Personality traits and disorders among psychiatric outpatients and normal subjects on the basis of the SCID screen questionnaire

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SCID screen questionnaire – a self-report instrument for axis-II diagnoses – was distributed to 65 psychiatric outpatients and 133 normal subjects. In addition, independent clinical DSM-III-R diagnoses were made in the patients. When cut-off was adjusted in the SCID screen, specificity was 64% and sensitivity 86%, with a Pearson's correlation coefficient of 0.52 ($p<0.001$). The results from the SCID screen were analysed in two different ways – a dimensional approach estimating the proportion of criteria fulfilled and a traditional categoric approach estimating the prevalence of different personality disorders. All cluster-A disorders and obsessive compulsive personality disorder were more frequent among male than female patients. When analysed dimensionally, no sex differences were identified among patients or normal subjects. Among patients 62% had at least one and 46% multiple axis-II diagnoses, avoidant being the most prevalent. Among normal subjects narcissistic and obsessive compulsive personality disorders were most frequent for males and histrionic and borderline for females. The SCID screen showed good screening properties and also turned out to be promising as sole diagnostic instrument for axis-II disorders. It could easily be administered in an epidemiologic research setting. By rating and displaying every single criterion, the SCID screen also records potentially valuable "subthreshold" personality traits.

☐ *DSM-III-R, Epidemiology, Personality disorders, SCID screen.*

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Since the introduction of criteria-defined personality disorders on a separate axis in DSM-III in 1980 there has been increasing research on various aspects of personality disorders. The main advantages of the DSM-III approach was the development of a set of criteria which provided reliability in personality diagnosing and hence a possibility for international communication between clinicians and researchers.

However, there are still many controversial issues embedded in the DSM-III-R version of axis-II disorders. The psychometric properties of the concepts have been criticized, in particular the categoric approach (1–3). Even though empiric evidence supports the notion that personality and personality disorders constitute a dimensional phenomenon, DSM has chosen a categoric approach.

Whereas some concepts, such as schizotypal and borderline personality disorders, are supported by convincing empiric studies, the validity of other personality disorders has been seriously questioned (4, 5). Another criticism emerges from a sociocultural perspective. To what extent are the personality concepts biased by gender or cultural factors (6)?

One major way of addressing these and other controversial issues is systematic epidemiologic studies. Such studies have been very scarce. A few studies have investigated prevalence, distribution, and co-morbidity among psychiatric inpatients (7,8). In a previous study on inpatients the prevalence of personality disorders was estimated to be 32% (9). Other studies that have examined psychiatric outpatients indicate a prevalence of 60–80% (6, 10, 11). Very few of these studies used representative samples.

Except for studies on antisocial personality disorder (12) there are only some pilot studies on DSM-III personality abnormalities among normal

subjects and in the general population. The study by Reich et al. from 1989 (13) highlighted another conceptual problem: the mere fulfilment of criteria above cut-off yielded a prevalence of 28.9% in the population. When a distress criterion corresponding to the general axis-II criteria was added, the prevalence decreased to about 10%, which equals findings from other non-DSM-III-oriented studies on personality disorders (14, 15).

One obstacle preventing researchers from initiating greatly needed epidemiologic studies within this field is diagnostic difficulties. The "golden" standard would be structured interviews. The Diagnostic Interview for Borderline by Gunderson et al., in 1981 (16), was one of the first in the field. The DIB was further evaluated by Kullgren, in 1987 (17). Recently, Spitzer et al. (18) introduced the Structured Clinical Interview for DSM-III-R (1992), which would represent the golden standard for axis-II diagnosing. However, SCID interviews are time-consuming and costly in a large epidemiologic setting. A self-report instrument would be ideal if it was sensitive and specific enough. A few studies have evaluated PDQ-R, the study by Hyler et al. (4) being the most extensive. In a comparison of PDQ-R self-report versus two structured interviews (PDE and SCID II) the general result was that sensitivity was high but specificity was less impressive. It was concluded that PDQ-R was good enough for screening but not accurate as a sole diagnostic instrument (5).

To prepare for a larger-scale epidemiologic study in several clinical populations and in the general population, we have addressed some of the mentioned issues in some recent studies.

