De Doncker, 1994). The ADP-IV is a 94-item Dutch paper-and-pencil instrument, specifically developed as a self-report representation of the DSM-IV personality disorder criteria (De Doncker *et al.* 1997). The ADP-IV has an unique structure: it allows for each DSM-IV personality disorder

criterion the assessment of 'Trait' as well as of 'Distress' aspects. Fig. 1 illustrates the item response format of the ADP-IV. For each personality disorder criterion the ADP-IV assesses the self-judged typicality of the criterion by means of a seven-point Trait scale; the distress, maladaptivity and suffering of the subject or his/her environment as a consequence of the presence of the Trait criterion is subsequently assessed with a three-point Distress scale.

Several authors suggest the adoption of a dimensional assessment approach rather than the categorical format of the DSM-IV Axis II (Carson, 1993; Widiger & Costa, 1993; APA, 1994, p. 633–634). However, categorical and dimensional diagnostic perspectives are not mutually exclusive but complementary (Frances, 1982; Kendell, 1982). This point of view on diagnostic assessment is implemented in the ADP-IV, which allows both diagnostic formats. The dimensional assessment is obtained by summing the ADP-IV Trait scores for each personality disorder scale. This dimensional interpretation emphasizes the continuity between normality and pathology of the DSM-IV personality traits. On the other hand, categorical assessments of the DSM-IV criteria and diagnoses are obtained by scoring algorithms, based on combinations of cut-off scores for the ADP-IV Trait and Distress items. In this assessment format ADP-IV items are indicative of DSM-IV criteria when the scores meet specific requirements for typicality and dysfunctionality, which are expressed in several scoring algorithms.

The present, cross-sectional study reports the first investigations on the construct validity of the dimensional personality ADP-IV scales in a stratified sample of 659 residents of the Flemish community. The internal consistency and aspects of the construct validity of the ADP-IV such as relationships with demographical variables, factorial structure at the item and subscale level, and concurrent validity with the Wisconsin Personality Disorders Inventory (WISPI; Klein *et al.* 1993) are investigated. The present study also explores the categorical diagnostic assessment by investigating the effects of several Trait and Distress item scoring algorithms on the prevalences of the ADP-IV diagnosis of personality disorder.

METHOD

Subjects

Psychology students of the Faculty of Psychology at the Catholic University of Leuven administered the ADP-IV to a stratified sample of the Flemish population. Sex, age and educational level were used as the stratification criteria; subgroups were selected according to national Flemish population statistics (Van Rompaey, 1996). A total of 659 persons completed the test battery.

Instruments

ADP-IV Questionnaire

The ADP-IV consists of 94 Dutch items, which represent the 80 criteria of the 10 DSM-IV personality disorders and the 14 research criteria of the depressive and passive-aggressive personality disorders in a randomized order. Fig. 1 provides some translated example items of the ADP-IV.

The item response format emphasizes the pathology conceptualization of the DSM-IV by scoring each item on the Trait and on the Distress scale. This scoring is illustrated by Fig. 1: first, the typicality of the DSM-IV criterion is assessed with the Trait scale on a seven-point scale. Secondly, when judged as typical, the dysfunctionality is assessed by means of the three-point Distress scale.

This ADP-IV design allows a dimensional Trait-score and a categorical personality disorder diagnosis. Dimensional Trait scores are computed by adding the Trait scores for the 12 personality disorders, for the three clusters, and for a total Trait score. The categorical diagnostic evaluation joins the DSM-IV personality disorder definition by combining the Trait and Distress scores in scoring algorithms. In the first algorithm, labelled as $T > 4$ and $D > 1$, an item scores positive/pathological and represents a DSM-IV criterion only when simultaneously a Trait score of 5 ('rather agree'), 6 ('agree') or 7 ('totally agree') and a Distress score of 2 ('somewhat') or 3 ('most certainly') are obtained. The $T > 5$ and $D > 1$ algorithm stresses the Trait element by requiring Trait scores > 5 and Distress scores > 1, whereas the $T > 4$ and $D > 2$ algorithm emphasizes the distress element in the ADP-IV evaluation. The most restrictive algorithm used is $T > 5$ and D

> 2, in which Trait scores > 5 and Distress scores of 3 are required to represent a DSM-IV criterion. Subsequently, categorical personality disorder diagnoses are obtained according to the DSM-IV thresholds: e.g. four or more criteria need to be positive for a diagnosis of a paranoid personality disorder.

