Journal of Consulting and Clinical Psychology
December 1992 Vol. 60, No. 6, 857-868

Comorbidity of Personality Disorders and Depression Implications for Treatment

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ABSTRACT

This article reviews naturalistic and controlled studies of the impact of comorbidity of personality disorders and depression on response to various forms of treatment. The findings support the common belief that personality disorders are associated with a poorer response to treatment for depression. In contrast, the limited data available suggest that the presence of depression may be a positive prognostic indicator for patients with borderline and antisocial personality disorder. There are insufficient data to draw conclusions regarding the influence of specific types of personality disorders on outcome with specific forms of treatment for depression. More specific assessment of personality disorders, particularly of possible underlying dimensions, is likely to be a more fruitful approach than the currently used categorical approach in identifying effective treatments for patients with personality disorders and depression.

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Received: May 30, 1991
Revised: June 1, 1992
Accepted: June 29, 1992

The introduction of a separate axis for the diagnosis of personality disorders in the *Diagnostic and Statistical Manual of Mental Disorders* (3rd ed.; *DSM—III;* American Psychiatric Association, 1980), and the encouragement to make simultaneous diagnoses for syndromal (Axis I) and personality (Axis II) disorders, suggest a conceptualization of these conditions as distinct disorders. This conceptualization is reflected in the frequent use of the term *comorbidity* in reference to personality disorders and depression. As a result, there has been an increasing focus in recent years on the impact of the personality disorders on the treatment response and general course of Axis I disorders and, to a lesser extent, on the influence of Axis I disorders on the outcome of personality disorders.

The goal of this article is to review and consider the implications of comorbidity of personality disorders and depression for treatment. The definition and criteria for depression and personality disorder, and current forms of treatment for each, are briefly outlined. We then consider the meaning of the term comorbidity, as applied to personality disorders and depression, in the context of various hypothesized relations between personality disorders and depression. Next we review the empirical findings on rates of comorbidity of personality disorders and depression and the impact of personality disorders on

treatment outcome for depression. The few studies that deal with the reverse effect (i.e., the impact of depression on course and treatment outcome of personality disorders) are also considered. Limitations of existing knowledge and research strategies are examined, and suggestions for future research directions are presented.

Definitions

The terms *personality disorder* and *depression,* as used in this article refer primarily to the disorders defined in the standard classification schemes, including the *DSM* , Research Diagnostic Criteria (*RDC;* Spitzer, Endicott, & Robins, 1978), and *International Classification of Diseases* (*ICD;* World Health Organization, 1978) systems. In the *Diagnostic and Statistic Manual of Mental Disorders* (3rd ed., rev.; *DSM—III—R;* American Psychiatric Association, 1987), depression is included among the mood disorders, which are divided into bipolar disorders and depressive disorders by the presence or absence of one or more episodes of mania or hypomania. Depressive disorders are further divided into major depression (one or more major depressive episodes) and dysthymia (a history of chronic depressed mood not meeting criteria for a major depressive episode; American Psychiatric Association, 1987). Most of the existing research on comorbidity of personality disorders and depression involves major depression (nonbipolar) or dysthymia. Unless otherwise noted, the use of the term depression in this article refers to nonbipolar depression. The few studies covered here that focus on patients with bipolar disorder are identified as such.

In contrast to the depressive disorders, which can be (although are not necessarily) episodic and can onset at any age, personality disorders by definition are enduring, inflexible, and maladaptive patterns of traits and behaviors that are typically manifested by adolescence or early adulthood. The maladaptive behaviors and traits occur across abroad range of situations and cause significant and persistent functional impairment or personal distress. Disturbances are manifested in cognition (i.e., perception and interpretation of others, oneself, and events), affect (i.e., frequency, intensity, and appropriateness of emotional arousal and expression), control over impulses, and interpersonal functioning (i.e., relating to others and the ability to handle interpersonal situations).

The personality disorders have been grouped conceptually by *DSM—III* and *DSM—III—R* according to three clusters, by similarity in features: (a) paranoid, schizoid, and schizotypal personality disorders, characterized by odd or eccentric behavior; (b) histrionic, narcissistic, antisocial, and borderline personality disorders, characterized by dramatic, erratic, or emotional behavior; and (c) avoidant, dependent, compulsive, and passive—aggressive personality disorders, characterized by anxious or fearful behavior. Each of the individual disorders are defined by a set of explicit criteria, and diagnosis requires manifestation of a minimum number of the criteria by early adulthood, manifestation of the maladaptive behaviors and traits in a variety of contexts, and significant impairment in social or occupational functioning or subjective distress.

Consistent with the medical model approach to psychopathology, the *DSM* system has conceptualized the personality disorders as syndromal, categorical constructs. The extent to which these constructs represent valid entities is, however, questionable, and many have argued for a dimensional approach emphasizing both the continuous nature of the traits identified and the likelihood of more basic dimensions underlying these disorders. Before the more recent focus on personality disorders, the importance of a number of pathological personality traits to depression had been identified clinically and empirically (e.g., interpersonal dependency, neuroticism, and introversion). This work is also covered here.

Overview of Treatments

Depression

The movement toward diagnostic schemes with more explicit and standardized criteria has been followed by the development of structured interviews and improved diagnostic reliability. It has also been paralleled by an increasing focus on the development and testing of specific treatments for specific disorders. The discovery of the seemingly specific antidepressant effects of imipramine and iproniazid in the 1950s led the way for the subsequent decades of pharmacological trials, which established the effectiveness of these and other antidepressant medications in the treatment of depression.