In one study we approached the diagnostic dilemma by further developing and evaluating the SCID screen, a self-report instrument linked to SCID II (L. Ekselius, E. Lindstrom, L. von Knorring, O. Bodlund, G. Kullgren. Unpublished observations). The results were very promising. When tested versus SCID II interviews with mixed patients, the overall kappa coefficient was 0.78, the sensitivity 86.5% and the specificity 75.0%.

In another study of personality disorders among individuals with gender identity disorders we evaluated the SCID screen with an additional functional criterion (GAF value = axis V). Agreement with clinical assessment proved to be satisfactory (19).

A third study examining the categoric-dimensional perspective gave further support to the dimensional character of personality (3).

The purpose of the present study was to evaluate further the SCID screen as a diagnostic tool in axis-II diagnosing and to investigate the prevalence of personality disorders by means of this instrument among psychiatric outpatients and in a control group. We also aim to examine dimensional scores on axis II by creating personality profiles.

Methods

Subjects

The patient series was recruited among consecutive referrals to the outpatient services of a catchment area clinic in Umeå. Only patients who had not visited the clinic for at least 1 year were included. Patients who were clinically judged to have overt psychotic symptoms, organic brain syndrome, or mental retardation were excluded. No patient refused to participate.

The series of normals included students at a university of health care and their partners, health care workers, and medical students, altogether 133 individuals. All individuals contacted completed and returned the questionnaire.

Instruments

SCID screen questionnaire

A version of the SCID screen, translated by Jörgen Herlofsson and modified by Lars von Knorring, was used. Items covering criteria for antisocial personality disorder were added. The SCID screen includes 124 yes or no questions reflecting 103 corresponding axis-II criteria for paranoid, schizoid, schizotypal, antisocial, borderline, histrionic, narcissistic, avoidant, dependent, obsessive-compulsive, passive-aggressive, and self-defeating personality disorders, respectively. In some disorders not all criteria in the DSM-III-R are covered by the questionnaire since they are based on observation.

The original SCID screen ("raw version") is constructed to be overinclusive. In a previous study we have shown that adjusting the cut-off level by requiring one more criterion for diagnosis for every personality disorder improves

Table 1. Sensitivity and specificity of SCID screen in the "raw" version and with "adjusted cut-off".

	Sensitivity	Specificity	Pearson's *R*
Any personality disorder			
SCID screen raw version	96%	32%	0.37 $p<0.05$
SCID screen adjusted cut-off	86%	64%	0.52 $p<0.001$
Cluster A			
SCID screen raw version	80%	52%	0.16 NS
SCID screen adjusted cut-off	72%	60%	0.18 NS
Cluster B			
SCID screen raw version	100%	50%	0.33 $p<0.01$
SCID screen adjusted cut-off	88%	40%	0.36 $p<0.01$
Cluster C			
SCID screen raw version	91%	37%	0.22 NS
SCID screen adjusted cut-off	82%	57%	0.29 $p<0.01$

sensibility and specificity. Good agreement was achieved between the SCID screen with "adjusted cut-off" and clinical SCID interviews, with an overall kappa coefficient of 0.78 (L. Ekselius, E. Lindstrom, L. von Knorring, D. Bodlund, G. Kullgren. Unpublished observations). In the present study we have used both the original cut-off level and the "adjusted cut-off" to estimate the prevalence of axis-II disorders.

Clinical diagnoses

Outpatients were diagnosed by two well-trained psychiatrists on the basis of clinical records and in most cases also from personal knowledge. Diagnoses were made with regard to axis-I syndromes, and, if judged present, personality disorders were classified as a cluster A, cluster B, cluster C, or atypical personality disorder. Clinical records were not available for diagnosis in 4 of 65 cases. Axis-I diagnoses were collapsed into four groups on the basis of DSM-III-R grouping: affective disorders, anxiety disorders, adjustment disorders, and others (mainly eating disorders and substance abuse). A previous Swedish study using only outpatient records has demonstrated acceptable reliability for DSM-III-R diagnoses (20).

Clinical DSM-III-R diagnoses were made by psychiatrists independently of patients' self-report on the SCID screen.

