

# Manualized Supportive-Expressive Psychotherapy Versus Nonmanualized Community-Delivered Psychodynamic Therapy for Patients With Personality Disorders: Bridging Efficacy and Effectiveness

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**Objective:** Time-limited manualized dynamic psychotherapy was compared with community-delivered psychodynamic therapy for outpatients with personality disorders.

**Method:** In a stratified randomized clinical trial, 156 patients with any personality disorder diagnosis were randomly assigned either to 40 sessions of supportive-expressive psychotherapy (N=80) or to community-delivered psychodynamic therapy (N=76). Assessments were made at intake and 1 and 2 years after intake. Patients were recruited consecutively from two community mental health centers (CMHCs), assessed with the Structural Clinical Interview for DSM-IV Axis II Personality Disorders, and included if they had a diagnosis of any DSM-IV personality disorder. The outcome measures included the presence of a personality disorder diagnosis, personality disorder severity index, level of psychiatric symptoms (SCL-90), Global As-

essment of Functioning Scale score, and number of therapy sessions. General mixed-model analysis of variance was used to assess group and time effects.

**Results:** In both treatment conditions, the global level of functioning improved while there were decreases in the prevalence of patients fulfilling criteria for a personality disorder diagnosis, personality disorder severity, and psychiatric symptoms. There was no difference in effect between treatments. During the follow-up period, patients who received supportive-expressive psychotherapy made significantly fewer visits to the CMHCs than the patients who received community-delivered psychodynamic therapy.

**Conclusions:** Manualized supportive-expressive psychotherapy was as effective as nonmanualized community-delivered psychodynamic therapy conducted by experienced dynamic clinicians.

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Personality disorders are highly prevalent conditions in psychiatric populations (1, 2). The presence of a personality disorder has adverse effects on treatment outcome for a wide range of axis I disorders and is also associated with chronic symptoms and functional impairment (3), which lead to high utilization of mental health resources (4). Although there is some evidence that patients with personality disorders respond to both dynamic and cognitive behavior psychotherapy (5, 6), the efficacy of any psychotherapy for personality disorders is clearly an insufficiently studied area. Several prior randomized clinical trials of treatment for personality disorders suffered from methodological limitations, including small study groups (7–10), narrow focus on one or a few specific personality disorder diagnoses, and exclusion of the more severe personality disorders (9, 11, 12).

The few randomized, controlled trials that have tested the efficacy of dynamic psychotherapy for personality disorders (8, 12, 13) have shown reduction in suicidal behavior, reduction in target complaints and symptoms, and improvement in social performance and adjustment. Of these

studies, only two have used treatment manuals (12, 13), a requirement for modern randomized, controlled trials testing the efficacy of psychotherapy (14). However, Winston et al. (12) focused mainly on the “neurotic” cluster C patients, thus excluding patients with a poorer prognosis.

Crits-Christoph and Barber (15) suggested that treatment of personality disorders would be improved by prolonging treatment duration and by changing the focus from symptoms to the rigid belief systems and maladaptive interpersonal patterns that characterize personality disorders. Supportive-expressive psychotherapy is a manualized psychodynamic psychotherapy aimed at attaining these goals (16). In supportive-expressive psychotherapy, therapists use the operationalized core conflictual relationship theme as the focus of therapy, targeting transference and maladaptive interpersonal patterns. Crits-Christoph et al. (17) showed that accurately interpreting patients’ core conflictual relationship themes was positively associated with outcome. Promising results for the treatment of obsessive-compulsive personality disorder have been published (16), but to our knowledge, support-

ive-expressive psychotherapy has not yet been used for treating patients with personality disorders in a randomized, controlled trial.

We report what we believe to be the first randomized, controlled trial comparing time-limited supportive-expressive psychotherapy with community-delivered psychodynamic treatment, more commonly used in clinical settings, for patients with DSM-IV personality disorders. Because of the commonly held belief that superior treatment is provided in the controlled setting of university-based manualized treatments in efficacy studies, we predicted that after 1 year of treatment, supportive-expressive psychotherapy would be more successful than community-delivered psychodynamic therapy in 1) reducing both the prevalence of patients having a personality disorder diagnosis and the severity of the condition, 2) decreasing the number of personality disorder features, 3) diminishing psychiatric symptoms, 4) improving global level of functioning, and 5) reducing the number of posttreatment visits.