Psychotherapy has been an important aspect of treatment for depressed patients prior to and continuing after the discovery of the antidepressant medications. The past few decades, however, have witnessed the development or modification of psychotherapeutic approaches specifically for the treatment of depression. These developments represent a notable change in the conceptualization and application of psychotherapeutic approaches in the treatment of psychopathology, which had traditionally been nonspecific with regard to symptoms or disorders. An important part of this movement has been the development of manuals outlining the specific rationales, treatment strategies, and techniques of the various approaches, allowing the treatments to be applied uniformly and evaluated in controlled studies. The most frequently studied of these approaches include various behavioral treatments (Hoberman & Lewinsohn, 1985), cognitive therapy (Beck, Rush, Shaw, & Emery, 1979), and interpersonal therapy (Klerman, Weissman, Rounsaville, & Chevron, 1984). A large body of literature now exists concerning the effectiveness of these treatment approaches for depression (Jarrett & Rush, 1985 ; Shea, Elkin, & Hirschfeld, 1988 , Weissman, Jarrett, & Rush, 1987). Psychodynamic treatments, including both long-term and brief approaches, are commonly used, and the principles and strategies of these approaches have been described as they apply specifically to depression (e.g., Bemporad, 1985 ; Rosenberg, 1985). Psychodynamic approaches, however, have not yet been studied as systematically as the more recently developed psychotherapies for depression.

Personality Disorders

Personality disorders have generally been the domain of psychotherapy, particularly psychodynamic approaches. Since the introduction of Axis II, there has been an increased focus on treatment strategies for personality disorders, including both psychotherapeutic and pharmacological treatments. Recent developments in psychotherapeutic approaches have included the modification of behavioral treatments, particularly for borderline personality disorder (e.g., Linehan, Hubert, Suarez, Douglas, & Heard, 1991); the modification of cognitive therapy for borderline personality disorder (e.g., Fleming & Pretzer, 1990 ; Freeman & Leaf, 1989 ; Young & Swift, 1988) and for all of the Axis II personality disorders (Beck & Freeman, 1990); and the increased standardization of psychodynamic approaches, again particularly for borderline personality disorder (Kernberg, Selzer, Koenigsberg, Carr, & Appelbaum, 1989). The effectiveness of these treatment approaches for various personality disorders has begun to be tested in controlled studies (Shea, in press).

The use of psychopharmacology in the treatment of some of the personality disorders, primarily borderline and schizotypal, has become increasingly common, and controlled studies of the effectiveness of such treatments for these patients have also begun to appear (Coccaro, in press). Studies of neuroleptics have suggested some benefit in the treatment of patients with borderline or schizotypal personality disorder, particularly those with moderately severe schizotypal symptoms (Cowdry & Gardner, 1988 ; Goldberg et al., 1986 ; Soloff et al., 1989). The use of tricyclic antidepressants in borderline patients has had mixed results, and some recent findings have suggested that tricyclics may be of little benefit for these patients (Links, Steiner, Boiago, & Irwin, 1990). In a subset of these patients, tricyclic antidepressants may even have a negative effect (Soloff, George, Nathan, Schulz, & Perel, 1986). There is some evidence that lithium (Links et al., 1990 ; Sheard, Marini, Bridges, &

Wapner, 1976) and also carbarmazepine (Cowdry & Gardner, 1988) may be beneficial for individuals with impulsive aggressive behavior. More recently, preliminary data have suggested that fluoxetine may be effective in treating symptoms related to impulsivity and aggression in patients with personality disorders (Coccaro, Astill, Herbert, & Schut, 1990 ; Cornelius, Soloff, Perel, & Ulrich, 1990 ; Norden, 1989).

Comorbidity

The use of the term comorbidity has become increasingly common in reference to mental disorders. The concept has its origins in general medicine, where it was defined by Feinstein (1970) as "any distinct additional clinical entity that has existed or that may occur during the clinical course of a patient who has the index disease under study" (pp. 456—457). Thus, the original use of the term referred to coexisting, but distinct, disorders. Distinctness among coexisting disorders may refer to separate phenomenologies, pathologies, or etiologies. In reference to mental disorders, however, distinctness among coexisting disorders often cannot be assumed at any level because of the substantial overlap in criteria and lack of knowledge regarding the actual phenomenology, etiology, or pathogenesis of many of these disorders. For some disorders, it is possible that comorbidity may be at least partially an artifact of definitions and overlapping criteria (Francis, Widiger, & Fyer, 1990). For example, social phobia and avoidant personality disorder are two separate disorders in *DSM—III—R* . However, there is clearly much overlap among the criteria for these disorders, and high rates of comorbidity would be expected on this basis alone.

With regard to lack of certainty about etiological distinctness, Klerman (1990) noted "the multiaxial system is 'agnostic' with respect to any implications of a causative relationship for specific conditions listed in Axis I and II" (p. 27). As Klerman further commented, the split of Axis II from Axis I conditions was one way of dealing with the ongoing controversy over the etiologic relation between personality and Axis I symptoms and disorders. Psychodynamic approaches, for example, make the assumption that personality pathology underlies and causes symptom states (e.g., a person with a dependent personality disorder will be vulnerable to depression following the loss of a relationship because of the need for external supports for self-esteem). More biologically oriented approaches conceptualize much of the personality pathology classified in Axis II as subclinical forms or manifestations of Axis I psychopathology. An independence model, in contrast, views the comorbidity commonly found among these disorders as due to chance or nonetiological factors, such as treatment-seeking behavior. These and other models regarding the relation between personality pathology and Axis I disorders, particularly depression, have been described in detail in the literature (Akiskal, Hirschfeld, & Yerevanian, 1983 ; Docherty, Fiester, & Shea, 1986 ; Gunderson & Phillips, 1991). Currently, it is not possible to disentangle the possible sources of comorbidity of personality disorders and depression. Nonetheless, the impact of these disorders on the presentation, course, and outcome of each other, including particularly response to treatment, is an important question.