Statistics

The chi-square test (Yates corrected or Fisher's test) was used, as were Pearson's *R* (correlation coefficient), and Students *t* test was used to analyse differences in mean values.

Results

Mean age among outpatients was 30.9 years (range, 19–55 years) and 60% were females. Among normal subjects the mean age was 31.0 years (range, 19–54 years). Females dominated (62.3%). There was no significant sex or age difference between patients and normal subjects.

The capacity of the SCID screen with adjusted cut-off to correctly identify clinically diagnosed personality disorders was tested in the present setting versus clinical diagnosis, as illustrated in Table 1. The sensitivity was 86% and the specificity 64%. Consequently the SCID screen with adjusted cut-off was used in the following analyses.

In the analysis of sex as related to personality disorders the results were somewhat complex. Differences were calculated in two ways: the mean percentage of positively scored criteria within every single personality disorder (Table 2, "dimensional approach") and the prevalence of personality disorders in accordance with the adjusted cut-off level (Table 3, "categoric approach").

The dimensional approach did not identify any sex differences among outpatients or controls. However, the categoric approach did. Among

Table 2. Personality traits according to the SCID screen, represented by the proportion of fulfilled criteria among male and female outpatients and normal subjects.

	Outpatients		Normals	
	Male, $n=26$, %	Female, $n=39$, %	Male, $n=52$, %	Female, $n=81$, %
Paranoid	52.1	45.8	20.6	21.7
Schizoid	26.3	17.5	9.6	9.5
Schizotypal	53.8	43.6	26.6	27.8
Antisocial	17.9	12.6	11.5	9.7
Borderline	48.6	53.5	13.9	19.1
Histrionic	32.7	30.3	25.0	24.5
Narcissistic	36.3	36.2	25.2	26.7
Avoidant	54.4	43.2	14.3	19.1
Dependent	29.1	28.1	10.9	9.5
Obsessive comp.	41.4	36.8	25.0	23.2
Passive aggr.	33.3	30.2	16.5	18.2
Self-defeating	35.1	36.2	11.5	15.3

Table 3. Prevalence of personality disorders according to the SCID screen with "adjusted cut-off" among outpatients and normal subjects.

	Outpatients			Normals		
	Male, $n=26$, %	Female, $n=39$, %	M versus F (chi-square)	Male, $n=52$, %	Female, $n=81$, %	M versus F (chi-square)
Paranoid	42.3	20.5	$p<0.05$	3.8	4.9	NS
Schizoid	7.7	0	$p<0.05$	0	1.2	NS
Schizotypal	7.7	0	$p<0.05$	0	0	NS
Antisocial	11.5	5.1	NS	2.0	0	NS
Borderline	26.9	28.2	NS	0	6.2	$p<0.05$
Histrionic	0.4	5.1	NS	2.0	6.2	NS
Narcissistic	15.4	17.9	NS	7.7	3.7	NS
Avoidant	42.3	28.2	NS	2.0	4.9	NS
Dependent	7.7	10.3	NS	2.0	0	NS
Obsessive comp.	23.1	7.7	$p<0.05$	7.7	2.5	NS
Passive aggr.	15.4	10.3	NS	0	0	NS
Self-defeating	11.5	10.3	NS	0	1.2	NS
Any personality disorder	69.2	53.8	NS	15.3	21.2	NS

normal subjects, borderline personality disorder was significantly more frequent among females – 6.2% versus 0% (chi-square test, $p<0.05$). Among outpatients all three cluster-A disorders were significantly more prevalent among male patients, as was obsessive compulsive personality disorder ($p<0.05$).

Outpatients

According to the clinical diagnosis 49.2% of outpatients had a personality disorder: 8.2% within cluster A, 13.1% in cluster B, 18.1% in cluster C, and 9.8% had an atypical personality disorder. Clinical diagnoses were only made on cluster level to improve reliability.

Axis-II diagnoses among outpatients in each sex on the basis of the SCID screen with adjusted cut-off are illustrated in Table 3. The

Table 4. Type of personality disorder as related to axis-I syndromes among psychiatric outpatients (n=61).