Wisconsin Personality Disorders Inventory

In order to investigate the concurrent validity of the ADP-IV, the WISPI (Klein *et al.* 1993) was administered to a subsample of 277 subjects of our study population. The WISPI is a 360-item self-report inventory, which assesses the DSM-III-R personality disorders criteria from an interpersonal theoretical viewpoint. Evidence for the reliability and validity of the WISPI were obtained in several studies (Klein *et al.* 1993; Barber & Morse, 1994). The present study used a Dutch translation (Van Rompaey, 1996) of the 224-item paper-and-pencil version of the WISPI.

RESULTS

Demographic characteristics

The mean age of the adult research sample was 37·3 (s.d. = 12·8 years; range 18–67). The following demographic characteristics describe the study sample: 50·8% of the subjects were female; 66·3% were married or lived together; 28·4% were single; 4·6% divorced; and 0·6% widowed. The stratified sample was somewhat biased with respect to age and education. The oldest age group (> 54 years) was slightly under-represented (expected frequency = 17·5%; obtained frequency = 12·3%), whereas the educational level was relatively high: 40·5% of the subjects received a training after high school (expected frequency = 33·3%) while 7·4% followed only primary school (expected frequency = 10·8%).

In this population 5·4% ($N = 35$) of the subjects ever received a psychiatric or psychological treatment and eight of these subjects had been admitted to an in-patient psychiatric facility.

Construct validity of the dimensional ADP-IV Trait scores

ADP-IV Trait scales: internal consistency and relationships with demographical variables

Table 1 shows the internal consistency of the ADP-IV dimensional scales: alpha coefficients (Cronbach, 1951) ranged from 0·60 to 0·85, with a median value of 0·77. Table 1 also reveals the

Table 1. *The dimensional ADP-IV Trait scores: internal consistency of the scales and their correlations with age and educational level*

ADP-IV scales	Age Pearson's correlation	Education Spearman's correlation	Internal consistency	
			Number of items	Cronbach's alpha
Paranoid	−0·01	−0·07	7	0·73
Schizoid	0·19*	−0·20*	7	0·60
Schizotypal	−0·06	−0·02	9	0·78
Antisocial	−0·15*	0·02	8	0·72
Borderline	−0·09	−0·11*	10	0·78
Histrionic	−0·12*	0·01	8	0·77
Narcissistic	−0·11*	0·03	9	0·74
Avoidant	0·04	−0·08	7	0·84
Dependent	0·01	−0·14*	8	0·77
Obs.–Compuls.	0·11*	−0·08	8	0·68
Depressive	−0·03	−0·05	7	0·84
Pass.-Aggress.	−0·08	−0·01	7	0·70
Cluster A score	−0·04	−0·11*	23	0·76
Cluster B score	−0·14*	−0·01	35	0·85
Cluster C score	0·06	−0·12*	23	0·81
Total score	−0·03	−0·07	94	0·85

* $P > 0·01$.

Table 2. *Results of the varimax rotated principal component analysis with the ADP-IV dimensional scale as variables*

ADP-IV scales	Factor I 'Hostility' Cluster B	Factor II 'Anxiety' Cluster C	
Cluster A			
Paranoid	0·61	0·52	
Schizoid		0·66	
Schizotypal	0·62	0·54	
Cluster B			
Antisocial	0·85		
Borderline	0·73	0·46	
Histrionic	0·77		
Narcissistic	0·77		
Cluster C			
Avoidant		0·84	
Dependent		0·68	
Obs.–Compuls.		0·72	
NOS			
Depressive		0·72	
Pass.-Aggress.	0·72	0·48	
Eigenvalues	4·11	3·84	
% Total Var.	34·24	32·00	66·24

Only salient loadings ($\geqslant 0.45$) are presented.

relationship of age and educational level with the ADP-IV Trait scores. Analyses of variance with gender as independent variable indicated three significant ($P < 0.003$; Bonferroni correction) effects: males obtained higher scores on the AS (Antisocial ($F(1, 644) = 16.31$, $P < 0.0001$) and NAR (Narcissistic ($F(1, 637) = 9.19$, $P < 0.005$) subscales, whereas the female subjects scored significantly ($F(1, 642) = 12.36$, $P < 0.0005$) higher on the DE (Depressive) subscale.