Estimates of Comorbidity

The majority of studies reporting on rates of comorbidity in personality disorder and depression are based on clinical samples. Studies reporting rates of personality disorder in depressed patients are far more common than those reporting rates of depression in personality disorder patients or reporting on a sample unselected for either depression or personality disorder. Thus, there may be considerable bias in the available data, limiting conclusions regarding rates of comorbidity of these disorders in the general population.

In clinical samples of depressed patients, whether inpatient or outpatient, high rates of personality

disorders is the typical finding. Reported estimates range from 23% to as high as 87%, with most reporting at least 30% to 40% (Charney, Nelson, & Quinlan, 1981 ; Friedman, Aronoff, Clarkin, Corn, & Hurt, 1983 ; Pfohl, Stangl, & Zimmerman, 1984 ; Pilkonis & Frank, 1988 ; Shea, Glass, Pilkonis, Watkins, & Docherty, 1987 ; Simons, Thase, Pilkonis, McGeary, & Cahalane, 1991 ; Thompson, Gallagher, & Czirr, 1988 ; Tyrer, Casey, & Gall, 1983 ; Zimmerman, Coryell, Pfohl, Corenthal, & Stangl, 1986). The types of personality disorder that are most frequent seem to be related at least in part to whether the sample is one of inpatients or outpatients. Inpatient samples tend to have higher rates of dramatic cluster personality disorders (particularly borderline and histrionic; (Black, Bell, Hulbert, & Nasrallah, 1988 ; Charney et al., 1981 ; Friedman et al., 1983 ; Pfohl et al., 1984), whereas outpatient samples tend to have more of the anxious—fearful cluster personality disorders (e.g., obsessive—compulsive, avoidant, and dependent; Pilkonis & Frank, 1988 ; Shea et al., 1987 ; Tyrer et al., 1983).

Fewer studies have reported on rates of depression in samples selected for personality disorders. Available data suggest that affective disorders are common in patients with borderline personality disorder, with reported rates ranging from 24% to 87% (Docherty et al., 1986 ; Jonas & Pope, 1992). Comorbid depression appears to be equally common in other Axis II disorders (Barasch, Frances, Hurt, Clarkin & Cohen, 1985 ; Fyer, Frances, Sullivan, Hurt, & Clarkin, 1988 ; Perry, 1985 ; Zanarini, Gunderson, & Frankenburg, 1989).

In one of the few studies of a nonpatient sample, Zimmerman and Coryell (1989) reported rates of comorbidity that are very similar to those from clinical samples. Of 797 first-degree relatives of psychiatric patients and controls, 143 (17.9%) were diagnosed with a personality disorder. Of those with a personality disorder, 38.5% had a history of major depression. Of 116 subjects with a history of major depression, 47% had a personality disorder, as did 48% of 42 subjects with a history of dysthymia. This study provides the advantage of a very large sample that is unbiased by factors associated with treatment-seeking. It is of interest that the rates of comorbidity among personality disorders and depression are quite similar to those reported in clinical samples.

Personality disorders have also been reported as common in samples of patients with bipolar disorder. Reported rates of having at least one personality disorder have included 23% (Charney et al., 1981), 58% (O'Connelll, Mayo, & Sciutto, 1991), and 62% (Pica et al., 1990). In a small sample of 20 adolescents with bipolar disorder, 35% were found to meet criteria for at least one personality disorder (Kutcher, Marton, & Korenblum, 1990).

In addition to possible sampling biases, estimates of comorbidity may also be affected by limitations inherent to the assessment of personality disorders in patients who are currently depressed (or partially or recently manic), as it is likely that the presence of a depressive (or manic) episode or condition influences the personality presentation and report by the subject. The fact that patients tend to perceive and report their longterm personality in a more negative light when depressed than when well has been clearly demonstrated in self-report measures of personality traits (e.g., Coppen & Metcalf, 1965 ; Hirschfeld et al., 1983 ; Liebowitz, Stallone, Dunner, & Fieve, 1979) and also of personality disorders (Joffee & Regan, 1988). Rates of personality disorders based on clinical (Shea, 1990) or structured (Simons et al., 1991) interviews have also been reported to decrease after recovery from depression, although other investigators have reported an absence of this effect of the state of depression when structured interviews are used (Loranger et al., 1991 ; Pfohl, Black, Noyes, Coryell, & Barrash, 1990). Assessment of personality disorders in the studies cited has been based on variable methods, including chart reviews, self-report measures, and structured interviews, and there has been little standardization of measures or timing of personality disorder assessment across studies.

Reliable estimates of the degree of comorbidity among these disorders will require studies with more comprehensive and standardized methods of assessment, as well as longitudinal assessment, in unbiased

samples. The available data do suggest, nonetheless, that the comorbid presence of diagnoses of depression and personality disorder is common. However, the fact that in the majority of studies more than half of the patients did not have both diagnoses (personality disorder and depression) might be viewed as evidence for the independence of these constructs. At the very least, the available data suggest the usefulness of considering treatment implications of the presence of both diagnoses versus a single diagnosis (depression or personality disorder or depression).

Comorbidity and Treatment Outcome

Most of the available research has focused on the influence of personality traits or disorders on outcome following treatment (pharmacotherapy or psychotherapy) for depression. Few studies have addressed the question in reverse (i.e., the implications of depression on outcome for treatment of personality disorders). Many of the available studies are naturalistic, although more recently this question has begun to be addressed in controlled treatment studies.

