

DEFENSE MECHANISMS AND PERSONALITY IN DEPRESSION

Linda S. Mullen, M.D.,^{1*} Carlos Blanco, M.D., Ph.D.,¹ Susan C. Vaughan, M.D.,¹ Roger Vaughan, Ph.D.,²
and Steven P. Roose, M.D.¹

There is a longstanding belief that personality represents a structure that is stable over time, and changes, if at all, very slowly. Nonetheless, clinical and empirical evidence suggests that in patients with some Axis I disorders, the rate of personality disorders using DSM criteria decreases after treatment, suggesting that personality as assessed by phenomenological systems is state-dependent. An alternative to the DSM phenomenological system of conceptualizing personality is the dynamic concept of character; that is, a predictable pattern of both adaptive and pathological defense mechanisms, and personality organization comprised of object relations, ego strengths, and superego development. Data from this study address the hypothesis that defense mechanisms and personality organization remain relatively stable in patients treated for Axis I disorders, irrespective of clinical improvement. Patients meeting DSM-IV criteria for major depressive disorder (MDD) entered randomized, controlled medication trials. Defensive functioning was evaluated with the Defense Style Questionnaire (DSQ) [Bond et al., 1983: Arch Gen Psychiatry 40:333-338], and personality organization was assessed with the Inventory of Personality Organization (IPO; Clarkin et al., unpublished), both at baseline and at the completion of the clinical trial. Data were analyzed for whether an individual's pattern of defense mechanisms and personality organization were stable over time regardless of response to treatment of MDD. The question was also asked whether a predominant pattern of defense mechanisms or level of personality organization predicts response to treatment or dropout rate. Among treatment responders, nonresponders and drop-outs, baseline DSQ scores were similar except for "image-distorting" defenses, which were significantly more prevalent among drop-outs compared to responders ($P = .016$). Post-treatment DSQ values revealed a significant decrease in "maladaptive" defenses ($P = .01$) in the entire sample, while intermediate and "adaptive" defenses remained unchanged. This same pattern was found to hold true in treatment responders. When comparing treatment responders and nonresponders at the end of the trial, medication responders used significantly less "maladaptive" defenses than did nonresponders ($P = .003$), and had a significantly higher, or healthier level of "overall defensive functioning" ($P = .04$). Baseline and post-treatment IPO values did not show significant differences. Results of the study address the question of whether there are personality characteristics that are enduring and that can be appreciated irrespective of an Axis I disorder. Depression and Anxiety 10:168-174, 1999. © 1999 Wiley-Liss, Inc.

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¹Department of Psychiatry, Center for Psychoanalytic Training and Research, College of Physicians & Surgeons and the New York State Psychiatric Institute, New York, New York.

²School of Public Health, Columbia University, College of Physicians & Surgeons and the New York State Psychiatric Institute, New York, New York.

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*Correspondence to: Dr. Linda S. Mullen, New York State Psychiatric Institute, 1051 Riverside Drive, Unit 103, New York, NY 10032. E-mail: lsm23@columbia.edu

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INTRODUCTION

There is a longstanding belief that personality represents a structure that is stable over time, and changes, if at all, very slowly. Nonetheless, clinical and empirical evidence suggest that in patients with some Axis I disorders, the rate of personality disorders using DSM criteria decreases after treatment, suggesting that personality as assessed by phenomenological systems is state-dependent. An alternative to the DSM phenomenological system of conceptualizing personality is the dynamic concept of character, that is, an enduring pattern of both adaptive and pathological defense mechanisms, and of personality organization characterized by patterns of object relations, ego strengths and superego development.

Mechanisms of defense have long been described as both pathological and adaptive mental processes, which are unconscious components of what is seen and experienced as an individual's character. S. Freud [1926/1973] first delineated this theoretical construct, and went on to describe the defense mechanisms regression, repression, reaction formation, isolation, undoing, projection, introjection, turning against the self and reversal. A. Freud [1936] later introduced a number of other defense mechanisms including sublimation, displacement, denial and identification with the aggressor. Several other authors have further defined and studied defensive patterns and determined a hierarchy of mechanisms that relates to maturity and psychosocial functioning. Notably, Kernberg [1967] and Klein [1973] described splitting, devaluation, primitive idealization, projective identification, and psychotic denial in describing severe (borderline) pathology.