## Method

### Patients

The patients either applied for treatment on their own or were referred for help at the outpatient departments of two community mental health centers (CMHCs) in the greater Stockholm area. All patients asking for help at the CMHCs were invited to participate in a psychiatric screening. In general, patients asked nonspecifically for psychiatric treatment and not for psychotherapy in particular.

The inclusion criterion for the study was the presence of at least one DSM-IV personality disorder diagnosis or a diagnosis of passive-aggressive or depressive personality disorder from the DSM-IV appendix. The exclusion criteria were age over 60 years, psychosis, bipolar diagnosis, severe suicidal intent, alcohol or drug dependence during the year before intake, organic brain damage, pregnancy, or unwillingness to undergo psychotherapy.

Out of 371 consecutive patients assessed for eligibility, 159 did not have personality disorders and 56 had personality disorders but were unwilling to participate in the study. The remaining 156 personality disorder patients were randomly assigned to treatment, 80 to supportive-expressive psychotherapy and 76 to community-delivered psychodynamic therapy. Their mean age was 35.1 years (SD=10.3), 31.4% were male, and 46.8% were single or divorced.

The study was approved by the Research Ethics Committee at the Karolinska Institutet. After the screening procedures were completed, each patient with a personality disorder received both written and oral explanations of the randomized, controlled trial and signed a written consent form if he or she agreed to participate in the study.

### Treatments

The supportive-expressive psychotherapy comprised 40 weekly sessions and followed Luborsky's treatment manuals (18) and other guidelines for dynamic therapy (19). Clinicians providing community-delivered open-ended psychodynamic therapy were not influenced by the research protocol and chose their own preferred treatment, which tended to be psychoanalytically oriented. This freedom for clinicians to determine the specific treat-

ment focus and approaches is representative of the health system in Scandinavia, which does not involve managed care.

We initially called the community-delivered psychodynamic therapy "treatment as usual" but decided that this was not a sufficiently accurate description because of three factors. First, Swedish treatment as usual is not similar to North American treatment as usual. For example, our patients receiving community-delivered psychodynamic therapy received an average of 21 sessions, while many reports indicate that U.S. patients receive an average of eight sessions. Second, we found that our control condition was not comparable to standard treatment for personality disorders at Swedish clinics because the number of sessions during the 1-year treatment phase (mean=21.3, SD=15.5) was significantly higher than the usual number of sessions presently delivered to outpatients with personality disorders (N=461, mean=12.5, SD=20.6) (Mann-Whitney U=10258.00,  $p<0.001$ ). Most likely, participating in the study resulted in a higher number of sessions for patients randomly assigned to community-delivered psychodynamic therapy, thereby making this condition more intensive than regular Swedish treatment as usual. Third, the community-delivered psychodynamic therapy was for the most part conducted by experienced dynamically trained therapists. All of the therapists providing community-delivered psychodynamic therapy received ongoing psychodynamic supervision. One therapist in cognitive training treated three patients (3.9%) and focused on elucidating interpersonal patterns.

All patients were able to receive concomitant psychopharmacological treatment after consultation with a psychiatrist.

### Therapists

Six psychologists conducted the supportive-expressive psychotherapy, and 21 clinicians performed the community-delivered psychodynamic therapy. Three senior supportive-expressive psychotherapy therapists (including B.V. and K.N.), with more than 20 years of experience in psychiatry and dynamic psychotherapy, had trained the remaining supportive-expressive therapy practitioners, whose experience varied from 1 to 10 years.

The clinicians conducting community-delivered psychodynamic therapy had a mean of 12.5 years of experience in psychiatry and dynamic psychotherapy. All therapists except one had at least 1 year of full-time formal postgraduate training in dynamic psychotherapy. They all received weekly psychodynamic psychotherapy supervision before and during the study. Within the public health care system, dynamic therapists tend to emphasize supportive techniques when dealing with patients with severe pathology. This group consisted of two psychiatrists who had three patients in treatment, six psychologists treating 13 patients, five psychiatric nurses with 42 patients, six psychiatric social workers with 16 patients, and two psychiatric nurses' assistants with two patients.