Personality Traits and Outcome of Depression

Early research on the relation between personality and outcome in depression focused on pathological levels of personality traits. In a review of predictors of response to tricyclic anti-depressants, for example, Bielski and Friedel (1976) concluded that the presence of neurotic, hypochondriacal, and hysterical personality traits predicted a poor response to these treatments. Neuroticism has been shown to predict a generally poorer course and outcome for depressed inpatients 4 years after hospitalization (Kerr, Schapira, Roth, & Garside, 1970) and also 18 years after hospitalization (Duggan, Lee, & Murray, 1990). Weissman and colleagues found that neuroticism (assessed by the Maudsley Personality Inventory) was the most important predictor of outcome at 8, 20, and 48 months after treatment with psychotherapy or drugs (Weissman, Prusoff, & Klerman, 1978). In another study, Zuckerman, Prusoff, Weissman, and Padian (1980) did not find pretreatment neuroticism (or other personality measures) to be significantly related to symptomatic outcome at termination or 1 year after treatment with psychotherapy, pharmacotherapy, combined treatment, or a non-scheduled (control) treatment. They did, however, find that both neuroticism and introversion predicted less improvement in social adjustment 1 year after treatment.

In a study involving acute treatment with interpersonal therapy and imipramine for recurrent depressives, patients with a prolonged and erratic pattern of recovery were characterized by significantly more pathological scores on measures of personality traits than patients showing a more rapid and sustained response (Frank, Kupfer, Jacob, & Jarrett, 1987). Personality was assessed following recovery, and the two groups were equally free of depressive symptoms. The slow responders were characterized by significantly lower levels of emotional strength and stability (including neuroticism) and were more interpersonally dependent. Higher scores on neuroticism have also been associated with a poorer response to lithium for bipolar patients (Abou-Saleh, 1983 ; Abou-Saleh & Coppen, 1986 ; Maj, Del Vecchio, Starace, Pirozzi, & Kemali, 1984).

Personality Disorders and Outcome of Depression

Investigations of the impact of personality on outcome in depression have increasingly begun to focus on personality disorders. Initially, most of the reports concerned the influence of personality disorders on outcome of treatment with antidepressants. Studies concerning the influence of personality disorders in response to psychosocial treatments have more recently begun to appear.

Somatic Treatments

Studies reporting on types of treatment received in naturalistic settings reflect the clinical acceptance of the notion that personality disorder patients will be unresponsive to medication. For example, Charney et al. (1981) reported that 71% of depressed inpatients without a diagnosis of personality disorder were treated with medication compared with 28% of those with a personality disorder diagnosis. Both groups were equally likely to receive psychosocial treatments. In two other studies of depressed inpatients, those with personality disorders were less likely to have received electroshock therapy (ECT), but equally likely to have received antidepressants (Black et al., 1988 ; Pfohl, Coryell, Zimmerman, & Stangl, 1987).

These and other studies have also reported findings regarding the association between the presence of a personality disorder and outcome for those depressed patients who have been treated with antidepressants, ECT, or both. Outcome in these studies has primarily been defined in terms of depressive symptoms (although general functioning is sometimes reported). In their sample of 64 depressed inpatients, Charney et al. (1981) found that patients given a chart diagnosis of personality disorder were about half as likely to show a positive response to antidepressants as those without such a diagnosis (36% vs. 76%). The personality disorder patients also had a less favorable response to any of the treatments provided (psychotherapy, antidepressants, or both), with an overall favorable response rate of 49% compared with a 91% favorable response rate for the patients without personality disorders.

Similar findings were reported in a chart review study of 228 inpatients with major depression (Black et al., 1988). Seventy-six personality disorder patients were compared with 152 patients without personality disorder, matched for age, sex, and year of hospital admission. Significantly fewer personality disorder patients were recovered at discharge (42% vs. 60% of the no-personality-disorder patients). Of those patients treated with adequate dosages of antidepressants, significantly fewer of those with a personality disorder recovered (26% vs. 64%). Rates of response to ECT were very similar (40% vs. 66%), although the small number of patients receiving ECT resulted in a nonsignificant difference. There were no significant differences in recovery rates among patients receiving inadequate treatment. There were also no significant differences in recovery rates between anxious cluster and dramatic cluster personality disorder patients.

Pfohl et al. (1984) also studied inpatients with major depression, using a structured interview for personality diagnoses (SIDP; Pfohl et al., 1982). Forty-one (53%) of 78 inpatients were diagnosed with a personality disorder. Consistent with other studies, personality disorder patients showed a significantly poorer response to antidepressant medications; however, there were no differences in outcome following ECT. When followed up 6 months after hospitalization, the personality disorder patients continued to have poorer outcomes (Pfohl et al., 1987). Patients with anxious—fearful personality disorders showed a trend (nonsignificant) toward better outcome at hospital discharge and a significantly better outcome at follow-up compared with those with dramatic personality disorders. Patients with personality disorders in two or more different clusters had a particularly poor outcome.

Reich (1990) investigated the association between personality disorders (assessed by a self-report measure) and outcome in a naturalistic treatment study. Thirty-five of 37 outpatients with major or minor depressive disorders were treated with tricyclic antidepressants. The personality disorder patients were significantly more impaired on the Global Assessment Scale at a 6-month assessment, although the amount of improvement from baseline for both the personality disorder ($n = 26$) and the no personality disorder ($n = 11$) groups appeared to be similar. In addition, significantly fewer of the personality disorder patients were fully employed at the 6-month assessment. Outcome on depressive symptoms was not reported.

Tyrer et al. (1983) investigated response to 4 weeks of treatment with a monoamine oxidase (MAO) inhibitor (phenelzine) in a sample of 60 mixed neurotic inpatients and outpatients, half of whom were

diagnosed with a depressive neurosis. Assessment for personality disorders by use of a semistructured interview given to informants identified 32 patients with a positive diagnosis. Significantly fewer of these patients were classified as responders (defined as greater than 50% improvement on symptom scales). Three of the 32 patients (9%) responded in comparison with 13 of the 28 patients (46%) without personality disorders.

