Basic Character Inventory Personality Traits Among Patients With Major Depression, Anxiety Disorders and Mixed Conditions

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Summary. Two hundred and seventy-two mainly non-psychotic psychiatric outpatients between 19 and 59 years of age were divided into various clinical groups according to DSM-III: pure major depression, major depression in combination with various anxiety disorders, pure anxiety disorders and a group with other mental disorders. The groups were compared as to differences in personality traits assessed by means of the Basic Character Inventory. The mixed major depression/non-panic anxiety disorder group appeared to be the most deviant with more oral-neurotic personality traits in addition to obsessive traits, while the pure major depressive disorder and the pure anxiety disorder group were less disturbed. Especially cases with non-panic-anxiety features in addition to major depression were those which manifested a neurotic obsessive personality structure. These findings imply that it is important to distinguish between major depression cases with and without various anxiety disorders.

Key words: DSM-III – Personality – Outpatients – Major depression – Anxiety disorders

Introduction

Empirical studies have demonstrated that depressive patients are more dependent, with a lack of self-confidence. They show less assertiveness and are more obsessive and introverted than healthy controls (see Akiskal et al. 1983 for review). However, when depressive patients are compared with anxious patients, the latter seem to be even more dependent (Roth et al.

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1972; Mountjoy and Roth 1982; Tyrer et al. 1983). Furthermore, a prospective study shows that persons with dependent personality traits are more likely to develop anxiety than depression (Nyström and Lindegård 1975). Thus, the personality deviations of either depressive or anxious patients do not seem to be specific, but are perhaps related to the dysthymic mood generally or to the patients status.

The similarity in personality between anxious and depressive patients might be due to the frequent co-morbidity of anxiety and depressive disorders (Boyd et al. 1984) and the question arises whether these mixed disorders show a particular personality profile.

Studies have shown that patients with both depression and anxiety disorders have a stronger family pathology (Leckman et al. 1983; Weissman et al. 1984; Van Valkenburg et al. 1984; Coryell et al. 1988; Torgersen 1990), more severe depression and less favourable treatment outcome and prognosis than patients with major depression only (Pfohl et al. 1984; Pilkonis and Frank 1988). Furthermore, they report a more traumatic childhood (Alnæs and Torgersen 1988a, 1989a), and more severe personality disorders (Alnæs and Torgersen 1989c).

Of special interest is the differentiation between panic anxiety and other anxiety disorders, as panic anxiety seems to be highly influenced by genetic factors (Torgersen 1983), and patients with panic attacks report little trauma in childhood (Torgersen 1986). Panic anxiety with major depression in particular seems strongly influenced genetically (Torgersen 1990). Correspondingly, our study showed that patients with non-panic anxiety in combination with major depression reported a difficult childhood (Alnæs and Torgersen 1989b) and often had personal-

ity disorders, whether measured by means of the Structured Interview for DSM-III Personality Disorders (SIDP; Alnæs and Torgersen 1989c) or Millon Clinical Multiaxial Inventory (MCMI; Alnæs and Torgersen 1989d).

Consequently, a study of the differences in personality traits between patients with pure major depression, pure anxiety disorders and mixed conditions seemed warranted. Of special interest is the differentiation between panic and non-panic cases.

Patients and Methods

The sample was drawn from the Outpatient Section at the Department of Psychiatry, Vinderen, Oslo, which serves a catchment area of 70000 inhabitants in the western part of the city of Oslo. The inhabitants are mostly of the middle and upper classes. Of 414 patients in the age group 18–59 years, 90 patients were excluded because of acute psychoses, other acute crises, substance abuse, organic mental disorder, social problems or language difficulties, while 26 patients refused to take part. This left a sample of 298 patients, consisting of 206 females and 92 males with a mean age of 35 years. Details with regard to the sample have been presented elsewhere (Alnæs and Torgersen 1988b, c).