Analyses of variance, comparing the ADP-IV Trait scores of the 35 subjects, that ever received psychiatric/psychological treatment with the non-patient subjects, indicated higher scores on all ADP-IV Trait subscales; significant effects ($P < 0.003$) were obtained for the ST (Schizotypal), AS, BDL (Borderline), AV (Avoidant), and DE personality disorder subscales.

Factor analysis at the ADP-IV subscale level

Cattell's scree test indicated a two-factor solution. Table 2 presents the varimax rotated principal components of this solution that accounted for 66% of the total variance. The first factor predominantly consists of the Cluster B subscales, reflects an interpersonal dimension, characterized by ambivalent and hostile attitudes

towards others, and is labelled 'Hostility'. The Cluster C subscales all had salient loadings on the second factor, 'Anxiety', which represents an interpersonal dimension that emphasizes a fearful and anxious interpersonal attitude.

Factor analysis at the ADP-IV item level

The scree test indicated the presence of 11, subsequently varimax rotated, factors, which accounted for 48.2% of the total variance. Table 3 presents the composition and the salient item loadings of this factor solution. The first factor, 'Social Anxiety and Avoidance', mainly consists of avoidant and dependent items; the content of these items reflects social anxiety and avoidance and a negative, dependent view of oneself in interpersonal situations. Factor II is labelled as 'Psychopathy': the items loading on this factor reflect a pattern of disregard for and violation of the rights of others, as indicated by the failure to conform to social norms, a lack of remorse and empathy, aggressiveness, recklessness and impulsivity and irresponsibility. The items loading on Factor III, 'Distrust', emphasize patterns of distrust and suspiciousness, which are mainly represented in the paranoid ADP-IV items. Factor IV, 'Interpersonal Hostility', comprises items reflecting paranoid ideation, anger, and arrogance. Most of the items of the depressive personality disorder subscale load saliently on the fifth factor; the other items represent affective instability, suicidal behaviour, and feelings of emptiness: Factor V is therefore well characterized by 'Negative Affect and Self-concept'. Factor VI, 'Narcissism', reflects narcissistic personality characteristics such as a sense of entitlement, enviousness, and the feelings of uniqueness, grandiosity and self-importance. Factor VII, 'Schizotypal Cognitions and Perceptions', is comprised of five schizotypal items and reflects the perceptual and cognitive distortions of this personality disorder. Factor VIII, 'Unstability and Need for Attention', represents the borderline and histrionic criteria of unstability in relationships, emotions, and identity together with an excessive need for admiration, attention and reassurance from others. Factor IX, 'Anticipation of Catastrophes', is comprised of items, reflecting separation anxiety and strategies to endeavour security by anticipating catastrophes or mis-

Table 3. *Varimax rotated principal component analysis of the 94 ADP-IV items*: 11-*factor solution*

Factor I Social anxiety and avoidance	Factor II Psychopathy	Factor III Distrust	Factor IV Interpersonal hostility	Factor V Negative affect and self-image	Factor VI Narcissism	Factor VII Schizotypal cognitions and perceptions	Factor VIII Unstability and need for attention	Factor IX Catastrophe anticipation	Factor X Defiance and guilt	Factor XI Detachment
0·72 AV5	0·58 AS1	0·63 PAR3	0·54 NAR9	0·70 DE6	0·59 NAR5	0·70 ST3	0·60 BDL2	0·64 OC7	0·55 PA7	0·58 AV3
0·71 DEP2	0·54 AS7	0·60 ST5	0·51 BDL8	0·68 DE1	0·54 NAR8	0·61 ST2	0·49 HIS3	0·56 BDL1	0·43 BDL9	0·54 SZ1
0·69 AV6	0·54 AS5	0·54 PAR4	0·51 PAR6	0·58 DE4	0·53 PA5	0·47 ST1	0·48 BDL3	0·50 OC5	0·42 DE7	0·48 SZ7
0·68 AV4	0·50 AS4	0·53 PAR2	0·40 OC6	0·57 DE2	0·52 NAR3	0·40 ST7	0·47 NAR4		0·41 HIS6	0·43 SZ3
0·67 AV2	0·50 NAR7	0·49 PAR1	0·40 BDL9	0·54 DE3	0·46 NAR1	0·40 ST4	0·46 NAR2		0·40 DEP5	0·43 OC3
0·66 AV1	0·47 BDL4	0·43 PA6		0·49 BDL6	0·45 HIS1		0·46 HIS2			
0·59 DEP4	0·47 AS8			0·45 BDL5A	0·44 DE5		0·45 HIS1			
0·58 AV7	0·43 PA3			0·40 BDL7	0·40 NAR6		0·44 HIS4			
0·53 ST9	0·43 BDL5B						0·41 BDL4			
0·46 DEP3	0·43 AS6						0·40 DEP1			
0·45 OC8	0·42 NAR6									
0·42 SZ2	0·40 ST7									
0·41 DE2										
7·66*	5·60*	4·55*	3·31*	5·89*	4·32*	2·81*	4·75*	3·07*	3·53*	2·66*