### Randomization Procedure

The patients were randomly assigned to treatments by using a stratified computerized "urn" randomization procedure (20). The four stratification variables were DSM-IV cluster (A, B, or C), marital status (living alone or cohabiting/married), age (20–29, 30–39, 40–49, or 50–60), and sex. The patients were categorized into personality disorder clusters according to their personality disorder diagnoses. If a patient had multiple diagnoses within different clusters, the patient was assigned to the most severe cluster. Cluster A was considered more pathological than cluster B, which was considered more pathological than cluster C. Patients with a personality disorder not otherwise specified were referred to cluster C. We did not presume any site-specific variation, since the clinical characteristics of the patients at the two CMHCs are usually similar.

### Assessment Procedures

The interviews were conducted by experienced clinical psychologists, who met regularly with an experienced psychiatrist to reduce rater drift.

All therapy sessions for the supportive-expressive psychotherapy group were videotaped. In the community-delivered psychodynamic therapy, audiotaping was voluntary for the therapists. Adherence with supportive-expressive psychotherapy was assessed with the adherence scale of Barber et al. (19, 21) by two reliable independent raters.

Data for all outcome measures were collected at three time points for all patients: 1) before treatment, 2) at termination of supportive-expressive psychotherapy, and 3) at follow-up after 1 additional year. These time points were chosen to fit the schedule for supportive-expressive psychotherapy. As the patients receiving community-delivered psychodynamic therapy were not undergoing time-limited treatment, they could still be in treatment at both posttreatment and follow-up. The questionnaires described in the following were filled out at the CMHCs in connection with the assessment interviews.

### Instruments and Measures

The Structural Clinical Interview for DSM-IV Axis II Personality Disorders (22) was used to determine axis II psychiatric diagnoses. Two ways of assessing personality disorder pathology were used. The first was the standard categorical approach, i.e., patients fulfilling a specific number of criteria were diagnosed as having one of 13 specific personality disorders (including personality disorder not otherwise specified). Second, a dimensional approach was used to measure personality disorder severity, i.e., a severity index was computed by summarizing all of the positive criteria on axis II, resulting in a scale that ranged from 0 to 93. The rationale for this index was to address the criticism that has been voiced against the categorical diagnostic system, including the use of arbitrary cutoff points for the delineation of personality disorder (23).

In order to study improvement in the personality disorder beyond the mere presence or absence of such a diagnosis, we also examined whether the patients were assigned to a functionally less pathological cluster at the 2-year assessment than they had been at intake. Skodol et al. (24) validated that different personality disorder diagnoses have different functional impairment, by showing that schizotypal and borderline patients were more impaired than avoidant and obsessive patients.

The SCL-90 (25) was used to measure patients' subjective experiences of psychiatric symptoms. The general severity index, a mean of scores on all items of the SCL-90, was computed in relation to Swedish age-corrected norms (N=750) (26), and the study group was divided into three age groups before the scores were transformed into T values.

The DSM-IV Global Assessment of Functioning Scale (GAF) was used for measuring global symptomatic and social functioning.

Information about the prescription of psychopharmacological drugs was collected from the patients' records. Likewise, we recorded the number of treatment sessions attended between the assessment points.

The scale of Barber et al. was used to assess therapists' adherence to supportive-expressive psychotherapy and its competent delivery (19). The scale includes three technique subscales: general therapeutic (interventions not specific to supportive-expressive psychotherapy), supportive (interventions aimed at strengthening the therapeutic alliance), and interpretative/expressive (primarily interventions specific to core conflictual relationship themes).

### Statistical Analysis

**Statistical power.** Standard power calculation formulas, derived from cross-sectional analyses, are often used for longitudinal analysis. However, longitudinal data require the power analysis to take into consideration within-subject variance. Using methods recommended for a repeated-measures design (27), we assumed a covariance structure with a compound symmetry design, a type I error level (alpha level) of 0.05, and a within-subject correlation ranging from 0.2 to 0.6; thus, we had 80% power to detect an effect size (reflecting the difference between the two groups) ranging from 0.33 to 0.41. In the present study group, we had a within-subject correlation of 0.276 for the SCL-90 and of 0.335 for the GAF scores, resulting in 80% power to detect an effect size of 0.35 and 0.36, respectively.