Zimmerman et al. (1986) reported on the association between *DSM—III* personality disorders and response to ECT in a sample of 25 inpatients with major depression. Ten (40%) of the patients were diagnosed with a personality disorder, based on structured interviews (SIDPs) with the patient and an informant. Although both groups showed the same rates of improvement (defined as a decrease of 50% or more on the Hamilton Rating Scale for Depression [HRSD]), only 2 (20%) of the personality disorder patients reached a recovery criterion of six or less on the HRSD, compared with 8 (53%) of the patients without a personality disorder. When assessed 6 months after the initial treatment, the personality disorder patients were significantly more symptomatic and significantly more likely to have been rehospitalized during the follow-up interval (63% vs. 8%), despite similar and adequate levels of antidepressant treatment.

To summarize, results of the existing (primarily naturalistic) studies consistently show that depressed patients with personality disorders show a poorer response to antidepressant medication (primarily tricyclics) than those without a personality disorder. Some studies also suggest a poorer response to ECT for these patients, although these findings are less consistent.

Personality disorders have similarly been associated with poorer outcome and response to treatment for bipolar patients. Gaviria, Flaherty, and Val (1982) reported that the presence of borderline personality disorder in bipolar patients was associated with worse social functioning between episodes. Among adolescent bipolar patients, those with personality disorders were found to be less responsive to treatment with lithium and to require more neuroleptic treatment (Kutcher et al., 1990).

What are the factors associated with personality disorders that may contribute to a poorer response to these treatments? One hypothesis is that the depression that occurs in the context of personality disorders is a different, perhaps less biologically based, disorder. Akiskal (1983) has proposed a typology that is consistent with this explanation. For patients with chronic depression, he proposed a distinction between character spectrum disorder and subaffective dysthymia. He described the former group as characterized by a predominance of unstable personality traits (e.g., dependent, histrionic, antisocial, or schizoid), onset by adolescence or earlier, a lack of melancholic features, a developmental history of parental separation or divorce, a family history of alcoholism and personality disorders, a lack of response to antidepressants, and normal rapid eye movement (REM) latency. In contrast, the subaffective group is reportedly characterized by melancholic features, an absence of notable developmental trauma, a family history of unipolar or bipolar affective disorder, shortened REM latency, and a positive response to antidepressants (Akiskal, 1983).

In support of the hypothesis of a different form of depression are studies showing that depressed patients with personality disorders are less likely to evidence the biological abnormality of dexamethasone nonsuppression (Black et al., 1988 ; Lahmeyer et al., 1988 ; Nathan, Soloff, George, Peters, & McCarthy, 1986 ; Pfohl et al., 1984 ; Siever et al., 1986). Reported differences in familial rates of psychopathology between depressed patients with and without personality disorders, specifically higher rates of antisocial personality disorder and alcoholism in first degree relatives (Black et al., 1988 ; Pfohl et al., 1984), also support the hypothesis of a different type of depression. In contrast, however, are findings of shorter REM latency (a biological marker of major depression), in patients with borderline personality disorder (McNamara et al., 1984).

Alternatively or additionally, it may be that it is the presence of the pathological personality traits and their consequences that complicate response to treatment, and make these patients more resistant to treatment in general. By definition, personality disorder patients have difficulty with interpersonal relationships and social and occupational functioning. These difficulties are likely to result in circumstances contributing to ongoing vulnerability to depression. Depressed patients with personality disorders have been shown to be characterized by factors that increase the risk of depression, including poorer social support and more life stressors (Pfohl et al., 1984) and higher rates of separation and divorce (Pfohl et al., 1984 ; Shea et al., 1987) compared with depressed patients without personality disorders.

The pathological personality traits of at least some of the personality disorders (particularly the dramatic cluster) are also likely to be associated with poorer compliance with treatment. Thus, it might be that the failure of personality disorder patients to comply with treatment, resulting in an inadequate trial rather than a lack of effectiveness of the medication per se, results in a poorer response for these patients. However, the fact that many of the existing studies were of inpatients, in which compliance is likely to be monitored, argues against this possibility as a primary factor. Also, as reported by Black et al. (1988) , differences in recovery rates were apparent even for those patients who received adequate dosages of antidepressants.

Most of the studies reviewed here have focused on personality disorders defined categorically (e.g., patients with any personality disorder or with a personality disorder in one of the Axis II clusters). The majority of these studies also have involved the use of tricyclic antidepressants. In contrast to these findings are others suggesting that the presence of specific kinds of personality features may be associated with a positive response to specific types of antidepressants. Liebowitz and Klein (1979) reported the results of a pilot study of 16 patients with hysteroid dysphoria treated openly with psychotherapy and an MAO inhibitor (phenelzine). Hysteroid dysphoria refers to a subtype of atypical depression, characterized by an intense vulnerability to rejection that repeatedly precipitates brief depressive episodes. These patients appear to be characterized by features of borderline personality disorder, including unstable and chaotic relationships, difficulty being alone, chronic feelings of emptiness, and impulsive and self-destructive behavior. The results of the open trial suggested that these patients may specifically benefit from combined treatment with MAO inhibitors and psychotherapy.

A larger, controlled study compared response to 6 weeks of treatment with phenelzine, imipramine, or placebo in a sample of 119 atypical depressives (Liebowitz et al., 1988). Atypical depression was defined as major depression or dysthymia with reactive mood and any atypical symptoms including increased appetite, oversleeping, leaden paralysis, or rejection sensitivity. Phenelzine was modestly superior to imipramine and placebo in terms of outcome for depressed mood and markedly superior for outcome on borderline and labile personality traits, interpersonal sensitivity, and touchiness. Furthermore, the superiority of phenelzine was shown only for a subgroup of patients with hysteroid dysphoria or a history of panic attacks. Those with only atypical depression responded equally well to all three treatments.

