SHORT REPORTS

Personality Disorders and Features in Social Phobia and Panic Disorder

Marijke A. Jansen, Arnoud Arntz, Harald Merckelbach, and Peter Paul A. Mersch

The hypothesis that there is a specific relationship between social phobia (SP) and avoidant personality disorder (APD) was investigated. Using the Structured Clinical Interview for DSM–III–R Personality Disorders, we screened 32 patients with SP and 85 patients with panic disorder (PD) for the presence of personality disorders. Avoidant features were found significantly more often in SP than in PD, although the diagnosis of APD could not be established significantly more often. On the item level, APD Criterion 6 (feasts being embarrassed) discriminated the strongest. Social phobics appeared to be more disturbed on Axis II than PD patients.

Since the introduction of the third edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM–III; American Psychiatric Association, 1980), the relationship between social phobia (SP) and avoidant personality disorder (APD) and the discussion as to whether they are different disorders has been a matter of concern (Greenberg & Stravynski, 1983; Heimberg, 1989; Marks, 1985; Reich & Yates, 1988; Turner, Beidel, Dancu, & Keys, 1986). The possibility of diagnosing SP and APD in one patient and the establishment of the generalized type of SP in the revised DSM–III (DSM–III–R; American Psychiatric Association, 1987) did not conclude this discussion. Specific questions have been raised about the validity of the existing categorical distinctions between SP and APD in the DSM–III–R. Schneider, Spitzer, Gibbon, Fyer, and Liebowitz (1991) found DSM–III–R APD in 70% of a sample of 50 SP patients and in 89% of those with the generalized subtype (GSP). They recommended further research, leading to the validation of the current distinction of SP and APD diagnoses, or to the merging of these disorders into a single diagnosis in the fourth edition of the DSM. The first issue was further address in three recent publications in which social phobics with specified subtypes were studied for the occurrence of DSM–III–R APD (Herbert, Hope, & Bellack, 1992; Holt, Heimberg, & Hope, 1992; Turner, Beidel, & Townsley, 1992). The GSP groups with and without APD did not differ from each other qualitatively. However, in some areas, patients with APD were more severely affected. Both groups were more severely impaired than the specific subtype patients. The reported frequencies of APD in SP and APD in GSP in these studies varied from 15% to 17% and 50% to 61%, respectively. Thus, there is clear evidence that APD is particularly common in GSP. Perhaps GSP and APD “represent different points on a continuum of severity” (Herbert et al., 1992, p. 338).

Given the high frequency of APD in SP, especially in GSP, the question is whether there is a specific relation between SP and APD. The association between SP and APD cannot be judged merely on the basis of studies that do not use another Axis I disorder as a reference group. It is possible that APD also occurs frequently with other anxiety disorders. Indeed, Renneberg, Chambless, and Gracely (1992) diagnosed DSM–III–R APD in 32% of 133 patients who had PD with agoraphobia. Ainaes and Torgersten (1988), using DSM–III criteria, not only found an overrepresentation of APD in SP compared with other anxiety disorders but also in agoraphobia without PD. A second question is whether any other personality disorder also occurs frequently with SP. For instance, Ainaes and Torgersten (1988) found a much more definite relationship of DSM–III SP with dependent personality disorder (DPD) than with APD. Examining 71 social phobic patients, Turner, Beidel, Borden, Stanley, and Jacob (1991) found that DSM–III–R APD occurred most frequently (22%), followed by obsessive-compulsive personality disorder (13%). Turner et al. did not use a patient reference group, so no definite conclusions can be drawn. To clarify these questions, it is necessary to compare SP patients with patients who have another anxiety disorder and to examine both groups on the full range of Axis II disorders. Therefore, in our study, SP was compared with PD with or without agoraphobia, as suggested by Liebowitz, Gorman, Fyer, and Klein (1985).

