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Do Personality Problems Improve During Psychodynamic Supportive-Expressive Psychotherapy? Secondary Outcome Results From a Randomized Controlled Trial for Psychiatric Outpatients with Personality Disorders

Bo Vinnars,

Department of Clinical Neuroscience, Psychotherapy Section, Karolinska Institutet, Stockholm, Sweden

Barbro Thormählen,

Department of Clinical Neuroscience, Psychotherapy Section, Karolinska Institutet, Stockholm, Sweden

Robert Gallop,

Department Of Statistics, West Chester University, West Chester

Kristina Norén, and

Department of Clinical Neuroscience, Psychotherapy Section, Karolinska Institutet, Stockholm, Sweden

Jacques P. Barber

Center for Psychotherapy Research, Department of Psychiatry, University of Pennsylvania School of Medicine

Abstract

Studies involving patients with personality disorders (PD) have not focused on improvement of core aspects of the PD. This paper examines changes in quality of object relations, interpersonal problems, psychological mindedness, and personality traits in a sample of 156 patients with DSM-IV PD diagnoses being randomized to either manualized or non manualized dynamic psychotherapy. Effect sizes adjusted for symptomatic change and reliable change indices were calculated. We found that both treatments were equally effective at reducing personality pathology. Only in neuroticism did the non manualized group do better during the follow-up period. The largest improvement was found in quality of object relations. For the remaining variables only small and clinically insignificant magnitudes of change were found.

The prevalence of personality disorders (PD) among psychiatric patients ranges between 31 – 45 % (Samuels et al., 2002). Psychotherapeutic treatment in general and dynamic therapy in particular has increasingly shifted from a long term to briefer time formats. As a result, the focus of brief dynamic psychotherapies has shifted from restructuring personality

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pathology to a focus on symptom reduction. For these briefer treatments, however, there is so far no substantial evidence for their capacity to reduce character pathology.

A comprehensive meta-analysis of 25 clinical trials with patients with PD (Leichsenring & Leibing, 2003) indicated that most studies had focused on symptomatic measures such as the Symptom Check List-90 (SCL-90, Derogatis, 1997), Beck Depression Inventory (BDI, Beck & Steer, 1988), and Global Adjustment Scale (GAS, First, Spitzer, & Gibbon, 1997). Few of these studies included measures assessing core PD pathology. For example, interpersonal problems, often considered a major aspect of PD pathology, were assessed in only two psychodynamic studies (Bateman & Fonagy, 2001, 2008; Muran, Safran, Samstag, & Winston, 2005). Furthermore, measures theoretically relevant to the goals of psychodynamic psychotherapy (e.g., reflective functioning and levels or forms of attachment) have surprisingly rarely been used (for an exception see Levy et al., 2006).

Improving maladaptive personality functioning is of considerable importance for patients with PD. Crits-Christoph and Barber (2002) proposed that treatments of PDs would profit by switching the focus away from symptoms and toward the rigid belief systems and maladaptive interpersonal patterns that characterize PDs. This suggestion is supported by an emerging consensus among researchers that the core of personality disorders are problems with self, identity, and interpersonal dysfunction (Livesley, 2001). Addressing these aspects of pathology may improve treatment outcome for these patients. Neglecting assessment of pathological personality traits and their improvement in psychotherapy may have serious consequences, as untreated personality traits may lead to higher risk for relapse and chronic subjective and interpersonal suffering.

Vinnars, Barber, Norén, Gallop, and Weinryb (2005) conducted a randomized controlled trial comparing 40 sessions of manualized time-limited Supportive-Expressive Psychotherapy (SEP, Luborsky, 1984) with a comparison group delivering non-manualized community delivered psychodynamic treatment (CDPT) for psychiatric patients with any PD. In the original publication from the study, they reported that the reduction of psychiatric symptoms, general PD severity, and improvement in general psychosocial functioning was similar in both treatment groups at termination and was maintained at follow-up. They also reported that patients' PD diagnoses changed to a functionally less pathological cluster over the assessment period of two years. In spite of the fact that one treatment was manualized and time limited while the other was non-manualized and open ended, the mean number of sessions in the two treatments was not significantly different.

The aim of the present report is to explore the extent to which SEP can improve maladaptive personality functioning in patients with any PD from the DSM-IV. If manualized time-limited psychodynamic treatment focused on maladaptive personality traits is efficacious, we expect it to be superior in reducing personality pathology to ordinary clinical treatment given to patients with PD. In the following paragraphs, we describe the long-standing maladaptive personality variables that are often considered important in describing desirable outcome for patients with PD.