**Analytic strategy.** Our outcome data were longitudinal (three time points). The hierarchy of the cluster (i.e., correlated data points) entails longitudinal observations (first level) nested within the patient (second level) with each observation consisting of a multivariate outcome. We implemented a special type of linear mixed-effects model (28), the general mixed-model analysis of variance (ANOVA), which is implemented in SAS 8.0 as GMMAV and examines average outcome, rather than assuming a linear slope over time. This approach enabled us to retain all nonmissing observations. Thus, this is a full intent-to-treat analysis, comparing outcomes for all patients assessed at pretreatment. For binary outcomes (e.g., meets/does not meet diagnostic criteria), we used a general mixed-model ANOVA implemented in the SAS macro GLIMMIX (29). To assess goodness of fit, residuals from the fitted model were inspected. The likelihood estimation just described is especially robust with respect to missing data.

To assess the potential impact of missing data, a pattern-mixture approach was used (30). Our definition of patterns was limited to whether a patient had outcome data at each time point. We entered this completer status variable as a predictor in the mixed-model ANOVAs. Of primary interest was improvement over time; therefore, to determine if this effect was dependent on completer status, a two-way interaction of completer status and time was included in the analysis. Similarly, to determine if the homogeneity of improvement over time in the two treatment types was dependent on missing data patterns, we included a three-way interaction among time, treatment, and completer status.

To determine whether the subjects were different from a non-clinical normative sample at 2-year follow-up, we implemented the methods of Kendall et al. for determining clinical significance (28), which consist of two parts: traditional hypothesis testing and bioequivalence testing. We tested whether the SCL-90 scores of the two treatment groups at 2-year follow-up (N=115) were equivalent to those of a nonclinical Swedish sample (N=750) (26). Traditional hypothesis testing tested the null hypothesis of equality of the means in the two groups. Bioequivalence testing was used to determine whether the two groups were sufficiently near each other to be considered statistically equivalent. In testing bioequivalence, it is necessary to specify a noninferiority margin, which is the degree of inferiority that the trial will exclude statistically. The noninferiority margin was set to one standard deviation for the SCL-90 in the nonclinical sample.

The analysis of improvement in personality disorder diagnoses was performed by using a general mixed-model ANOVA (31); it included the interaction of time and treatment condition and used an unstructured covariance matrix.

The number of available sessions was analyzed through non-parametric methods.

In all analyses, site and gender were entered as covariates to address variation in these characteristics. For all analyses, the alpha level is 0.05 and two-tailed p values are reported.

**TABLE 1. Baseline Clinical Characteristics of Patients With Personality Disorders Receiving Supportive-Expressive Psychotherapy or Community-Delivered Psychodynamic Therapy<sup>a</sup>**

Characteristic	Supportive-Expressive Psychotherapy (N=80)		Community-Delivered Psychodynamic Therapy (N=76)		Total (N=156)		Statistical Analysis		
	N	%	N	%	N	%	$\chi^2$	df	p
Site							0.00	1	0.98
Tumba, Sweden	57	71.3	54	71.1	111	71.2			
Fittja, Sweden	23	28.8	22	28.9	45	28.8			
DSM-IV personality disorder diagnosis									
Avoidant	24	30.0	30	39.5	54	34.6	1.55	1	0.21
Dependent	8	10.0	7	9.2	15	9.6	0.01	1	0.91
Obsessive-compulsive	17	21.3	12	15.8	29	18.6	1.13	1	0.29
Passive-aggressive	8	10.0	10	13.2	18	11.5	0.38	1	0.54
Depressive	32	40.0	25	32.9	57	36.5	0.56	1	0.46
Paranoid	14	17.5	13	17.1	27	17.3	0.00	1	0.95
Schizoid	4	5.0	3	3.9	7	4.5	0.10	1	0.75
Schizotypal	1	1.3	1	1.3	2	1.3	0.00	1	0.97
Histrionic	2	2.5	1	1.3	3	1.9	0.29	1	0.59
Narcissistic	6	7.5	2	2.6	8	5.1	1.90	1	0.17
Borderline	17	21.3	21	27.6	38	24.4	1.23	1	0.27
Antisocial	9	11.3	3	3.9	12	7.7	2.93	1	0.09
Not otherwise specified	11	13.8	15	19.7	26	16.7	1.08	1	0.10
Comorbidity							1.95	5	0.86
One personality disorder diagnosis	34	42.5	36	47.4	70	44.9			
Two personality disorder diagnoses	30	37.5	25	32.9	55	35.3			
More than two personality disorder diagnoses	16	20.0	15	19.7	31	19.9			
DSM-III-R axis I disorders									
None	11	13.8	6	7.9	17	10.9	1.24	1	0.26
Depressive disorder	53	66.3	51	67.1	104	66.7	0.13	1	0.91
Anxiety disorder	36	45.0	33	43.4	69	44.2	0.04	1	0.84
Suicidal or parasuicidal attempt	22	27.5	22	28.9	44	28.2	1.11	3	0.78
	Mean	SD	Mean	SD	Mean	SD	F	df	p
Age (years)	35.1	10.4	35.0	10.3	35.1	10.3	0.01	1, 156	0.95
SCL-90 score	1.4	0.6	1.5	0.7	1.5	0.6	0.89	1, 148	0.35
Total number of personality disorder criteria	20.2	8.2	19.0	9.1	19.6	8.6	0.73	1, 155	0.40
Global Assessment of Functioning Scale score	61.2	8.0	59.7	8.7	60.5	8.4	1.34	1, 155	0.25