Personality disorder	No axis-I disorder	Affective disorder	Anxiety disorder	Adjustment disorder	Other axis-I disorder
Paranoid	3	4	4	1	7
Schizoid	0	1	1	0	0
Schizotypal	1	0	1	0	0
Borderline	5	3	5	0	5
Histrionic	2	0	0	0	1
Narcissistic	1	2	2	1	5
Avoidant	2	3	10	1	6
Dependent	1	2	2	0	1
Obsessive comp.	3	1	3	0	2
Passive aggr.	3	2	2	0	1
Self-defeating	2	1	3	0	1

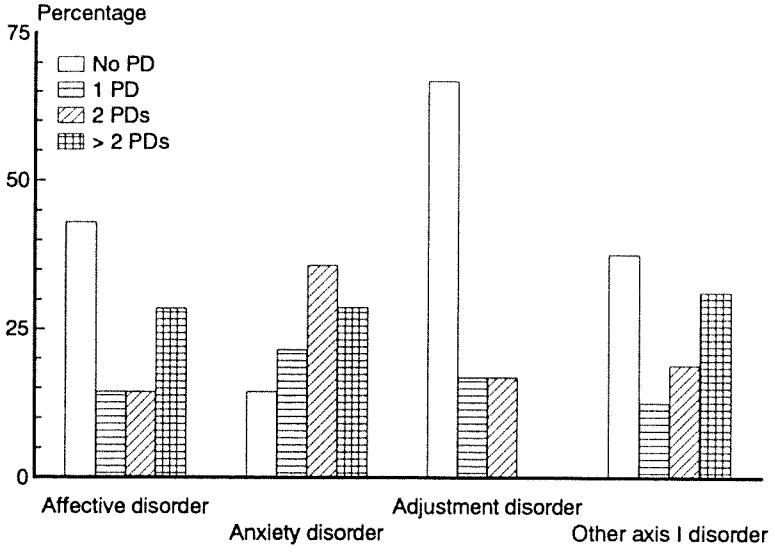

Fig. 1. Personality disorders (PD) according to the SCID screen and concomitant axis-I syndromes among psychiatric outpatients (n=61).

overall prevalence of personality disorder was 61.5%, compared with 49.2% in the clinical assessment. According to the SCID screen, avoidant, paranoid, and borderline personality disorders were the most frequent disorders, and schizotypal, schizoid, and histrionic the least frequent in both sexes. Of all outpatients 13.8% had one personality disorder, 20% had two, and 26.2% had three or more personality disorders. The mean number of personality disorders among those who had at least one was 3.1 for male and 2.7 for female patients (chi-square test, not significant).

Concomitant clinical syndromes according to axis I were frequent, as illustrated in Table 4 and Fig. 1. Multiple personality disorders were in particular frequent among patients with anxiety and affective disorders. Personality disorders were rare among patients with adjustment disorder. Since the numbers are small for every single personality disorder, no statistics were performed.

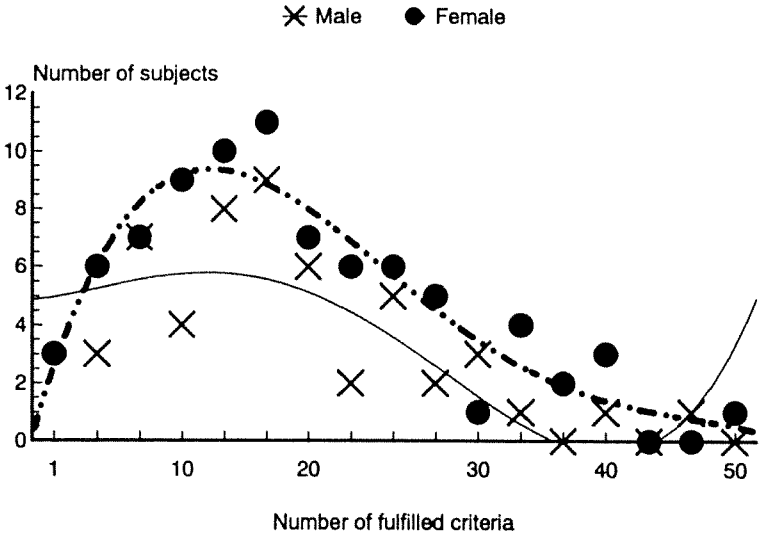

Fig. 2. Distribution of the number of fulfilled axis-II criteria (SCID screen) among normal males (n= 52) and females (n=81).