The patients were interviewed by means of the Structured Clinical Interview for DSM-III Axis I (SCID-I) developed by Spitzer and Williams (1983). Furthermore, they rated themselves on the Millon Clinical Multiaxial Inventory (MCMI; Millon 1983) and the Basic Character Inventory, (BCI; Torgersen 1980). The last two instruments were applied 2 months after the index interview. A total of 272 patients filled out the questionnaires.

The reliability of the SCID interviews was assessed by comparing the results of two interviewers, each with 30 patients, and found to be satisfactory (Alnæs and Torgersen 1988b). Cohen's kappa and percentage agreement were used as measures of reliability, depending on the prevalence of the symptoms to be assessed. The agreement percentage among the raters on Axis I diagnoses was 95% (75 of 76 diagnoses). Several patients met the criteria of up to five diagnoses each. The kappa coefficient of major depression was 0.86.

MCMI-I is a 175-item true/false self-report instrument designed to evaluate psychiatric patients on 20 clinical scales grouped into basic personality patterns, pathological personality disorders, and clinical symptom syndromes. For this study the Anxiety scale, Hypomania scale, Dysthymia scale, and Psychotic Thinking scale were applied.

BCI is a 136-item true/false self-report instrument with 17 personality scales (6 items per scale) including three higher-order personality factors. It is a modification of a questionnaire which was originally constructed to verify the existence of oral, obsessive and hysterical personality according to psychoanalytic typology (Lazare et al. 1966). The oral personality factor contains six personality scales (traits): self-doubt, insecurity, sensitivity, dependence, compliance, and emotional instability. The obsessive personality factor contains five personality scales (traits): rigidity, severe superego (tendency to be very serious, responsible, concerned about work, and somberness), parsimony, indecision, and orderliness. The hysterical personality factor contains six personality scales (traits): exhibitionism, imagination, sociability, aggression, oral aggression and emo-

tional expressiveness. The validity of the factors has been confirmed in several studies (Torgersen 1980; von der Lippe and Torgersen 1984; Larsen and Torgersen 1989). The reliability of the scales measured with Cronbachs Alpha range from 0.64 to 0.83 with the majority around 0.75 (Torgersen 1980).

Definition of the various groups. In DSM-III (American Psychiatric Association 1980) there is a hierarchy between major depression and anxiety disorders, stating that if a patient has a major depression, the diagnosis of anxiety disorders, e.g. panic disorder, cannot be applied even if the criteria are fulfilled. In order to study the co-occurrence of these disorders, DSM-III was applied without exclusion criteria. This procedure allowed for simultaneous diagnoses of anxiety and depression, permitting a further study of the status of the mixed cases. The approach corresponds to that in DSM-III-R (American Psychiatric Association 1987).

The sample was divided into various psychopathological groups. In Table 1 the pure major depression group comprises major depression without any life time diagnosis of anxiety disorder. The mixed anxiety-depression group comprises major depression with a life-time diagnosis of any anxiety disorder. The group of pure anxiety disorder comprises anxiety disorder without any life-time diagnosis of major depression. A remaining group comprises other mental disorders, mainly other affective disorders such as bipolar disorder ($n = 19$), cyclothymic disorder ($n = 20$), dysthymic disorder ($n = 19$), somatoform disorder ($n = 5$), and adjustment disorder ($n = 27$).

In Table 2 the mixed depression/non-panic group comprises major depression with a life-time diagnosis of anxiety disorder but never panic disorder with or without agoraphobia. The anxiety diagnoses are social phobia ($n = 10$), simple phobia ($n = 7$), agoraphobia without panic ($n = 6$), obsessive-compulsive disorder ($n = 3$) and generalized anxiety disorder ($n = 1$). The mixed major depression/panic disorder group comprises major depression with a lifetime diagnosis of panic disorder with or without agoraphobia. The pure non-panic anxiety disorder group comprises non-panic anxiety disorders without any lifetime diagnosis of major depression. The group of pure panic disorder comprises any panic disorder with or without agoraphobia with the absence of major depression.