Subsequent analyses of data from the same study of atypical depressives focused on features of borderline personality disorder as related to specific pharmacological response (Parsons et al., 1989). Patients with atypical depression who also had borderline personality disorder or traits showed remarkable rates of improvement (defined as very much or much improved on the Clinical Global Impressions) with phenelzine. Among these patients the percentage showing improvement ranged from 89% to 100%, depending on the borderline classification criteria used. In contrast, response rates to placebo ranged from 20% to 28%, and imipramine response rates ranged from 38% to 42%. Although patients with fewer than four borderline symptoms appeared to do equally well with imipramine, phenelzine was clearly superior for those with four or more borderline symptoms.

These results are in contrast to the more typical finding of personality disorder (particularly borderline) predicting a negative response to antidepressants. The specificity of response to the MAO inhibitor phenelzine suggests that the depression associated with the dramatic cluster personality disorders (i.e., histrionic and borderline) might differ biologically from other forms of depression. They also suggest that biological factors may play a role in these disorders, which is in contrast to the common assumption that depressions occurring in the context of personality disorders are psychologically based in contrast to other depressions that are more biologically based. Such findings highlight the conceptual arbitrariness of a division between biological and psychological etiologies and treatment approaches (as does the research supporting efficacy of psychosocial treatments for various Axis I disorders).

Psychotherapy

Psychotherapy typically focuses on disturbances in behavior, feelings, and perceptions, particularly with regard to interpersonal relationships. Because many of the difficulties characteristic of personality disorders are targeted in the psychotherapeutic approaches for depression, the impact of comorbid personality disorders might be expected to be less of a negative prognostic indicator for these treatments. Studies addressing the question of the influence of personality disorders on outcome after treatment with psychotherapy have recently begun to appear.

Shea et al. (1990) investigated this question in the context of the National Institute of Mental Health Treatment of Depression Collaborative Research Program, a randomized clinical trial of cognitive therapy, interpersonal therapy, imipramine plus clinical management, and pill-placebo plus clinical management in the treatment of outpatients with major depressive disorder (Elkin, Parloff, Hadley, & Autry, 1985). Patients were assessed for personality disorders by probe questions and clinical impressions (using the Personality Assessment Form; Shea et al., 1987). The personality disorder patients showed significantly less improvement on measures of social functioning and were significantly more likely to have residual symptoms of depression, although they did not differ significantly on mean depression scores at termination. The worse outcome on social functioning did not appear to be entirely due to persisting depression in these patients, because even among those patients who were free of depressive symptoms at termination (HRSD rating of 6 or less) the personality disorder patients were significantly more impaired in social and global functioning than the patients without personality disorders (Shea, 1990).

In terms of response to the specific types of treatment, there were no statistically significant interactions between treatment condition and personality disorder group in outcome. However, there was a pattern of worse outcome for the personality disorder patients in all treatment conditions except for cognitive therapy, in which the personality disorder patients did as well or even slightly better than those without personality disorders. The type of personality disorder present (i.e., whether in the odd—eccentric, dramatic, or anxious cluster of Axis II) did not appear to make a difference in outcome for any of the treatments (Shea et al., 1990).

Patients with and without personality disorder also did not differ in response to cognitive therapy in another study consisting of 16 weeks of treatment (Simons et al., 1991). Of 53 outpatients with major depressive disorder, 14 met criteria for a definite Axis II diagnosis based on assessment with a structured interview (Personality Disorder Exam; Loranger et al., 1987). Outcome was very similar for these patients on both mean scores and proportion reaching a recovery criterion of less than 7 on the HRSD.

In a sample of 79 elderly outpatients with major depressive disorder, patients with personality disorders (assessed by the SIDP) were significantly less likely than those without personality disorders to be classified as treatment successes after 20 weeks of treatment with behavior therapy or psychodynamic

therapy (Thompson et al., 1988). Treatment success was defined as no longer meeting criteria for definite or probable major depression. This pattern of outcome was also present (although not statistically significant) at a 1-year follow-up. The poorer outcome was particularly true for patients with passive—aggressive and compulsive personality disorders (although the sample size was very small for these disorders). In comparison with the few patients with passive—aggressive and compulsive disorders, those with dependent—avoidant disorders tended to respond more positively to treatment. They still, however, had a less favorable outcome than the no-personality-disorder group (ratio of successes to failures of 2.5 to 1 vs. 8 to 1). The number of dramatic cluster patients was too small (*n* = 3) to allow comparisons.

Similar findings regarding type of personality disorder and outcome were reported in another study of elderly female outpatients with depression (major depression, dysthymia, or adjustment disorder with depression) treated with eclectic psychotherapy lasting an average of 1 year (Fiorot, Boswell, & Murray, 1990). Samples of pure dependent (*n* = 18) or pure compulsive (*n* = 20) personality types were defined on the basis of the Millon Clinical Multiaxial Inventory (Millon, 1977). As predicted, compulsives tended to be less compliant, and they were significantly more likely to drop out of treatment than dependents (drop-out rates of 21.1% vs. 44.7%). Compulsives were significantly less likely to be categorized as improved (by therapist ratings) than the dependent patients (32% vs. 65%).

Thus, the few available studies have suggested that, similar to findings with pharmacological treatments, depressed patients who also have a diagnosis of personality disorder show a less favorable response to short-term psychotherapy. This may not, however, be true for cognitive therapy, as the two studies that investigated this question found outcome to be comparable for those with and without personality disorders (Shea et al., 1990 ; Simons et al., 1991). The only study that had enough dramatic cluster patients to allow a comparison with anxious cluster patients (Shea et al., 1990) found comparable outcome for both, in contrast to the typical finding of a worse outcome for dramatic cluster patients in pharmacological treatment studies. This discrepancy could be due to the nature of the dramatic cluster patients in the different studies. In the study by Shea et al. (1990) , the patient sample was exclusively outpatient, and, in addition, patients with antisocial personality disorder, with current alcohol or drug abuse, or at high immediate risk of suicide were excluded. It is likely that the dramatic patients in this study were less severely disturbed than those in the inpatient samples.