Other investigators have since attempted to operationalize and study defense mechanisms empirically by use of a variety of research instruments which are intended to capture unconscious, intrapsychic processes by inference from conscious thoughts or overt behavior. Haan et al. [1973] used a psychiatric interview format, in addition to psychological tests, autobiographical reports, and questionnaires. Vaillant [1976] did likewise, and additionally described other defenses including acting-out, suppression, humor, and anticipation. Semrad et al. [1973] devised a scale in which nine ego defenses were rated on a weekly basis by patients' therapists; however, it was limited by the fact that it depended on individual therapists' opinions and observations, and was, thus, subject to bias. In 1986, Perry and Cooper published one of the most developed methods of assessing defenses: the Defense Mechanism Rating Scale (DMRS), a manualized instrument profiling 22 defense mechanisms, and based on systematic review of videotapes of dynamic, unstructured interviews by two separate groups, comprised of three raters each. The defenses are grouped into four levels based on a hierarchy of maturity according to psychodynamic theory: immature, image-distorting, neurotic, and mature. Additionally, there are six summary scales based on

empirical correlations: (1) action defenses (acting out, passive-aggression, and hypochondriasis); (2) major image-distorting (borderline defenses; splitting self-images, splitting other images, and projective identification); (3) minor image-distorting (narcissistic defenses; omnipotence, devaluation, idealization); (4) disavowal defenses (projection, neurotic denial, fantasy, and rationalization); (5) obsessional defenses (isolation, undoing, and intellectualization); (6) other neurotic defenses (repression, dissociation, reaction formation, and displacement); (7) mature defenses (affiliation, altruism, anticipation, humor, self-assertion, self-observation, sublimation, and suppression). This procedure yielded a median reliability of 0.57 for the consensus ratings of the individual defense. The DMRS, and other interview approaches have the advantage of greater theoretical validity in the measurement of intrapsychic processes; however, they are limited by the high degree of clinical training required of raters so as to ensure optimal objectivity and reliability, as well as a greater commitment of time and labor.

These difficulties are largely eliminated by the use of self-report scales; however, validity is more likely to be compromised by this methodology. Gleser and Ihlevitch [1969] developed the Defense Mechanism Inventory (DMI), a self-report scale; however, the defenses identified were not consistent with those commonly described in clinical practice or later included in the DSM-III-R list of commonly accepted defense mechanisms. Bond et al. [1983] created the Defense Mechanism Questionnaire (DSQ), an 88-item, self-report questionnaire which combined defenses previously described by Vaillant, and those determined by Kernberg [1967] to be typical of borderline personality organization. A factor analysis strategy was used to determine defensive clusters, or styles, which might be more representative of unconscious processes, and additionally would reflect levels of maturity and psychosocial functioning. This instrument has been well-validated with respect to other measures of defense mechanisms including the DMRS [Perry and Cooper, 1986], the Ego Strength Questionnaire [Brown and Gardner, 1981], and the Sentence Completion Test of Loevinger [Loevinger, 1976], and it has the advantages of ease of administration and elimination of the issue of inter-rater reliability.

Patterns of defensive functioning have been implicated in a variety of psychiatric disorders, and have been conceptualized as trait phenomena, remaining essentially stable, despite little empiric evidence to support this latter notion. In fact, empirical evidence may suggest a relationship between patterns of defensive functioning and psychopathological processes including affective illness, anxiety disorders, substance abuse and personality disorders. In a study by Perry and Cooper [1986], long-standing chronic depression was associated with both action and image-distorting defenses. A follow-up study [Perry, 1990] on the same sample revealed that action defenses were associated with duration of dysthymia and manic episodes, and

that the major image-distorting defenses were correlated with duration of panic disorder episodes. Interestingly, obsessional defenses were associated with increased duration of hypomanic episodes, and decreased duration of major depression and panic disorder. The findings regarding dysthymia were replicated in a more recent study [Bloch et al., 1993], which also showed that in addition to the above defense mechanisms, acting out and projection were more often found in patients with dysthymia than those with panic disorder. Perry [1988] also investigated the relationship between defense mechanisms and recurrent depression, and found that both action and image-distorting mechanisms were associated with higher rates of recurrence of acute major depressive disorder, and of recurrence of depressive symptoms over a 2-year follow-up period.