Statistical analysis. Three factors were extracted from BCI, an oral, obsessive and an hysterical factor (Torgersen and Alnæs 1990) by means of a varimax rotation factor analysis with an eigenvalue above 1.0. One-way analysis of variance was applied to examine whether there were any overall differences in personality between the diagnostic groups (SPSS 1986). A posteriori range test corresponding to Bonferroni corrections for multiple analyses was applied for comparisons between group means. Alpha level of 0.05 and 0.01 was specified. Finally, a multivariate analysis of variance (MANOVA) was used to examine possible interaction with sex and age.

Results

There was no statistical difference in sex distribution between the various groups.

The mean age (mean 37, SD 12) of patients in the pure depression group was statistically significantly higher ($P < 0.05$) than for patients in the pure anxiety group (mean 32, SD 14), the pure panic disorder group (mean 33, SD 11), and the pure non-panic anxiety dis-

Table 1. Basic Character Inventory (BCI) mean scores among patients in pure and mixed depression and anxiety groups

Personality traits	Pure major depression $n = 55$	Mixed anxiety-depression $n = 36$	Pure anxiety disorder $n = 84$	Other mental disorder $n = 97$	P values for F
Self-doubt	4.7	6.2*[2,6]	5.3	4.4	0.002
Insecurity	3.5	4.3*[2,6]	4.8*[2,6]	3.5	0.000
Sensitivity	5.6	6.3*[6]	6.1*[6]	4.9	0.000
Dependence	4.0	4.8*[5]	4.0	3.6	0.027
Compliance	3.2	3.0	3.1	2.5	0.241
Emotional instability	4.3	4.9	4.4	3.8	0.099
Rigidity	4.3	5.1	4.4	4.0	0.113
Severe superego	4.9	5.3	4.8	4.8	0.375
Parsimony	4.2	4.3	4.2	4.2	0.990
Indecision	4.0	4.3	3.9	3.6	0.279
Orderliness	4.7	5.2	4.3	4.9	0.121
Exhibitionism	3.0	2.5	2.6	3.3	0.058
Imagination	4.0	4.0	4.4	4.4	0.392
Sociability	4.6	3.1	3.5	4.8*[3,4]	0.001
Aggression	3.1	4.0	3.4	3.2	0.284
Oral aggression	4.1	3.5	3.8	4.6	0.065
Emotional expressiveness	4.8	5.0	4.7	4.9	0.930
Factor scores					
Oral	−0.07	0.48*[1,6]	0.19*[6]	−0.31	0.000
Obsessive	−0.01	0.36	−0.10	−0.05	0.123
Hysterical	−0.01	−0.03	−0.14	0.13	0.353

*[1] $P < 0.05$ higher than in the pure depression group
*[2] $P < 0.01$ higher than in the pure depression group
*[3] $P < 0.05$ higher than in the mixed anxiety/depression group
*[4] $P < 0.01$ higher than in the pure anxiety group
*[5] $P < 0.05$ higher than in the other disorder group
*[6] $P < 0.01$ higher than in the other disorder group

order group (mean 33, SD 11). However, none of the mixed groups were statistically significant different from these pure groups.

Neither of the Millon affective scales showed any difference in severity of depression between the pure major depression and the mixed anxiety/depression group. Also there was no difference on the Millon Anxiety scale between these groups.

Table 1 shows that the overall F-probability is less than 0.05 for five personality traits: self-doubt, insecurity, sensitivity, dependence and sociability. In addition, the overall F-probability for the oral factor is 0.0001. Posterior comparisons between group means with the range test display that the mixed cases have a significantly higher self-doubt score and are more insecure compared with patients with pure major depression as well as other mental disorders, and they

are more sensitive, dependent and introverted than patients with other mental disorders. Furthermore, their general oral factor score is far higher than among patients with pure major depression and other mental disorders.