The two studies that provided comparisons by type of personality disorder within the anxious cluster (Fiorot et al., 1990 ; Thompson et al., 1988) found a similar pattern of a relatively worse outcome for patients with compulsive personality disorder compared with patients with a dependent personality disorder.

Again, the question is, why do depressed patients with personality disorders do less well in psychotherapeutic treatments for depression? One possible answer is poorer compliance with treatment (i.e., these patients are less engaged and compliant with the therapeutic procedures). A related issue concerns the ability of patients with personality disorders to form a therapeutic relationship. By definition, these patients have more difficulty establishing and maintaining relationships, which in most forms of psychotherapy is an important part of the treatment. It is interesting that a poorer response to treatment for personality disorder patients was not found for cognitive therapy, which in general may rely less on relationship factors and more on specific techniques and strategies that can be performed autonomously by the patient than do interpersonally or psychodynamically oriented treatments.

Personality disorders may also have a negative influence on the ability of the therapist to provide good treatment (e.g., to choose appropriate interventions, build a therapeutic relationship, etc.). Of note in this regard is a study that found that ratings of therapist competency in performing interpersonal therapy were lower for patients rated as difficult early in their treatment (Foley, O'Malley, Rounsaville, Prusoff,

& Weissman, 1987).

Also to be considered is the possibility that after treatment for depression, most patients tend to return to their usual (preepisode) level of depression and functioning. For personality disorder patients, this is likely to be characterized by chronically low levels of depression and poorer social functioning.

Combined Treatment

The study cited earlier, involving acute treatment with a combination of psychotherapy and an antidepressant for a sample of recurrent depressive outpatients (Frank et al., 1987), is the only study that reported on the influence of personality disorders in response to combined treatment. Similar to the findings with the personality trait measures, the slow responders (prolonged or erratic pattern of recovery) were significantly more likely to have been rated with a personality disorder compared with the normal responders (more rapid and sustained response; Pilkonis & Frank, 1988). The personality disorder patients (49 out of 102 patients) were predominantly avoidant, compulsive, or dependent. The finding that personality disorder was associated with speed of response in this study is particularly notable, because patients with more severe personality disorders were most likely excluded either by the study exclusion criteria (which included borderline and antisocial personality disorders) or by the requirement that patients be sufficiently responsive to treatment to receive the premaintenance assessment. As a possible interpretation of the finding of a slower rate of response for the personality disorder patients, Frank et al. speculated that the normal responders (who were also found to have more disturbance on biological measures at baseline) were responding primarily to the tricyclic medication, which has a relatively rapid onset of action, whereas the slow responders were responding primarily to the interpersonal therapy, which would be expected to have a slower onset of action. However, the slower response for these patients might also be explained by the reasons discussed previously, including the presence of more complicated pathology and life circumstances associated with the personality disturbance as well as poorer compliance with treatment.

Impact of Depression on Treatment for Personality Disorders

Studies investigating the question in reverse (i.e., the influence of depression on treatment outcome for personality disorders) are rare. However, there is some evidence suggesting that the presence of depression may be a favorable prognostic indicator for patients with borderline or antisocial personality disorder. Pope, Jonas, Hudson, Cohen, and Gunderson (1983) followed patients with borderline personality disorder for up to 7 years. Those with comorbid affective disorder had a better outcome (social, occupational, and global functioning and residual symptoms) than those without affective disorder. In addition, of the borderline patients without affective disorder who received drugs (neuroleptics, amphetamines, lithium, and antidepressants), none had a clear response, in contrast to those with affective disorders. Of the latter group, 46% were rated as having a definite response (based on notes from chart review). In a separate study with a longer follow-up period, however, McGlashan (1987) found a comparable outcome for borderline patients with and without comorbid depression, except for risk of suicide, which was higher for the comorbid group.

As part of a larger study on the treatment of opiate-dependent males, Woody, McLellan, Luborsky, and O'Brien (1985) investigated the impact of antisocial personality disorder on treatment response. Their findings suggested that the presence of depression was an important modifier of outcome for these patients. Treatment consisted of 24 weeks of either supportive—expressive or cognitive—behavioral psychotherapy, combined with drug counseling. Patients with antisocial personality disorder plus depression showed significant improvement on a number of outcome measures, including psychiatric symptoms, employment, drug use, and illegal activities. In contrast, antisocial personality patients

without depression showed little improvement (Woody et al., 1985).

Thus, the limited data, although not consistent, suggest that the presence of depression may be associated with better outcome, at least for some patients with personality disorders. The distress associated with depression might serve as a motivator for such patients to comply with treatment and to modify the behaviors that contribute to their difficulties. Another possibility is that the borderline features that occur in the context of affective disorder are etiologically (and prognostically) distinct from those that occur in the absence of an affective disorder. With regard to the latter point the finding by Pope et al. (1983) that the borderline patients with comorbid affective disorder improved not only on depressive symptoms but also on measures of social and occupational functioning, in contrast to those without affective disorder, who did not show a medication response on any aspect of outcome, is of interest.

Summary and Conclusions

The long-standing clinical belief that patients with personality disorders are less responsive to treatment for depression is generally supported by the existing data. The poorer treatment response appears to be nonspecific; that is, patients with personality disorders appear to respond less well to most forms of treatment, including psychotherapy (with the possible exception of cognitive therapy), as well as pharmacotherapy. Although these patients may improve in treatment, it appears that they do not respond as completely or as quickly.