The relationship between defense mechanisms and personality disorders has also been studied, and evidence exists to support the notion that these two theoretical constructs are distinct and separate. Perry and Cooper [1986] looked at defense mechanisms in borderline and antisocial personality disorder, and found two separate categories: the "borderline factor," including projective identification, splitting of self-images, splitting of others' images, and bland denial; and the "narcissistic factor," including omnipotence, primitive idealization, devaluation, and mood-incongruent denial. Perry [1993] later renamed these as major and minor image-distorting defenses to emphasize their functional importance, rather than any diagnostic category. Perry and Cooper [1986] showed that borderline personality disorder was associated with the major image-distorting defenses and action defenses, whereas antisocial personality disorder was correlated with minor image-distorting and disavowal defenses [denial, projection, and rationalization]. These investigators, in addition to Vaillant and Drake [1985], have reported some overlap in defensive functioning between antisocial pathology and narcissistic pathology. Despite this overlap, however, a number of authors [Perry and Cooper, 1986; Vaillant, 1985; Skodol and Perry, 1993] have shown that personality disorders could not be distinguished on the basis of defensive functioning alone, supporting the idea that these two theoretical constructs are distinct entities.

Although a number of studies have looked at the stability of Axis II disorders following treatment of an Axis I disorder, there has been relatively little empirical work on the relationship between the psychodynamic concept of personality organization and Axis I disorders. Mavissakalian et al. [1990] found a decrease in the rate of personality disorder diagnoses in a group of patients with obsessive-compulsive disorder (OCD) after a 12-week trial of clomipramine. Loranger et al. [1991] interviewed 84 patients at admission, and again, 1 week to 6 months later. The test-retest reliability was fair to moderate ($Kappa = .26-.57$). O'Boyle and Self [1990] assessed 17 depressed patients before and

after treatment of their Axis I disorder. When test-retest reliability of the Axis II diagnosis was later calculated, it was found to be quite low [Zimmerman, 1994]. More recently Ferro et al. [1998], and Johnson et al. [1997] obtained similar results in samples of dysthymic and HIV-positive patients.

Along the lines of a more psychodynamic conceptualization of character, a study by Sandell and Bertling [1996] looked at changes in personality organization before and after treatment of patients with substance-related disorders. Twenty percent of the patients in the sample were diagnosed as having a psychotic personality organization, and another 40% as having borderline personality organization. Difficulties with this study include that data relied solely on reports from case managers, and that patients may have been intoxicated while the assessment of personality was made by the informant. At present, there are no studies that have assessed changes in personality organization, following treatment of an Axis I or Axis II disorder, using information systematically collected from the patient.

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The present study further examines the issue of stability of defensive functioning and personality organization over the course of psychiatric illness by examining a large sample of well-characterized outpatients with a DSM-IV-determined diagnosis of major depressive disorder (MDD), over a defined course and period of treatment. Subjects were assessed for defensive functioning with a well-validated self-report questionnaire, the DSQ, and for personality organization with a second self-report questionnaire, the IPO. This methodology largely eliminates inter-rater reliability as a potential confounding variable.

METHODS

INSTRUMENTS

As part of a comprehensive diagnostic assessment, subjects were asked at baseline and at the completion of a 10- or 12-week antidepressant medication trial to complete the Defense Style Questionnaire [Bond, 1995] and the Inventory of Personality Organization (Clarkin et al., unpublished). The DSQ is an 88-item self-report questionnaire designed to assess conscious derivatives of 24 defense mechanisms including acting-out, pseudo altruism, as-if behavior, clinging, humor, passive-aggression, regression, somatization, suppression, withdrawal, dissociation, denial, displacement, omnipotence-devaluation, inhibition, intellectualization, identification, primitive idealization, projection, reaction formation, repression, splitting, sublimation, and turning against self. Each item is rated on a 9-point Likert scale, and defenses are scored by taking a mean score of the representative items. Consistent with Bond's original study, items were grouped into defensive clusters, or styles, which might be more representative of unconscious processes, and additionally would reflect levels of maturity and psychosocial functioning. Responses were then analyzed with respect to defense "styles" as follows: Defense Style I, or "maladaptive action patterns" including withdrawal, acting out, regression, inhibition, passive-aggression and projection; Defense Style II, or "image-distorting patterns," including splitting, primitive idealization, and devaluation-omnipotence; Defense Style III, or "self-sacrificing patterns," including reaction formation and pseudo altruism; and Defense Style IV, or "adaptive patterns," including sublimation, suppression and humor.

The IPO is a self-report questionnaire developed by Clarkin and coworkers, based on the theoretical construct developed by Kernberg [1996]. It assesses personality organization by looking at five domains: "identity diffusion," "reality testing," "primitive defenses," "quality of object relations," and "moral values" (superego functioning). Examples of scale items are shown in Table 7.