Salient loadings ($\geqslant$ 0·40) are presented for each ADP-IV item, which represents the corresponding DSM-IV criterion: e.g. Av5 indicates the ADP-IV item representing the fifth diagnostic criterion of the DSM-IV Avoidant Personality Disorder; PAR, paranoid; SZ, Schizoid; ST, Schizotypal; AS, Antisocial; BDL, Borderline; Nar, Narcissistic; AV, Avoidant; DEP, Dependent; OC, Obsessive–Compulsive; DE, Depressive; PA, Passive-Aggressive; AS8, criterion C (conduct disorder) of Antisocial Personality Disorder; BDL5a, Suicidal behaviour; BDL5b, self-mutilating behaviour.

* Percentage of total variance.

fortune. Factor X, 'Defiance and Guilt', reflects an interpersonal attitude, characterized by alternations between defiance and feelings of guilt. Finally, Factor XI, 'Detachment', includes the ADP-IV items, reflecting the criteria of restraint in, and avoidance of close relationships, and of detachment, also indicated by a lack of sexual interest in others and by an excessive devotion to work.

Concurrent validity with the WISPI

All Pearson's correlation coefficients between the ADP-IV Trait scales and the corresponding WISPI scales were significant ($P < 0.005$); the mean correlation between these corresponding personality disorder subscales was 0·61. Moreover, inspection of the correlation matrix revealed that with the exception of the schizotypal, histrionic, and passive-aggressive subscales, the ADP-IV subscales displayed the highest correlations with the corresponding WISPI scales.

Categorical diagnosis of DSM-IV personality disorders with the ADP-IV

The prevalence of an ADP-IV diagnosis (any personality disorder diagnosis) was calculated according to the four scoring algorithms. The T > 4 and D > 1 scoring algorithm results in the highest ADP-IV diagnosis prevalence (20·6%). Prevalences of personality diagnosis cases around the 5% level are obtained for the T > 4 and D > 2 (5·2%) and T > 5 and D > 1 (5·9%) algorithms. A prevalence of 2·3% is obtained with the most restrictive scoring algorithm T > 5 and D > 2. The prevalence of the subjects, obtaining more than one Axis II diagnosis according to the ADP-IV are respectively 8·5% (T > 4 and D > 1), 1·5% (T > 4 and D > 2), 1·8% (T > 5 and D > 1) and 0·6% (T > 5 and D > 2).

DISCUSSION

The ADP-IV is a self-report instrument, specifically designed as a measurement of the DSM-IV personality disorder concept: for this purpose each item assesses trait as well as dysfunctionality characteristics. This method allows simultaneous assessment in dimensional and categorical formats. First, the present study investigated the psychometric characteristics of the dimensional Trait scores.

The correlations between the ADP-IV scales and demographic variables such as age and education were low; significant effects were observed for gender and for a history of psychiatric/psychological treatment. The internal consistency of the ADP-IV Trait scales is adequate, considering the relatively low number of items comprising each scale and comparing with other self-report personality disorder instruments. Unacceptable alpha values below 0·70 (Kline, 1993) were obtained for the schizoid (alpha = 0·60) and obsessive–compulsive (alpha = 0·68) Trait-scales. However, research findings indicate that interview and self-report subscales assessing these two personality disorders generally obtain the lowest – and unsatisfactory – indices of internal consistency (e.g. Morey, 1988*a*; Hyler *et al.* 1989; Widiger *et al.* 1991). The consistency of this finding across methods and populations suggests that the source of unreliability lies not within the instruments, but in the measured constructs, i.e. the DSM-III(-R) and DSM-IV criteria of the schizoid and obsessive–compulsive disorders, which do not seem to constitute homogenous diagnostic categories. The reliability of a personality test refers also to the stability in time: further research, employing test–retest designs, investigates the short-interval test–retest reliability and the longer-interval stability of the ADP-IV.