The reasons for the negative impact of personality disorder on response to treatment for depression are unclear, and they could include differences in the nature of the depression, the continuing negative influence of the behavioral patterns associated with personality disorders on life circumstances (particularly interpersonal relationships), or the influence of the personality disorder on the ability and willingness of the patients to comply with treatment. Also unclear is whether these patients are simply returning to their typical level of functioning after treatment for an episode of depression, which is characterized by more symptoms and impairment than the pre-episode status of depressed patients without personality disorders. As noted, there is some evidence suggesting that even when personality disorder patients are symptom-free after treatment for depression, their social functioning is more impaired than patients without personality disorders (Shea, 1990).

One clear implication of these findings is the need for longer periods of treatment for these patients. Theoretically and conceptually, the psychotherapeutic treatments that have been developed or modified for the treatment of depression can be applied in the treatment of personality disorders. The use of cognitive therapy for all of the Axis II disorders, for example, has been described by Beck and Freeman (1990) , including the application of cognitive strategies and techniques to address the specific kinds of dysfunctional thoughts and maladaptive assumptions believed to be associated with each of the personality disorders. A longer period of treatment is likely to be required to address the more pervasive and entrenched cognitive distortions associated with the personality disorders; this phase of treatment can follow an initial focus on depressive symptoms. Interpersonal and behavioral approaches can similarly be directed at the specific kinds of disturbances in interpersonal and behavioral patterns that are characteristic of personality disorders.

The apparent lack of effectiveness of the more standard (tricyclic) antidepressant treatments suggests that different forms of somatic treatments may be more useful in treating depression in some patients with personality disorders. In particular, the findings regarding the possible specific effectiveness of the MAO inhibitor phenelzine for hysteroid dysphoria (characterized by rejection sensitivity and features of borderline personality disorder) are of interest. Given that these findings have been derived from post

hoc analyses, studies that are designed to investigate their replicability would be useful.

In general, the existing research has been characterized by a global approach, with heterogeneous groups of patients with any type of personality disorder, or any disorder within one of the Axis II clusters, being compared with groups of depressed patients without personality disorders. Also, because many of the studies are naturalistic, the treatments studied have generally not been standardized or uniform. Consequently, little is known about response to specific treatments for depressed patients with specific kinds of personality disorders. It is likely that the various personality disorders differ in the probability of treatment failure or resistance, as is suggested by Fiorot et al. (1990) and Thompson et al. (1988) , and this may vary for different forms of treatment. Currently, there are little data to address these questions.

Most of the existing research has also followed the Axis II model, defining personality disorders syndromally and categorically. However, the validity of the diagnostic categories of Axis II as distinct disorders (vs. prototypes) is unclear, and given the extent of overlap among the personality disorders, it is very likely that more basic dimensions underlie these disorders. Recent research has demonstrated the value of assessment of such underlying dimensions. The finding of a correlation of serotonin dysfunction with impulsive aggressive behaviors (Coccaro, 1989 ; Coccaro, Astill, Szeeley, & Malkowicz, 1990 ; Coccaro et al., 1989), for example, has suggested that indices of neurobiologic function in patients with *DSM—III* personality disorder correlate better with dimensions of behavior than with categorical diagnoses (Coccaro, in press). Three small open trials of the serotonin uptake inhibitor fluoxetine have reported improvement in symptoms related to depressed mood, but also, and most notably, in impulsivity and aggression in patients with borderline or antisocial personality disorder (Coccaro et al., 1990 ; Cornelius et al., 1990 ; Norden, 1989). Again, these findings suggest that specific dimensions of behavior or pathology may be more important than categorical diagnoses of personality disorder in predicting response to specific forms of treatment for depression, for both the depressive symptoms and the pathological behaviors.

Siever and Davis (1991) have recently proposed a psychobiological model of personality disorders, similarly based on hypothesized underlying dimensions. The dimensions, which span the *DSM—III—R* Axis I and Axis II disorders, include cognitive—perceptual organization, impulsivity—aggression, affective instability, and anxiety—inhibition. Siever and Davis similarly argued that this dimensional schema, which cuts across personality disorders, provides a superior organizing principle and better correspondence with external validators than a categorical approach. Treatment implications for each dimension are discussed, including pharmacological and psychotherapeutic indications. This approach, in a sense, redefines comorbidity as the presence of disturbance on multiple dimensions, rather than as the presence of two or more categorically defined disorders. Thus, rather than considering the treatment implications of the comorbidity of, for example, borderline personality disorder and depression, treatment strategies might be based on the presence of disturbances along the dimensions of impulse regulation and affective instability. Treatment strategies, as such, are more specifically based. This conceptualization of psychopathology diminishes the arbitrary division of Axis I and Axis II disorders, including the assumption that commonly accompanies this division (i.e., that biological factors are key determinants of Axis I disorders, and psychosocial developmental factors are key determinants of Axis II disorders). This conceptualization also encourages treatment strategies that integrate psychotherapeutic and pharmacological approaches (Kendall & Lipman, 1991). Additionally, use of a dimensional approach may provide certain methodological advantages, including increased reliability of assessment, more efficient use of samples, and more sensitive methods of statistical analysis that rely on continuous assessment (e.g., multiple regression).

Thus, a promising direction for future research on treatment of personality disorders and depression would include an increased focus on more specific and theoretically relevant dimensions of

psychopathology. It will be important to adopt a dimensional strategy not only for sample definition and selection, but also for assessment of outcome. Most of the existing research has focused primarily on outcome measures of depression (and sometimes measures of global or social functioning), because most of the studies investigated questions concerning outcome in samples defined by depression. As studies begin to focus on multiple dimensions of disturbance, it will be important to assess change on the specific dimensions that the treatments are designed to target. Ultimately, this approach may lead to more specific, integrated, and comprehensive treatments for patients with personality disorders and depression.

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