**Method**

**Subjects**

The 117 subjects in this study were selected from 344 outpatients with anxiety disorders on the basis of a single diagnosis on Axis I of either SP or PD at the Regional Institute of Mental Health Services (RIMH) in Maastricht, The Netherlands. The diagnosis was made during a clinical interview by two independent clinicians according to DSM–III–R criteria for SP or PD with or without agoraphobia. Only patients on whom a consensus diagnosis was reached were included in the study.

Data on SP were obtained from 13 male and 19 female subjects, aged 21–48 years ($M = 32.6, SD = 8.5$). An assisting psychologist classified...
the social phobics on the basis of the conditioned stimuli identified by the therapist in the behavioral analysis of the patient's problem: Thirty patients showed the generalized subtype, 2 had circumscribed SP (i.e., being unable to urinate in a public lavatory, being unable to either make or answer a telephone call). Half of the subjects completed their education at lower general level (50.1%), 34.2% completed their education at middle level, and 15.7% completed a higher vocational or university training. Five subjects were single (15.6%) and 27 subjects (84.4%) were married or living with a partner.

Data on PD were obtained from 31 male and 54 female subjects, aged 19-68 years ($M = 37.1, SD = 10.7$). Sixty percent completed their education at lower general level, 23.5% completed their education at middle level, and 14.2% completed a higher vocational or university training. Data on the education of 2 subjects were missing. Twenty-one subjects were single (34.7%), 63 subjects were married or living with a partner (74.1%), and 1 subject was divorced (1.2%).

The only statistical difference between the two groups was in age. The average age of the PD patients was higher than the average age in the SP group, $t(108) = 2.11, p = .04$. To control for the age difference, we used analyses of covariance (ANCOVAs) to analyze personality features.

**Assessment**

The personality disorders were assessed by means of the Dutch version of the Structured Clinical Interview for DSM-III-R Personality Disorders (SCID-II; Koster van Groo, 1987; Spitzer, Williams, Gibbon, & First, 1990) and supplemented with questions developed by Arntz et al. (1992) for the DSM-III-R sadiac personality disorder criteria. All criteria were assessed by interview. The scoring categories were as follows: 1 = the criterion is absent; 2 = absence or presence of the criterion is doubtful; 3 = the criterion is present; and 7 = inadequate information is obtained. For each personality disorder, a feature score was derived by summing the 1-2-3 scores of the criterion; 7 scores were recorded as 1 score. Only 0.33% of the scores were coded as 7.

Agreement on the personality disorder diagnoses between various combinations of two of the nine raters was studied by Arntz et al. (1992) and proved to be excellent (overall kappa = .80). Table 1 contains the reliability data on the separate personality disorders. Data on the internal consistency of the feature scores were derived from a study by Eussen, Arntz, Hoekstra, and Hofman (1994), which also includes our data (see Table 1).

**Procedure**

Since 1987, patients who come for treatment at the RIMH in Maastricht have been asked to complete several questionnaires and interviews. The results are used in scientific studies after informed consent has been obtained. From these data, the patients with a diagnosis of SP or PD with or without agoraphobia were selected for this study. The SCID-II interviews were performed by four psychologists, one psychiatrist, one adult education scientist, and three mental health scientists. The same raters participated in the interrater study mentioned earlier (Arntz et al., 1992).

**Results**

The number of subjects with one or more personality disorders in the group of social phobics (56.3%; see Table 1) was higher than the number in the PD group (38.8%), but the difference failed to reach significance, $\chi^2(1, N = 117) = 2.87, p = .09$. However, the mean number of personality disorders differed between groups ($M_s = 1.16$ and 0.64 for SP and PD subjects, respectively), $t(115) = 2.35, p = .02$, two-tailed. This suggests that the social phobics were more severely disturbed on Axis II than were the panic patients, which was confirmed by a
Table 2
Mean Feature Scores and Standard Deviations of Social Phobia and Panic Disorder