<sup>a</sup> All analyses included an adjustment for site and gender variation.

## Results

### Patient and Treatment Characteristics

The patients' clinical characteristics at baseline are presented in Table 1. No significant differences were found between treatment groups or between treatment sites. Sociodemographically, the subjects were characterized by a low level of education ( $\chi^2=1.19$ ,  $df=2$ ,  $p=0.55$ ), a high prevalence of low vocational training, disability, and sick leave ( $\chi^2=0.84$ ,  $df=4$ ,  $p=0.94$ ), and a high level of single or divorced marital status ( $\chi^2=0.59$ ,  $df=1$ ,  $p=0.44$ ).

Data were collected from the patients' records about the frequency of treatment during the first year and categorized into 1) once a week (supportive-expressive:  $N=52$ , 65.0%; community:  $N=43$ , 56.6%), 2) irregular, i.e., less frequent than once a week and associated with an inability to keep regular appointments scheduled once a week (supportive-expressive:  $N=16$ , 20.0%; community:  $N=17$ , 22.4%), and 3) no treatment, i.e., not attending more than two sessions after random assignment (supportive-expressive:  $N=12$ , 15.0%; community:  $N=16$ , 21.1%). No significant difference between the two treat-

ments was found regarding frequency of treatment ( $\chi^2=1.35$ ,  $df=2$ ,  $p=0.51$ ).

Data were obtained from 72.4% of the patients ( $N=113$ ) at the 1-year assessment (supportive-expressive,  $N=61$ ; community,  $N=52$ ) and from 79.5% ( $N=124$ ) at the 2-year assessment (supportive-expressive,  $N=66$ ; community,  $N=58$ ). The median time span from the pretreatment to post-treatment assessment was 432 days for the group receiving supportive-expressive psychotherapy (range=351–679) and 428 days for the group receiving community-delivered psychodynamic therapy (range=347–770) ( $t=-0.91$ ,  $df=112$ ,  $p=0.37$ ). Between the posttreatment and follow-up assessments, the median time span was 409 days for supportive-expressive therapy (range=264–1,358) and 388 for community-delivered psychodynamic therapy (range=287–1,284) ( $t=0.33$ ,  $df=97$ ,  $p=0.74$ ).