Factor analyses were applied at the level of the test items in order to investigate the underlying structure of the ADP-IV and at the subscale level in order to investigate which basic dimensions explain the variations in the scores on the subscales.

At the subscale level, the factor analysis revealed two basic dimensions, which reflect interpersonal attitudes, which were labelled as 'Anxiety (Cluster C)' and 'Hostility (Cluster B)'. These two interpersonal dimensions are regularly reported (e.g. Morey, 1988*b*; Hyler *et al.* 1990; Dowson & Berrios, 1991; Schroeder & Livesley, 1991; Klein *et al.* 1993; Nestadt *et al.* 1994) and seem to represent the primary factors or basic interpersonal dimensions of personality pathology.

The ADP-IV item level factor analysis yielded 11 personality disorder dimensions, which could

suggest a future way of describing Axis II psychopathology. Consistent with the factor analytical research in the field of personality pathology measurement (e.g. Hyler *et al*. 1990; Klein, 1993, Ekselius *et al*. 1994) the results indicate that the interrelationships between the DSM-IV personality disorder criteria, as assessed with the ADP-IV in the general population, are accounted by dimensions that go beyond the DSM-IV categories. However, strong correspondences between factors and categories are observed for the avoidant/ dependent (factor I), antisocial (factor II), paranoid (factor III), depressive (factor IV), narcissistic (factor VI), schizotypal (factor VII), histrionic (factor VIII) and schizoid (factor XI) personality disorder categories. The ADP-IV borderline personality disorder items are dispersed across different factor dimensions: the borderline concept is represented in the dimensions of psychopathy, hostility, negative affect and self-image, unstability and need for attention. The present results support the validity of the ADP-IV: the structure of the test at the item and subscale level is described by clinically and as regards content relevant basic dimensions.

The concurrent validity of the ADP-IV was investigated by examining its association with the WISPI. The mean correlation of 0·61 between corresponding personality disorder subscales indicated satisfactory relations between the two inventories. Furthermore, for most scales the highest correlations were generally obtained between the corresponding subscales of the two instruments.

The present results lend support to the validity of the ADP-IV dimensional Trait scores. As a guideline for the interpretation of these dimensional scores in the clinical practice norms, based on the present Flemish sample, were developed (Schotte & De Doncker, 1996). Such norms reflect the extent to which scores deviate from the average, 'normal' scores in the general population and indicate the degree to which the measured trait pattern deviates from the expectations within one's culture. Consequently, similar norms are a method to assess the first of the DSM-IV general diagnostic criteria for a personality disorder, which requires '…an enduring pattern of inner experience and behaviour

that deviates markedly from the expectations of an individual's culture…' (APA, 1994, p. 633).

The ADP-IV also allows a categorical assessment of the DSM-IV personality disorder criteria and diagnoses, which are obtained by scoring algorithms, based on combinations of threshold scores of the Trait and Distress items.

The investigation of the effects of the scoring algorithms on the frequency of a personality disorder diagnosis reveals prevalences varying between 2·3% and 20·6%. A few studies investigated the epidemiology of the DSM personality disorders in the community (Reich *et al*. 1989; Zimmerman & Coryell, 1989; Maier *et al*. 1992; Samuels *et al*. 1994). The prevalence of personality disorders in these samples from the general population ranged from 5·9% to 17·9%, depending on sample characteristics and on the diagnostic method used.

Taking into account these prevalence percentages, the $T > 4$ and $D > 1$ scoring algorithm seems to lead up to a relatively excessive prevalence (i.e. 20·6%) of Axis II diagnoses. Using more stringent rules and thresholds with a more restrictive scoring algorithm ($T > 4$ and $D > 2$; $T > 5$ and $D > 1$) Axis II disorder prevalence percentages drop significantly to approximately 5% whereas the most severe scoring algorithm ($T > 4$ and $D > 2$) results in a probably too low prevalence of 2·3%).