| Personality disorder | Social phobia | | | | Panic disorder | | | |
|----------------------|--------------|-----|-----|----------------|--------------|-----|-----|-----|-----|-----|-----|-----|-----|
|                      | $M_{p}$     | SD  | $M_{c}$ | $t(115)$ | $p$   | $M_{p}$     | SD  | $M_{c}$ | $t(115)$ | $p$   |
| Avoidant             | 13.3        | 3.1 | 1.90    |           |      | 11.6        | 3.6 | 1.65    | 2.41   | .02   |
| Dependent            | 15.5        | 4.6 | 1.73    |           |      | 14.2        | 3.6 | 1.57    | 1.71   | .09   |
| Obsessive-compulsive | 14.5        | 4.0 | 1.61    |           |      | 14.3        | 3.7 | 1.59    | 0.25   | .81   |
| Passive-aggressive   | 12.9        | 3.0 | 1.43    |           |      | 12.0        | 2.6 | 1.34    | 1.54   | .13   |
| Self-defeating       | 11.1        | 3.1 | 1.39    |           |      | 10.3        | 2.6 | 1.28    | 1.45   | .15   |
| Paranoid             | 12.3        | 3.9 | 1.76    |           |      | 11.0        | 3.1 | 1.57    | 1.88   | .06   |
| Schizotypal          | 14.6        | 2.1 | 1.58    |           |      | 13.3        | 2.1 | 1.42    | 3.07   | .003  |
| Schizoid             | 9.1         | 2.0 | 1.30    |           |      | 8.4         | 1.6 | 1.20    | 2.06   | .04   |
| Histrionic           | 10.6        | 3.0 | 1.53    |           |      | 10.1        | 2.3 | 1.27    | 0.90   | .37   |
| Narcissistic         | 12.3        | 3.5 | 1.36    |           |      | 11.3        | 2.4 | 1.25    | 1.43   | .16   |
| Borderline           | 11.4        | 3.9 | 1.43    |           |      | 10.3        | 2.3 | 1.29    | 1.49   | .14   |
| Antisocial B         | 13.2        | 2.3 | 1.10    |           |      | 13.2        | 2.3 | 1.10    | -0.04  | .97   |
| Antisocial C         | 10.6        | 1.0 | 1.06    |           |      | 10.6        | 1.2 | 1.06    | -0.11  | .92   |
| Sadistic             | 8.1         | 0.3 | 1.01    |           |      | 8.2         | 0.7 | 1.03    | 0.97   | .33   |
| All criteria*        | 160.4       | 21.2| 1.38    |           |      | 150.1       | 18.2| 1.29    | 2.60   | .01   |

Note. $M_{p}$ = mean of the summed feature scores per personality disorder; $M_{c}$ = mean feature score per criterion (i.e., $M_{p}$ number of criteria of the personality disorder).

* Mean sum score of all 116 criteria. Criteria occurring in more than one personality disorder were counted once.

An $t$ test carried out on the summed scores of all 116 SCID-II criteria (see Table 2).1

APD was diagnosed in 31.3% of the social phobics and in 23.5% of the panic patients (see Table 1). The difference was not significant, $x^2(1, N = 117) < 1$. However, SP patients received a higher avoidant feature score than did PD patients (see Table 2).

In order to determine whether any of the other 12 personality disorders occurred more frequently in SP patients than in PD patients, we conducted tests on the frequency of each personality disorder diagnosed in each group (see Table 1). With respect to DPD, the SP and PD groups showed the largest difference (see Table 1). In 31% of the SP patients DPD was diagnosed, whereas in PD patients this was 11.8%, $x^2(1, N = 117) = 6.23, p = .01$. However, the mean dependent feature scores did not differ statistically between the two Axis I disorders, $t(115) = 1.71, p = .09$ (see Table 2). The PD group consisted of 65 patients with and 20 without agoraphobia. There was no association between DPD and agoraphobia (Fisher’s exact test, $p = .44$).

Each personality disorder was examined for differences between the feature scores in the two groups (see Table 2).2 Social phobics showed more schizotypal and more schizophrenic features, as well as more avoidant features. ANCOVAs showed that age did not affect any of the differences between the groups presented in Table 2. To determine which avoidant and schizotypal features differed in frequency in SP or PD, we conducted $t$ tests.