The mean number of total treatment sessions attended between pretreatment and follow-up was 26.2 ( $SD=15.2$ , median=30, range=0–78) for the supportive-expressive psychotherapy patients and 28.0 ( $SD=23.7$ , median=22, range=0–101) for the community-delivered therapy patients (Mann-Whitney  $U=2994$ ,  $p<0.87$ ). Between the pretreatment and posttreatment assessments, the sup-

**TABLE 2. Changes in Diagnostic Cluster Indicating Improvement or Deterioration for Patients With Personality Disorders Receiving Supportive-Expressive Psychotherapy or Open-Ended Community-Delivered Psychodynamic Therapy<sup>a</sup>**

Personality Disorder Cluster at Intake and Treatment Type	Change Between Pretreatment and Follow-Up 1 Year After End of Supportive-Expressive Psychotherapy						Analysis		
	Change to Cluster With Less Functional Impairment		Change to Cluster With More Functional Impairment		Cluster Unchanged				
	N	%	N	%	N	%	F	df	p
Cluster A (N=29)	19	65.5	0	0.0	10	34.5	3.38	1, 120	0.06
Supportive-expressive psychotherapy (N=13)	6	46.2	0	0.0	7	53.8			
Community-delivered psychodynamic therapy (N=16)	13	81.3	0	0.0	3	18.8			
Cluster B (N=26)	18	69.2	2	7.7	6	23.1	0.09	1, 120	0.76
Supportive-expressive psychotherapy (N=15)	10	66.7	1	6.7	4	26.7			
Community-delivered psychodynamic therapy (N=11)	8	72.7	1	9.1	2	18.2			
Cluster C (N=41)	24	58.5	4	9.8	13	31.7	3.09	1, 120	0.08
Supportive-expressive psychotherapy (N=24)	17	70.8	2	8.3	5	20.8			
Community-delivered psychodynamic therapy (N=17)	7	41.2	2	11.8	8	47.1			
Personality disorder not otherwise specified (N=28)	23	82.1	0	0.0	5	17.9	2.19	1, 120	0.14
Supportive-expressive psychotherapy (N=14)	13	92.9	0	0.0	1	7.1			
Community-delivered psychodynamic therapy (N=14)	10	71.4	0	0.0	4	28.6			
Total (N=124)	84	67.7	6	4.8	34	27.4	0.25	2	0.88
Supportive-expressive psychotherapy (N=66)	46	69.7	3	4.5	17	25.8			
Community-delivered psychodynamic therapy (N=58)	38	65.5	3	5.2	17	29.3			

<sup>a</sup> Cluster A was considered more pathological than cluster B, which was considered more pathological than cluster C, which was ranked as more pathological than personality disorder not otherwise specified. All analyses included an adjustment for site and gender variation. As reported in text, the statistical test for assessing the difference in change over time between treatments for the four clusters was through the generalized mixed-model framework. A chi-square test for contingency tables based on the summary percentages reported in this table was conducted to assess whether change in impairment was different across the four different clusters collapsing across treatment.

portive-expressive and community therapy groups had a mean of 24.7 (SD=13.0, median=30, range=0–40) and 21.3 (SD=15.5, median=21, range=0–61) sessions, respectively (Mann-Whitney U=2638,  $p<0.19$ ).

Between pretreatment and posttreatment, 38 patients (47.5%) in the supportive-expressive therapy group and 43 patients (56.6%) in the community therapy group were given prescriptions for psychotropic medication ( $\chi^2=1.12$ ,  $df=1$ ,  $p=0.30$ ). Between posttreatment and follow-up, 25 (31.3%) of the supportive-expressive psychotherapy patients and 31 (40.8%) of the patients receiving community-delivered psychodynamic therapy used psychotropic medication ( $\chi^2=1.54$ ,  $df=1$ ,  $p=0.21$ ).

### Outcome Analysis

**Personality disorder diagnosis and severity.** At the posttreatment assessment, 38 patients (33.6%) did not fulfill the criteria for a personality disorder diagnosis. At the follow-up assessment, 58 patients (46.8%) did not meet the criteria. There was no significant difference between treatments at either assessment.

Change in functional impairment from pre-treatment to the one year follow-up was significant as a function of treatment and the four clusters ( $\chi^2=59.51$ ,  $df=12$ ,  $p<0.001$ ). This chi-square is based on the contingency table illustrated in Table 2, where the degrees of freedom takes into account the zero cells. The patients with personality disorder not otherwise specified improved the most, while those with cluster C diagnoses improved the least (Table 2). We did not find any significant difference between treatments (Table 2).