The pure anxiety disorder patients are different from both the pure major depression patients and the other mental disorder patients on insecurity, and they are also more sensitive, introverted and have a higher oral factor score than patients in the other mental disorder group.

Table 2 shows the differences between the diagnostic groups when the anxiety disorders are split into panic and non-panic anxiety. The overall F-probability for chance differences between groups is lower than 0.05 for the personality traits self-doubt, insecurity, sensitivity, dependence, compliance and emotional instability. Both for the oral and the obsessive factors the F-probability is far below the 0.05 level.

The posterior applications of the range test show that patients with mixed major depression/non-panic anxiety disorder are significantly more insecure than patients with pure major depression and other mental disorders, more dependent than patients with pure non-panic anxiety and other mental disorders, have more self-doubt, and are more sensitive and emotional instabile than patients with other mental disorders. They generally have a higher oral factor score than patients with pure major depression and other mental disorders.

Patients with pure non-panic anxiety disorders have a significantly higher obsessive factor score. Patients with pure panic disorder are significantly more insecure than patients with pure major depression and other mental disorders, and more sensitive and compliant than patients with other mental disorders. Furthermore, they have a significantly higher oral factor score than patients with other mental disorders.

In order to test for a possible confounding effect of sex and age, we applied sex and age as covariates in a MANOVA. The results pertaining to Table 1 with undifferentiated anxiety disorders showed that self-doubt still had a significant overall F when it was controlled for sex and age ($P = 0.010$). The same was true for insecurity ($P = 0.000$), sensitivity ($P = 0.000$), and sociability ($P = 0.012$). However, for dependence, the overall F did not reach significance ($P = 0.091$). The oral factor was significant ($P = 0.000$).

When anxiety disorders were divided into panic and non-panic anxiety disorders, the overall F remained significant when controlling for sex and age for self-doubt ($P = 0.006$), insecuritiy ($P = 0.005$), sensitivity ($P = 0.002$), dependence ($P = 0.019$), and emotional instability ($P = 0.041$). Compliance lost

Table 2. BCI mean scores among patients in pure and mixed depression panic and non-panic anxiety groups

Personality traits	Pure major depression $n = 55$	Major depression and non-panic-anxiety disorders $n = 18$	Major depression and panic disorder $n = 19$	Pure non-panic-anxiety disorder $n = 46$	Pure panic disorder $n = 38$	Other mental disorder $n = 97$	P values for F
Self-doubt	4.7	6.6*[5]	5.8	5.1	5.4	4.4	0.006
Insecurity	3.5	5.3*[1,5]	4.6	4.6	5.0*[1,6]	3.5	0.000
Sensitivity	5.6	6.5*[5]	6.1	6.0	6.1*[5]	4.9	0.002
Dependence	4.0	5.4*[2,6]	4.1	3.8	4.3	3.6	0.011
Compliance	3.2	2.8	3.2	2.6	3.8*[5]	2.5	0.042
Emotional instability	4.3	5.8*[5]	4.0	4.1	4.9	3.8	0.023
Rigidity	4.3	4.8	5.3	4.7	4.2	4.0	0.192
Severe superego	4.9	5.7	5.0	5.1	4.3	4.8	0.054
Parsimony	4.2	4.3	4.4	4.7	3.5	4.2	0.217
Indecision	4.0	4.3	4.2	4.1	3.5	3.6	0.330
Orderliness	4.7	5.7	4.6	4.6	3.8	4.9	0.055
Exhibitionism	3.0	2.4	2.6	2.2	3.0	3.3	0.061
Imagination	4.0	4.0	4.0	4.1	4.7	4.4	0.403
Sociability	4.6	3.0	3.3	3.4	3.5	4.8	0.005
Aggression	3.1	5.0	3.1	3.7	3.1	3.2	0.052
Oral aggression	4.1	3.8	3.3	3.9	3.7	4.6	0.159
Emotional expressiveness	4.8	5.4	4.6	4.7	4.7	4.9	0.918
Factor scores							
Oral	− 0.07	0.74*[1,6]	0.22	0.07	0.34*[6]	− 0.31	0.000
Obsessive	− 0.01	0.60*[4]	0.12	0.21*[3]	− 0.47	− 0.05	0.003
Hysterical	− 0.01	0.26	− 0.30	− 0.10	− 0.18	0.13	0.280