APD Criterion 6 (fears being embarrassed) was rated significantly higher in social phobics, $t(115) = 5.29, p < .001$, as well as APD Criterion 5 (reticent in social situations), $t(115) = 1.99, p = .05$. Schizotypal Criterion 8 (inappropriate affect) was rated higher in social phobics, $t(115) = 2.28, p = .03$. Although social phobics rated higher on schizotypal Criterion 2 (excessive social anxiety) than panic patients, the difference was not significant, $t(115) = 1.82, p = .07$.

To further clarify the differences between the two diagnostic groups, we performed a discriminant analysis with the feature scores of each personality disorder as predictors. Stepwise analysis showed that the schizotypal feature score was the strongest discriminator between SP and PD, $F(1, 115) = 9.42, p = .003$. None of the other feature scores had a significant additional contribution ($p > .16$). If schizotypal features were excluded from the analysis, avoidant features discriminated the most, $F(1, 115) = 5.79, p = .02$, with no additional contribution of other feature scores. A discriminant analysis was also done on the item level. The strongest discriminator between SP and PD was APD Criterion 6 (fears being embarrassed), $F(1, 115) = 28.00, p < .001$. Schizotypal Criterion 8 (inappropriate affect) had an additional contribution, $F(1, 114) = 8.22, p < .005$.

Discussion

An important feature of this study is that the relationship between SP and APD was studied by comparing SP with a reference group on the full range of Axis II disorders. As hypothesized, avoidant features were found significantly more often in SP than in PD patients. Although APD was also diagnosed more often in SP than in PD patients, the difference failed to reach significance. The discrepancy could be explained by the differential sensitivity of the statistical tests. Personality disor-

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1 To further examine whether it is more likely for social phobics than for panic patients to have more than one personality disorder, we compared social phobic patients with at least one personality disorder with panic disorder patients with at least one personality disorder. Social phobics showed more personality disorders than did panic patients (Mann–Whitney U test, $z = 2.36, p = .02$).

2 Because of the exploratory nature of this part of the study, we did not use a Bonferroni correction. With this correction, the significance level would have been .004.
cers can be compared only using nonparametric tests such as chi-squares, whereas for the comparison of personality features parametric tests can be used. Therefore, an association between SP and APD should be considered. However, APD and APD features are also common in PD patients and therefore seem not to be restricted to SP. High frequencies of DSM-III APD in PD patients have been reported by Reich, Russell Noyes, and Troughton (1987) and Alaees and Torgersen (1988), and a comparable frequency of DSM-III-R APD in PD patients (32%) was found by Renneberg et al. (1992).

The schizotypal feature score was found to be the strongest discriminator between SP and PD. The avoidant feature score did not give additional information with regard to the distinction between the two Axis I disorders. Only after exclusion of the schizotypal features from the analysis did avoidant features discriminate SP from PD. This was unexpected because only a few schizotypal personality disorders were diagnosed (1 social phobic vs. 2 panic patients). Thus, SP does not seem to be associated with schizotypal personality disorder. The results do suggest, however, that schizotypal features from the analysis did avoidant features discriminate SP from PD. On the item level, APD Criterion 6 (feeling embarrassed) discriminated the most, followed by schizotypal Criterion 8 (inappropriate affect). In previous research, the intrarater reliability of avoidant Criterion 6 was high (.86; Arntz et al., 1992). The intrarater reliability of schizotypal Criterion 8, however, appeared to be nil (.00; Arntz et al., 1992). Therefore, it is debatable whether conclusions can be drawn on the basis of this score. Criterion 8 is scored on the basis of observation of the patient's behavior during the interview, which could lead to a strong state dependency of this score. The relationship found between SP and this criterion may be an artifact. A link between SP and APD Criterion 6 seems more likely. This concurs with the findings of Schneider et al. (1991), who found that this criterion was present in 92% of the GSP patients and in 86% of the specific subtype patients.