A remarkable finding is that – in contrast with other self-report instruments (Loranger, 1992; Perry, 1992) – the ADP-IV method does not result in extremely high co-morbidity rates among the personality disorder categories. Indeed, the majority of the subjects with a positive Axis II diagnosis according to the ADP-IV meets the criteria for only one diagnosis, whereas a relatively low number of subjects generates more than one diagnosis.

The choice of a particular ADP-IV scoring algorithm will depend on the correspondence of the ADP-IV with the DSM-IV clinical or interview diagnoses in clinical settings, and on the diagnostic measurement aims. The latter concept refers to the expectations of the clinician concerning the aims of the assessment: if one wishes an instrument for diagnostic screening, then the $T > 4$ and $D > 1$ scoring algorithm might be appropriate, allowing probably a high sensitivity and a relatively lower specificity. On

the other hand, when one's aim is a more selective Axis II diagnosis, then the T > 4 and D > 2 or T > 5 and D > 1 scoring algorithms might offer interesting alternatives, which emphasize the distress or the typicality of the traits. Anyway, the present results indicate that scoring algorithms using the combination of Trait and Distress characteristics might offer a solution for the overdiagnosis problem with the self-report method.

In conclusion, the present paper introduced an alternative method for the self-report assessment of personality pathology. This method of assessing the distress and the impairment linked with the DSM-IV traits bears not only the potential of improving the psychometric quality of the diagnostic evaluation but also that of consolidating its therapeutical utility. With regard to this therapeutical validity, clinical experience with the ADP-IV shows that discussing the self-perceived levels of Distress – in a feed-back session with the patient – offers a valuable starting-point for psychotherapeutic interventions. Further investigations with the ADP-IV are conducted in several clinical populations to evaluate the validity and the therapeutical utility of the presented method.

REFERENCES

American Psychiatric Association (1980). *DSM-III : Diagnostic and Statistical Manual of Mental Disorders, 3rd edn.* APA: Washington, DC.

American Psychiatric Association (1987). *DSM-III-R : Diagnostic and Statistical Manual of Mental Disorders 3rd edn, Revised.* APA: Washington, DC.

American Psychiatric Association (1994). *DSM-IV : Diagnostic and Statistical Manual of Mental Disorders 4th edn.* APA: Washington, DC.

Barber, J. P. & Morse, J. Q. (1994). Validation of the Wisconsin Personality Disorders Inventory with the SCID-II and PDE. *Journal of Personality Disorders* **8**, 307–319.

Carson, R. C. (1993). Can the Big Five help salvage the DSM? *Psychological Inquiry* **4**, 98–100.

Cronbach, L. J. (1951). Coefficient alpha and the internal structure of tests. *Psychometrika* **16**, 297–334.

De Doncker, D., Schotte, C., Vertommen, H. & Vankerckhoven, C. (1997). Assessment van de DSM-IV persoonlijkheidsstoornissen: ontwikkeling en voorlopige resultaten van de ADP-IV zelfbeoordelingsvragenlijst. *Tijdschrift Klinische Psychologie* **27**, 171–186.

Dowson, J. H. & Berrios, G. E. (1991). Factor structure of DSM-III personality disorders shown by self-report questionnaire: implications for classifying and assessing personality disorders. *Acta Psychiatrica Scandinavica* **84**, 555–560.

Ekselius, L. E., Lindström, E., van Knorring, L., Bodlund, O. &

Kullgren, G. (1994). A principal component analysis of the DSM-III-R Axis II personality disorders. *Journal of Personality Disorders* **8**, 140–148.

Frances, A. (1982). Categorical and dimensional systems of personality diagnosis: a comparison. *Comprehensive Psychiatry* **23**, 516–527.

Hart, S. D., Hutton, D. G. & Newlove, T. (1993). The prevalence of personality disorder among wife assaulters. *Journal of Personality Disorders* **7**, 329–341.

Hunt, C. & Andrews, G. (1992). Measuring personality disorder: the use of self-report questionnaires. *Journal of Personality Disorders* **6**, 125–133.

Hyler, S. E., Reider, R. O., Williams, J. B., Spitzer, R. L., Lyons, M. & Hendler, J. (1989). A comparison of clinical and self-report diagnoses of DSM-III personality disorders in 552 patients. *Comprehensive Psychiatry* **30**, 170–178.