SUBJECTS

Subjects included 22 men and 37 women outpatients participating in two different antidepressant medication trials (fluoxetine and venlafaxine) in the Depression Evaluation Service, a research clinic at the NYSPI. Participants were initially asked to participate as part of their overall clinical evaluation, which included diagnostic assessment by both psychiatric evaluation and the SCID-I. All subjects met criteria for DSM-IV MDD, and had an HRSD-17 score greater than or equal to 16. Exclusion diagnoses included organic mental disorders, substance use disorders within the past six months, schizophrenia, delusional disorder, psychotic disorders,

TABLE 1. Baseline DSQ scores* (n = 59)

Maladaptive	4.8 (0.9)
Image-distorting	3.5 (0.9)
Self-sacrificing	4.1 (1.1)
Adaptive	4.7 (1.3)
Overall defense factor (ODF)	2.5 (0.2)

*DSQ, Defense Style Questionnaire.

bipolar disorder, and antisocial personality disorder. Axis II pathology was not consistently assessed in this sample. N = 59. Mean age = 39.30 (10.39). Percent female = 62.7%. Baseline mean HRSD scores for the entire group were as follows: 21-item = 19.46 (5.57); 17-item = 14.89 (4.11); 28-item = 22.59 (3.64). Treatment responders were those subjects who were rated "much improved" for a period lasting at least 2 weeks using the Clinical Global Impression (CGI)-Improvement scale. Treatment nonresponders were those subjects who did not meet this criterion. Drop-outs from the study included all subjects who dropped out of the treatment trial prior to its completion.

DATA ANALYSIS

Responses from the DSQ were analyzed with respect to clusters, or levels, as previously described, and change in defensive functioning was determined by a shift in the predominate cluster, and changes in individual clusters within individuals over time. Additionally, analysis of the Overall Defense Maturity Factor (ODF), a weighted average developed by Bond and Perry (personal communication) and yielding a theoretical score ranging from 1 to 4, (with 1 meaning that only immature defenses were endorsed and 4 meaning only mature defenses were endorsed) was carried out in a similar fashion within individual subjects over time and with respect to treatment response.

Additionally for this study, we selected the short form of the IPO questionnaire, which is composed of 136 items, grouped in five scales, one for each assessed domains described above. The IPO scales have excellent psychometric properties with Cronbach's alpha

TABLE 2. Baseline DSQ by group[†]

	R ^a	NR ^a	Dropout
Maladaptive	4.7	5.5	4.8
Image-distorting*	3.1	3.6	3.8
Self-sacrificing	4.2	4.0	4.1
Adaptive	4.8	4.7	4.6
ODF ^b	2.6	2.5	2.5

[†]DSQ, Defense Style Questionnaire.

^aR, responder; NR, nonresponder.

^bODF, Overall defense factor.

*P=.016, R vs. Drop-out.

TABLE 3. Post-treatment measures (n=19)

	Baseline	Post-treatment	P value
Maladaptive	4.8	4.2	.01
Image-distorting	3.5	2.9	.23
Self-sacrificing	4.1	3.8	.56
Adaptive	4.7	4.7	.98
ODF ^a	2.5	2.6	.14

^aODF, Overall defense factor.

coefficients ranging between .62 and .89 (Clarkin et al., unpublished manuscript). The scales are designed so that a higher scores suggest pathology.

RESULTS

Baseline DSQ scores for the entire sample were consistent with those obtained by Bond et al. [1989], for a group of psychiatric outpatients in a general hospital psychiatric clinic (Table 1). Among treatment responders, nonresponders and drop-outs, baseline DSQ scores were similar except for "image-distorting" defenses, which were significantly more prevalent among drop-outs as compared to responders ($P = .016$; Table 2). "Maladaptive," "self-sacrificing," and "adaptive" defenses did not show statistically significant differences between groups at baseline (Table 2). Post-treatment DSQ values revealed a significant decrease in "maladaptive" defenses ($P = .01$) in the entire sample, while "image-distorting" and "self-sacrificing" defenses did not change significantly. Interestingly, "adaptive" defenses remained unchanged from baseline (Table 3). This same pattern was found to hold true in treatment responders (Table 4). Again, there was a significant decrease in the use of "maladaptive" defenses ($P = .003$) at the end of the medication trial in this group, and "image-distorting," "self-sacrificing," and "adaptive" defenses, again, remained stable. When comparing treatment responders and nonresponders at the end of the trial, medication responders used significantly less "maladaptive" defenses than did non-responders ($P = .003$), and had a significantly higher, or healthier, level of "overall defensive functioning." ($P = .04$; Table 5). "Image-distorting," "self-sacrificing," and "adaptive" defenses remained similar in the two groups.