Normals

Among normals 15.3% of the males and 21.2% of the females fulfilled the criteria for at least one personality disorder, according to the SCID screen. However, the general criterion of social or occupational malfunctioning or subjective distress was not included. Table 2 shows dimensional scores on all personality disorders among normal subjects.

Of the 103 criteria, 14 were fulfilled by more than one-third of the normals. More than 60% of the individuals scored positively on at least one paranoid personality disorder criterion and criteria-9 obsessive-compulsive personality disorder ("inability to discern worn-out or worthless objects"). Only two criteria were scored positively by less than 5% of normals: criteria-1 schizoid personality disorder ("neither desires nor enjoys close relationships") and criteria-3 obsessive-compulsive personality disorder ("unreasonable insistence that others submit to exactly his or her way of doing things").

To illustrate further the dimensional aspect, the distribution of the number of overall fulfilled criteria is shown in Fig. 2 for normal males and females. The female distribution is more skewed to the left than the male distribution (skewness, 0.71 and 1.0, respectively).

A comparison of the mean percentage of fulfilled criteria for every personality disorder in both sexes demonstrates a significantly higher proportion of positively scored criteria for outpatients versus normal subjects for all disorders except histrionic personality disorder (Fig. 3 and Table 2). The proportion of fulfilled criteria is twice as high among outpatients as among controls.

Discussion

In a previous study we assessed the capacity of the SCID screen as a screening instrument and as a sole diagnostic instrument to identify personality disorders. The SCID screen has excellent properties to function as a screening instrument but was in its "raw" version less apt to function as a diagnostic instrument. Sharpening the requirement for diagnosis by increasing the cut-off level with one more criterion for each personality disorder made the SCID screen surprisingly specific (75%) without losing too much in sensitivity (87%) (L. Ekselius, E. Lindstrom, L. von Knorring, O. Bodlund, G. Kullgren. Unpublished observations).

In the present study the SCID screen was evaluated versus clinical diagnosis, and concordance was still accurate though less impressive. The differences between our studies are not sur-