Hyler, S. E., Lyons, M., Rieder, R. O., Young, L., Williams, J. B. W. & Spitzer, R. L. (1990). The factor structure of self-report DSM-III Axis II symptoms and their relationships to clinicians' ratings. *American Journal of Psychiatry* **147**, 151–159.

Kendell, R. E. (1982). The choice of diagnostic criteria for biological research. *Archives of General Psychiatry* **39**, 1334–1339.

Klein, M. H., Benjamin, L. S., Rosenfeld, R., Treece, C., Husted, J. & Greist, J. H. (1993). The Wisconsin Personality Disorders Inventory: development, reliability and validity. *Journal of Personality Disorders* **7**, 285–303.

Klein, M. K. (1993). Issues in the assessment of personality disorders. *Journal of Personality Disorders* Suppl. (Spring), 18–33.

Kline, P. (1993). *The Handbook of Psychological Testing.* Routledge: London.

Loranger, A. W. (1992). Are current self-report and interview measures adequate for epidemiological studies of personality disorders? *Journal of Personality Disorders* **6**, 313–325.

Maier, W., Lichtermann, D., Klingler, T., Heun, R. & Hallmayer, J. (1992). Prevalences of personality disorders (DSM-III-R) in the community. *Journal of Personality Disorders* **6**, 187–196.

Morey, L. C. (1988 *a*). Personality disorders in DSM-III and DSM-III-R: convergence, coverage, and internal consistency. *American Journal of Psychiatry* **145**, 573–577.

Morey, L. C. (1988 *b*). The categorical representation of personality disorder: a cluster analysis of DSM-III personality features. *Journal of Abnormal Psychology* **97**, 314–321.

Nestadt, G., Eaton, W. W., Romanoski, A. J., Garrison, R., Folstein, M. F. & McHugh, P. R. (1994). Assessment of DSM-III personality structure in a general-population survey. *Comprehensive Psychiatry* **35**, 54–63.

Perry, J. C. (1992). Problems and considerations in the valid assessment of personality disorders. *American Journal of Psychiatry* **149**, 1645–1653.

Reich, J., Yates, W. & Nduaguba, M. (1989). Prevalence of DSM-III personality disorders in the community. *Social Psychiatry and Psychiatric Epidemiology* **24**, 12–16.

Samuels, J. F., Nestadt, G., Romanoski, A. J., Folstein, M. F. & McHugh, P. R. (1994). DSM-III personality disorders in the community. *American Journal of Psychiatry* **151**, 1055–1062.

Schotte, C. K. W. (1997). Issues in the assessment of the DSM-IV personality disorders. Paper presented at the International Congress on the Psychobiology of Personality Disorders. Oostende, Belgium, 25–26 April 1997.

Schotte, C. & De Doncker, D. (1994). *ADP-IV Questionnaire.* University Hospital Antwerp: Antwerp, Belgium.

Schotte, C. & De Doncker, D. (1996). *ADP-IV Questionnaire: Manual and Norms.* University Hospital Antwerp: Antwerp, Belgium.

Schotte, C., De Doncker, D., Maes, M., Cluydts, R. & Cosyns, P. (1993). MMPI assessment of the DSM-III-R histrionic personality disorder. *Journal of Personality Assessment* **60**, 500–510.

Schroeder, M. L. & Livesley, W. J. (1991). An evaluation of DSM-III-R personality disorders. *Acta Psychiatrica Scandinavica* **84**, 512–519.

Van Rompaey, I. (1996). Interpersonal Relationships as Essential Components of Personality Disorders. Unpublished master's thesis. Catholic University Leuven, Belgium.

Widiger, T. A. & Costa, P. T. Jr. (1993). Personality and personality disorders. *Journal of Abnormal Psychology* **104**, 78–91.

Widiger, T. A., Frances, A. J., Harris, M., Jacobsberg, L. B., Fyer, M. & Manning, D. (1991). Comorbidity among Axis II disorders. In *Personality Disorders: New Perspectives on Diagnostic Validity* (ed. J. M. Oldham), pp. 163–194. American Psychiatric Press: Washington, DC.

Zimmerman, M. (1994). Diagnosing personality disorders. A review of issues and research methods. *Archives of General Psychiatry* **51**, 225–245.

Zimmerman, M. & Coryell, W. (1989). DSM-III personality disorder diagnosis in a non-patient sample: demographic correlates and comorbidity. *Archives of General Psychiatry* **46**, 682–689.