TABLE 4. Repeat measures, responders (n=15)

	Baseline	Post-treatment	P values
Maladaptive	4.7	3.8	.003
Image-distorting	3.1	2.6	.15
Self-sacrificing	4.2	3.9	.51
Adaptive	4.8	4.8	.90
ODF ^a	2.6	2.7	.07

^aODF, Overall defense factor.

TABLE 5. Repeat measures, responders vs. nonresponders

Value*	Responder (n=15)		Nonresponder (n=4)		P
	Baseline	Post-treatment	Baseline	Post-treatment	
Maladaptive	4.7	<u>3.8</u>	5.5	<u>5.9</u>	.003
Image-distorting	3.1	<u>2.6</u>	3.6	<u>3.9</u>	.11
Self-sacrificing	4.2	<u>3.9</u>	4.0	<u>4.2</u>	.49
Adaptive	4.8	<u>4.8</u>	4.7	<u>4.5</u>	.73
ODF ^a	2.6	<u>2.7</u>	2.5	<u>2.4</u>	.04

^aODF, overall defense factor.

*P values for post-treatment comparisons between groups.

Baseline and post-treatment values for the IPO were obtained in only nine of the subjects from the overall sample (Table 7). As a group, patients in this study obtained scores that were as high as those of inpatient psychiatric samples (Clarkinet al, unpublished manuscript), except in the “quality of object relations” subscale, where the scores were substantially lower. There were minimal changes in the scores of all the subscales before and after treatment. The highest percentage change was observed in the “quality of object relations” scale, but even in that scale, differences in pre- and post-treatment values were only slightly greater than baseline values.

Due to the limited sample size, no attempt was made to correlate severity of depressive symptoms with severity of personality pathology as measured by the IPO.

CONCLUSIONS/DISCUSSION

Findings from this pilot study are limited by the relatively small sample size, particularly in terms of

TABLE 6. Sample IPO questions*

Identity diffusion: “I can’t explain changes in my behavior.”
Primitive defenses: “I have favorite people whom I not only admire, but almost idealize.”
Reality testing: “When I am nervous and confused, it seems that things in the outside world don’t make sense either.”
Quality of object relations: “I get sometimes too strict and rigid with others, and risk losing their friendship.”
Moral values: “People pretend feeling guilty when in fact they are only afraid of being caught.”

*IPO, Inventory of Personality Organization.

TABLE 7. Baseline and post-treatment values of IPO subscales*

Subscale	Baseline	Repeat	P
Identify diffusion	56.7 (11.3)	55.1 (16.4)	.49
Primitive defenses	39.8 (9.7)	38.7 (11.1)	.62
Reality testing	36.3 (9.5)	35.3 (12.8)	.78
Quality of object relations	52.6 (12.0)	46.1 (19.0)	.23
Moral values (Superego development)	45.3 (10.1)	42.5 (15.2)	.31

*IPO, Inventory of Personality Organization.

completers of the clinical trial; however, they may have relevance in terms of a host of aspects of clinical treatment including: clinical response, patients’ ability to participate in treatment, recurrence of illness, clinical trials, and future treatment strategies. The use of an “image-distorting” style at baseline was significantly higher in patients who dropped out of the study for various reasons during the trial. This may reflect a tendency, on the part of some patients, for distortion of their own subjective experience, particularly in the interpersonal domain, such that it interferes with their ability to participate in the treatment process. This may have significant implications for clinical trials, such that it may allow us to predict patients likely to drop out of treatment, or have poor responses. It may be that this subset of patients would benefit from combined treatments, rather than purely psychopharmacological interventions.

In patients who did get better with treatment, their was a significant reduction in their use of “maladaptive” defenses, although all patients maintained a stable level of “adaptive” and intermediate-level defensive functioning in both illness and in health. This supports the notion that there may be some aspects of character which are state- dependent, while others are, in fact, traits, and less subject to change in the context of treatment.

Finally, this study was conducted with patients being treated with antidepressant medications only. Future efforts should attempt to understand the impact of other treatments on these measures.

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