There are two more criteria in schizotypal personality disorder that are based on observation: 5 (odd or eccentric behavior) and 7 (odd speech). State-dependent behavior may also influence the scoring of these two criteria. More research on the occurrence of schizotypal features in social phobics is necessary in order to draw conclusions.

Although schizoid features were more often found in social phobics, they did not have an additional attribution in the discriminant analysis. Besides, no schizoid personality disorders were diagnosed. The large number of tests that were performed necessitates careful consideration of the results. It could be that this finding is accidental.

The association between SP and APD does not necessarily mean that APD is a severe SP. APD is also diagnosed in other anxiety disorders, although less frequently. In this study, PD patients without a second diagnosis of DSM-III-R SP frequently demonstrated APD features. Given the high number of APD criteria related to social fears, how is this to be explained? Apparently, APD-related social fears do not necessarily imply DSM-III-R SP. There are at least two DSM-III-R criteria that seem to differentiate between SP and APD-related social fears. In SP the fear has to be recognized by the person as excessive or unreasonable (Criterion F). This is not so in APD, in which the traits can be ego-syntonic (American Psychiatric Association, 1987, p. 336). Second, in SP the phobic situation is avoided as a coping strategy or endured with intense anxiety (Criterion D), whereas in APD avoidance may be a general coping strategy (e.g., avoidance of doing something ordinary but outside of his or her usual routine; APD Criterion 7). Further research will be needed in order to clarify whether these or other criteria can differentiate between the two disorders.

Alaees and Torgersen (1988) found an association between DSM-III SP as the main diagnosis and DPD: All social phobics presented with DPD. Our findings seem to yield mixed evidence with regard to a relationship between DSM-III-R SP and DPD. The frequency of DPD differed significantly in SP and PD. No specific relationship was found when the mean dependent feature scores were considered. Many PD patients had DPD features just below the threshold and many social phobics just above, which explains this finding. The divergence from the Alaees and Torgersen study could be attributable to the different instruments and to the difference in the DSM-III and DSM-III-R criteria. Turner et al. (1991) found only 1.5% DSM-III-R social phobics with DPD using the same diagnostic instrument as we used, the SCID-II. There is no obvious explanation for this divergence.

In the same study (Turner et al., 1991), obsessive-compulsive personality disorder was found in 13% of the patients to be the most common personality diagnosis after APD. This is comparable to the 15.6% in our study. The number of obsessive-compulsive features in PD patients did not differ from those in SP patients.

Our data suggest that SP patients are generally more severely disturbed on Axis II than PD patients. The average number of personality disorders was higher in social phobics, as was the average sum of personality disorder features. The high number of personality disorders in SP concurs with other studies: Alaees and Torgersen (1988) found that all social phobics in their sample had one or more DSM-III Axis II disorders, and Turner et al. (1991) found a DSM-III-R Axis II disorder in 37% of the SP patients. The higher percentage of DSM personality disorders in SP patients in our study may be the result of a higher percentage of GSP compared with Turner et al. (1991).

The results of this study need to be viewed in light of its limitations. No structured interview was used for the diagnosis of Axis I disorders. Although no clear standard has yet been developed for diagnosing SP subtypes, a more detailed method for the distinguishing of the SP subtypes would have made the diagnoses more reliable. Furthermore, an investigation of the relationship between SP and APD, distinguishing different subtypes of SP, may be preferable.

In summary, the results of our study yield evidence to support the view that SP is frequently accompanied by features of APD, although APD could not be established significantly more often in SP than in PD patients. In spite of this relationship, the schizotypal feature score discriminated even more strongly between SP and PD. On the item level, APD Criterion 6 (feeling embarrassed) discriminated the most between SP and PD. The scoring of the schizotypal features could be based on state-dependent behavior. A relationship between SP and schizotypal personality disorder therefore cannot be assumed on the basis of these data. Finally, SP is generally more often accompanied by Axis II disorders than PD.
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