The most often mentioned core psychodynamic constructs relevant for assessing changes in patients with PD are quality of object relations and ego-functions (Høglend, Sorlie, Sorbye, Heyerdahl, & Amlo, 1992; Piper, Ogrodniczuk, & Joyce, 2004; Weinryb & Rössel, 1991) and defense style (Bond & Perry, 2004). These constructs are often considered as mode-specific effects for psychodynamic psychotherapy (Huber, Henrich, & Klug, 2005) and are thus of particular interest. However, several different instruments have been used to measure these concepts which make comparative conclusions difficult. Another relevant concept is psychological mindedness (PM) (Appelbaum, 1973), a multifaceted aspect of personality

describing the cognitive ability to explore the nature of one's problems, including motivation conflicts, defense mechanisms and so forth (McCallum, Piper, Ogrodniczuk, & Joyce, 2003). As of yet, no study to our knowledge has reported improvement in PM.

Maladaptive interpersonal functioning is a core aspect of PD (Pincus, 2005). The Inventory of Interpersonal Problems (IIP) (Alden, Wiggins, & Pincus, 1990; Horowitz, Rosenberg, Baer, Ureno, & Villaseñor, 1988) was developed to assess change in interpersonal pathology. The instrument has been shown to be sensitive to change (Huber, Henrich, & Klug, 2007). Although one would have expected that longer treatments would yield greater improvement, the data is equivocal on this issue. No obvious relation between amount of improvement and type of treatment, sample, or treatment duration has been shown. For short-term psychotherapies (one year or shorter) there are reports of both small to moderate improvements (effect sizes from .26 to .70) (Crits-Christoph, Connolly, Narducci, & Schamberger, 2005; Muran et al., 2005; Piper, Joyce, McCallum, & Azim, 1998; Schauenburg, Kuda, Sammet, & Strack, 2000) but also of larger ones (effect sizes from .80 to 1.42) (Hardy et al., 1995; Svartberg, Stiles, & Seltzer, 2004; Vittengl, Clark, & Jarrett, 2004). For long-term treatment (more than one year) both lower (.59) (Lorentzen, Bogwald, & Høglend, 2002) and higher (1.13 to 1.44) (Bateman & Fonagy, 2001; Huber et al., 2007; Leichsenring, Biskup, Kreische, & Staats, 2005) effect sizes have been found. In conclusion, there appears to be an indication that it is difficult, but not impossible, to improve interpersonal problems with psychotherapy of shorter duration.

Dimensional models of personality such as the Five Factor Model (FFM) are often considered complementary to the DSM categorical classification and have the advantage of being solidly empirically based (Costa & Widiger, 2002) often showing better clinical validity than the DSM categorical classification (Morey et al., 2007; Skodol et al., 2007). Personality disorders can be seen as extreme examples of normative tendencies observable in the general population (Morey et al., 2007). A meta-analytic review of the FFM and personality disorders (Saulsman & Page, 2004) showed that especially neuroticism and agreeableness are consistently and significantly correlated with PD. High levels of neuroticism have for example been associated with BPD and Cluster C (Miller, Pilkonis, & Mulvey, 2006) and low levels of neuroticism with narcissistic and psychopathic personality traits. A low level of agreeableness, characterized by disagreeableness and antagonism, is characteristic of several PDs (Saulsman & Page, 2004), like antisocial, paranoid, and narcissistic PD. Impulsive behaviors are usually considered typical in antisocial, histrionic and borderline conditions. Researchers have described a continuum from constraint to impulsiveness (Widiger & Simonsen, 2005). The impulsiveness pole of this dimension represents being irresponsible, lax, impulsive, negligent, and hedonistic. For this study we chose to measure neuroticism, agreeableness (disagreeable and antagonistic) and impulsiveness because of their correlation with PD.

Drawing from previous research and from the fact that SEP targeted specifically core interpersonal patterns of the PD patients, we hypothesized that it will lead to greater improvement in the quality of object relations and ego-functions, and greater reduction of interpersonal problems, neuroticism, agreeableness and impulsiveness when compared to the comparison treatment group.