**Other clinical outcomes.** The general mixed-model ANOVA showed that the overall severity of personality disorders decreased over time (Table 3) for both treatment groups, but no difference between treatments was found. Scores on the SCL-90 improved significantly over time (Table 3), but there was no difference between the two treatment groups. There also was a significant improvement in GAF scores over time but no significant difference between groups. Within-group effect sizes of the change from intake to the 2-year assessment are presented in Table 3.

Implementation of the pattern-mixture method revealed that these findings were not dependent on the missing data mechanism; for the two-way interaction of completer status and time,  $p>0.33$  for each outcome. Similarly, for the three-way interaction of completer status, time, and treatment condition,  $p>0.40$  for each outcome.

To evaluate clinical significance, we compared the patients' SCL-90 scores at follow-up 1 year after the end of supportive-expressive psychotherapy with those of the nonclinical sample. The results of both a clinical equivalency t test ( $CE_t=1.69$ ,  $df=863$ ,  $p=0.95$ ) and a traditional t test ( $t=-10.13$ ,  $df=863$ ,  $p<0.001$ ) indicated that the patients changed significantly but did not return to nonclinical levels.

**Number of posttreatment visits.** All of the patients who received supportive-expressive psychotherapy were asked to refrain from further treatment after termination, but 13 patients (16.3%) still received additional treatment at the CMHCs, while 29 patients receiving community-delivered psychodynamic therapy (38.2%) continued treatment after the 1-year assessment ( $\chi^2=9.51$ ,  $df=1$ ,  $p<0.002$ ). Generally, the patients receiving supportive-expressive psychotherapy had significantly fewer sessions

**TABLE 3. Changes in Personality Disorder Severity, Psychiatric Symptoms, and Functioning Among Patients With Personality Disorders Receiving Supportive-Expressive Psychotherapy (N=80) or Open-Ended Community-Delivered Psychodynamic Therapy (N=76)<sup>a</sup>**

Measure and Treatment Type	Score						
	Pretreatment		End of Supportive-Expressive Psychotherapy		Follow-Up 1 Year After End of Supportive-Expressive Psychotherapy		Effect Size of Change at Follow-Up
	Mean	SD	Mean	SD	Mean	SD	
Personality disorder severity index (total number of DSM-IV axis II criteria)							
Supportive-expressive psychotherapy	20.2	8.2	15.3	9.5	12.8	8.8	0.99
Community-delivered psychodynamic therapy	19.0	9.1	13.4	9.1	12.2	9.3	0.61
SCL-90							
Supportive-expressive psychotherapy	1.42	0.60	0.91	0.75	0.99	0.75	0.72
Community-delivered psychodynamic therapy	1.52	0.66	0.79	0.59	0.88	0.83	0.87
Global Assessment of Functioning Scale							
Supportive-expressive psychotherapy	61.2	8.0	66.1	12.6	67.4	10.0	0.64
Community-delivered psychodynamic therapy	59.7	8.7	64.5	8.6	66.3	11.1	0.59

<sup>a</sup> All analyses included an adjustment for site and gender variation.

(mean=1.5, SD=0.6, 95% confidence interval [CI]=0.27–2.73) than the patients in the community-delivered therapy group (mean=6.9, SD=1.7, 95% CI=3.42–10.45) between the posttreatment and follow-up assessments (Mann-Whitney U=2305.5, p<0.001).

**Relationship between axis I and II improvement.**

To examine whether the change in axis II disorders (personality disorder severity index) was driven by change in axis I pathology, we partialled out the change in SCL-90 scores (a proxy of change in axis I) (F=53.24, df=1, 326.9, p<0.001) and found that the change in the personality disorder severity index over time was still significant (F=17.03, df=2, 230.3, p<0.001). Thus, the improvement in personality disorder pathology over time was over and beyond the change explained by psychiatric symptoms.