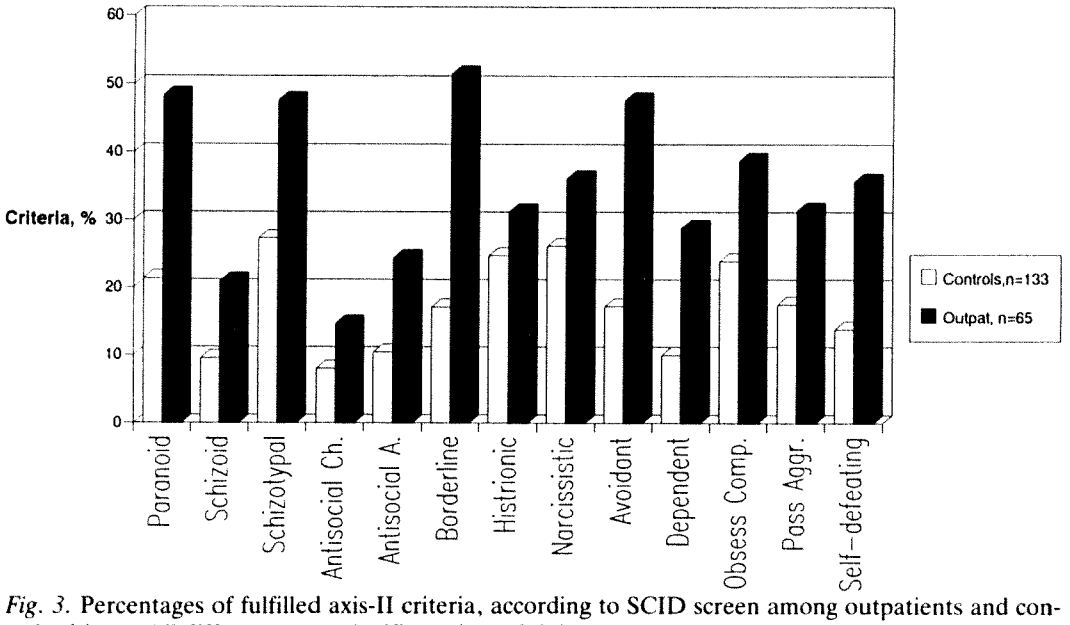

Fig. 3. Percentages of fulfilled axis-II criteria, according to SCID screen among outpatients and control subjects. All differences are significant ($p=<0.05$) except for histrionic personality disorder. (Criteria for antisocial personality disorder are divided into a child and an adult set).

prising, since clinical axis-II diagnosis and diagnosis made by structured SCID interviews differ (21). It is also possible that differences between the studies are explained by the clinical populations used in the two studies: outpatients and a mixed population with low-back pain patientes and psychiatric patients, among others.

Despite our overall conclusion that the SCID screen functions acceptably as diagnostic instrument, it is still somewhat too inclusive even with adjusted criteria, as reflected in the very high prevalence of paranoid personality disorders among outpatients. This phenomenon was discussed as an instrument error in a previous study and may also be explained by axis-I influences (19).

The extent to which the SCID screen works as a diagnostic instrument in a general population cannot fully be answered in the pilot study, since SCID interviews were not made among the normal subjects. Even though prevalence was fairly low for every single personality disorder among normals the overall prevalence figures were higher than expected. It must, however, be remembered that mere fulfilment of criteria above cut-off does not imply that a personality disorder is present. The general functional or distress criteria must also be fulfilled. Reich et al. (13) found in a general population that 28.9% fulfilled criteria for a personality disorder, but adding the general criterion lowered prevalence to a more expected figure – 11.1%. A drawback of the adjusted cut-off used in the present study is that the prevalence of personality disorders requiring additional observational criteria (schizoid, schizotypal, and histrionic) tend to be underestimated. The prevalence figures in our study point in that direction when compared with other studies (6, 10). In the further development of the SCID screen we intend to incorporate a functional criterion to make the instrument more suitable for epidemiologic studies in the general population. In a recent study (19) we added a functional criterion in accordance with GAF, and the results were promising.

Sex bias in the axis-II concepts has been discussed by several researchers. The overrepresentation of females among patients with borderline, histrionic, or dependent personality disorder suggested in previous studies has been interpreted as an inherent sex bias in these concepts (6). In the present study sex differences were studied more

thoroughly by analysing both dimensional and categoric aspects of personality and by investigating both patients and normals. Sex differences were in general much smaller than is usually reported.

On a categoric level (= number of patients fulfilling criteria for a personality disorder) borderline and histrionic personality disorders were more prevalent among females in both populations, and other findings were also in the expected direction, such as more cluster-A abnormalities among male patients. Moreover, personality disorders were more frequent among females in the normal sample, whereas the opposite was found in the patient sample.

No differences were found between sexes when analysed from a dimensional perspective – that is, the proportion of criteria fulfilled for each personality disorder. We have two possible explanations that warrant further research. Fewer sex differences than expected in general might be linked to the fact that criteria were assessed by means of a self-report instrument. It seems likely that the sex bias proposed for the concepts is not exclusively linked to the criteria per se but also reflects a diagnostic bias on the part of the diagnostician, which could be corrected for by self-report assessments. The sex difference eliminated when criteria were analysed dimensionally could theoretically be explained by differences between sexes in criteria distribution (that is, bimodality) within each personality disorder. Empiric evidence supports the notion that personality is a dimensional phenomenon (3, 22); however, sex differences have not yet been analysed from that angle.

The emphasis in the present study is on methodologic issues. A general conclusion is that the SCID screen has good screening properties, and in a modified version it seems to be promising also as diagnostic instrument in epidemiologic research settings. The results presented replicate previous findings that personality disorders are prevalent (50–70%) in psychiatric outpatients. In psychiatric practice, axis-II abnormality is frequently overlooked and thus represents an important diagnostic challenge. Further development and evaluation of useful diagnostic instruments are greatly needed.

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