*[1] $P < 0.05$ higher than in the pure depression group
*[2] $P < 0.05$ higher than in the non-panic-anxiety group
*[3] $P < 0.05$ higher than in the pure panic group
*[4] $P < 0.01$ higher than in the pure panic group
*[5] $P < 0.05$ higher than in the other disorder group
*[6] $P < 0.01$ higher than in the other disorder group

statistical significance $(P = 0.282)$. Furthermore, the oral $(P = 0.000)$ and the obsessive factors $(P = 0.016)$ remained significant.

Discussion

The present study demonstrates that patients with mixed major depression/anxiety disorders are significantly different from patients with pure major depression as well as a heterogeneous group of dysthymic, cyclothymic, bipolar, adjustment and somatoform disorders. The difference is particularly connected with oral or neurotic traits such as self-doubt, insecurity, sensitivity and introversion. Patients with a pure anxiety disorder show something of the same; however, they are only more insecure, sensitive and introverted.

Subdividing the anxiety disorders into panic and non-panic anxiety reveals that patients with non-panic anxiety in additon to major depression demonstrate these higher oral-neurotic personality traits. In addition, they seem especially obsessive, a feature which they share with other patients with non-panic anxiety disorders, but without major depression in addition. Also, the pure panic disorder is the most deviant of the pure disorders, with especially high oral traits and a low obsessive factor score.

Another personality questionnaire, the MCMI, showed similar results (Alnæs and Torgersen 1989d). Patients with mixed anxiety/depression had more borderline and passive-aggressive personality disorders than patients with pure major depression, pure anxiety disorders or other mental disorders, and more schizotypal and avoidant personality disorders than patients with other mental disorders. Also with this

questionnaire it turned out that it was the mixed non-panic/depression cases which were more deviant.

Furthermore, the results, applying a structured interview for DSM-III, Axis II, SIDP, showed that patients with mixed anxiety/depression more often had a paranoid, schizotypal, borderline, avoidant and dependent personality disorder (Alnæs and Torgersen 1989c). The mixed major depression/non-panic-anxiety disorder patients particularly often had a paranoid, borderline, and avoidant personality disorder.

It thus seems as if the more deviant personality among patients with mixed major depression/anxiety disorders, and especially mixed major depression/non-panic anxiety disorders, occurs across different questionnaires and different measurement methods. It does not seem to be due to any self-report bias.

The results might be due to high anxiety and depression among mixed cases when they filled out the questionnaires. However, the MCMI anxiety and depression scales did not show any differences between the mixed and pure cases at the time the questionnaires were applied. It might be that the validity of these MCMI clinical scales is insufficient, so that our results have to be considered tentative, as do many other studies of the relationship between symptom conditions and personality.

It is important to note that our sample consists of mainly non-psychotic outpatients. This implies that our depressive cases are mild or moderately severe. It might be that the pure major depression would have been more deviant if we had included hospitalized patients with psychotic major depression. However, Charnley et al. (1981) found a far higher frequency of borderline personality disorder among non-melancholic depressives, compared with melancholic depressives.

The present study points to the importance of looking at the mixed groups as a special group of disorders, as has been concluded in the family and twin studies referred to. They have a more severe clincial picture, more traumatic childhood experiences, a higher family-loading of affective and anxiety disorders, a poorer treatment outcome and a poorer prognosis. It might be that the deviant personality structure is the reason for the severity of the mixed anxiety/depression disorders. Especially the addition of non-panic anxiety features seems to make the major depression cases more different from the pure major depression. However, more research is necessary before the validity of the mixed anxiety/depression group is established.

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