**Discussion**

To our knowledge, this is the first randomized, controlled trial of supportive-expressive psychotherapy for patients diagnosed with DSM-IV personality disorders. It also appears to be the first study to compare a manualized psychodynamic intervention with a nonmanualized psychodynamic treatment available in the community. The results indicate that treating personality disorder patients with either supportive-expressive psychotherapy or community-delivered psychodynamic therapy for at least 1 year decreases the severity of personality disorders and psychiatric symptoms, as well as improving functioning. Nevertheless, according to scores on the SCL-90, the patients' psychiatric symptoms did not recover to the same level as in a nonclinical Swedish sample; in other words, we cannot say that our patients returned to a healthy level. The change in personality disorder severity was found to be over and beyond the change in axis I pathology. It is interesting that manualized time-limited psychotherapy was not found to be superior to community-delivered psychodynamic therapy. The difference in the number of ses-

sions can be considered an indicator of whether a time-limited protocol is applicable to patients with severe personality disorders, and the numbers of sessions were similar in the two treatment modalities during the 2-year study period. Community-delivered psychodynamic therapy, as delivered in this study, was close to 50% more intensive than the treatment given to the personality disorder patients in the same CMHCs who did not participate in this treatment protocol. The increase in treatment intensity may be due to the impact of being part of an efficacy/effectiveness trial, which is known as the Hawthorne effect (32).

A lack of differential effect is common in randomized, controlled trials that compare active manualized psychotherapies (33), but little evidence exists regarding differences between manualized and nonmanualized therapies delivered with equal intensities. The patients in the community therapy group received equally intensive psychotherapy, probably with a more supportive emphasis, delivered by experienced dynamic therapists receiving regular dynamic supervision. Our results can hence be seen as reflecting a comparison of manualized time-limited dynamic psychotherapy with a nonmanualized open-ended dynamic therapy. Alternatively, the lack of differences between treatments suggests that research limitations put on dynamic therapists, such as adhering to a treatment manual and using a time-limited format, did not yield negative results. It is noteworthy that the effect sizes indicated a nearly significant positive influence of community-delivered psychodynamic therapy on psychiatric symptoms and a similar effect size for the influence of supportive-expressive psychotherapy on "personality disorderness." The principal areas of change thus seemed to differ between treatments. Perhaps the community-delivered psychodynamic therapy attended the patients' target complaints, i.e., psychiatric symptoms, whereas the supportive-expressive psychotherapy practitioners devoted more of their attention to long-standing character traits.

Analysis					
Effect of Time			Interaction of Time and Treatment		
F	df	p	F	df	p
41.01	2, 152	<0.001	0.78	2, 152	0.46
51.46	2, 150	<0.001	2.20	2, 150	0.11
26.07	2, 152	<0.001	0.01	2, 152	0.99

Comparing our results to those from naturalistic studies of personality disorder patients is also encouraging. After 1 year of treatment, Perry reported a recovery rate of 52%–74% for cluster C patients and 30%–46% for cluster B patients, while the recovery rate in naturalistic follow-along studies was only between 4% and 12% per year (J.C. Perry, personal communication, 2001). In the present study group, 33% of the patients no longer fulfilled the criteria for a personality disorder diagnosis after 1 year of treatment, a figure considerably higher than the rate in Perry's naturalistic study and similar to the recovery rate seen for the cluster B patients. Also, many of the patients in this study who still fulfilled personality disorder criteria were diagnosed with a personality disorder involving less functional impairment.

The external validity of randomized, controlled trials has been questioned (34) because efficacy studies do not generalize to the "real clinical world." Similar to Bateman and Fonagy's effectiveness study (7), our study was conducted in a naturalistic setting, we excluded few severe cases with complicated comorbidity, and we included consecutive patients with low socioeconomic levels and health status. These conditions increase the external validity of the study.

The main limitation is that the lack of a placebo or inactive control does not allow us to conclude that treatment is responsible for the outcomes obtained. However, this is a limitation of all comparative studies that for ethical reasons are forced to eliminate placebo groups. It is unlikely that any ethical research oversight committee would allow the use of placebo or an inactive control condition for a year. Nevertheless, comparison with Perry's naturalistic observation of untreated patients indicates that the present results are likely not due to the mere passage of time. Finally, we do not know how either treatment would have compared to another form of therapy.

In conclusion, time-limited manualized supportive-expressive psychotherapy can be introduced in a community setting with promising results. However, it is not superior

to psychiatric open-ended nonmanualized dynamic therapy conducted by experienced clinicians. In light of the fact that community-delivered psychodynamic therapy was not worse than supportive-expressive psychotherapy and the greater availability of community-delivered psychodynamic therapy, there is no reason to recommend supportive-expressive psychotherapy over community-delivered psychodynamic therapy for personality disorder patients.

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