Method

Patients

Patients were consecutively recruited from two community mental health centers (CMHCs) in the greater Stockholm area. They had either self-applied for treatment or were referred, mainly from primary health care. In general, patients asked for non-specific psychiatric help,

although a few specifically asked for psychotherapy. The inclusion criteria consisted of: Presence of at least one DSM-IV PD diagnosis, or a diagnosis of passive-aggressive or depressive PD from the DSM-IV appendix. Exclusion criteria included: 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. Participants also needed to be fluent in Swedish.

Out of 371 consecutive patients assessed for eligibility, 159 were non-PD and 56 PD patients were unwilling to participate in the study. In total, 156 PD patients were randomized; 80 to SEP and 76 to CDPT. Their mean age was 35 years ($SD = 10.3$), 31.4% were male, and 45% were single or divorced. Nineteen (19) percent were of immigrant background, but were fluent in Swedish. The Research Ethics Committee at the Karolinska Institute approved the study, and all participants signed a consent form.

No significant differences were found between treatment groups regarding socio-demographic characteristics or between the two treatment sites (all $ps. > .44$). The sample was characterized by low level of education (9 years of elementary school and 2 years additional vocational training in secondary school, $\chi^2(2) = 1.19, p = .55$); high prevalence of low vocational training, disability, and sick leave (45.8% unemployed, 41.2% blue-collar training, $\chi^2(4) = .84, p = .94$); and high levels of single or divorced marital status ($\chi^2(1) = .59, p = .44$) (Vinnars et al., 2005).

Therapists

Six psychologists conducted the SEP and 21 clinicians performed the CDPT treatment. Three senior SEP therapists, with more than 20 years of experience in psychiatry and dynamic psychotherapy, had trained the remaining SEP therapists, whose experience varied from 1 to 10 years. The three senior SE therapists had received their training in both SEP and the use of the adherence/competence rating scale (Barber & Crits-Christoph, 1996) by the developers of the treatment. The training cases of these three therapists were translated into English and rated by adherence raters at the University of Pennsylvania Center for Psychotherapy Research until they reached acceptable adherence levels to start training the other SEP therapists and adherence raters in Sweden.

The CDPT clinicians had a mean experience of 12.5 years in psychiatry and dynamic psychotherapy. All therapists except one had at least one year of full time formal post graduate training in dynamic psychotherapy consistent with a psychotherapist certification. They all received weekly psychodynamic psychotherapy supervision prior to and during the study. Within the public health care system, dynamic therapists tend to emphasize supportive techniques when dealing with patients with severe pathology. The CDPT group included 2 psychiatrists who had three patients in treatment ($n = 3$), 6 psychologists ($n = 13$), 5 psychiatric nurses ($n = 42$), 6 psychiatric social workers ($n = 16$) and 2 psychiatric nurses' assistants ($n = 2$). All therapists were blind to the specific hypotheses addressed in this paper.

Treatments

The SEP in this study followed Luborsky's treatment manual (Barber & Crits-Christoph, 1995; Luborsky, 1984). The treatment consisted of 40 sessions delivered, on average, over the course of one about a calendar year. In SEP, the therapists used the operationalized Core Conflictual Relationship Theme (CCRT) (Luborsky & Crits-Christoph, 1998) framework to understand and interpret patient's transferences and maladaptive interpersonal patterns and to understand their symptoms in relation to the CCRT. All therapy sessions were videotaped, and two trained raters evaluated adherence to the SEP method using an adherence/

competence scale (Barber & Crits-Christoph, 1996; Barber, Krakauer, Calvo, Badgio, & Faude, 1997). The 7th session for each patient for whom we had recordings available was rated. The raters had a training period of two years and completed roughly 30 training tapes during this period. The scale includes three technique subscales: general therapeutic (non SEP-specific interventions), supportive (interventions aimed at strengthening therapeutic alliance) and interpretative/expressive (primarily CCRT specific interventions). Intraclass correlations for the two independent raters' adherence ratings were calculated and found to be good in the current sample (general therapeutic techniques = .81, supportive techniques = .76, and expressive techniques = .81).

The comparison group was intended to be a naturalistic treatment as usual for PD patients. The basic psychotherapeutic training of these clinicians was psychoanalytically oriented and they received supervision from a psychoanalyst during the study period. They were not provided with any clinical guidelines on how to treat their patients. They chose their own preferred treatments and had the freedom to determine the focus of the treatment, its frequency and when to terminate treatment. However, it was quite clear that the predominant orientation of all but one therapist was psychodynamic. This reinforced our conclusion that this trial involved the comparison of two psychodynamic treatments, one manualized time limited and one non-manualized. Therefore, Vinnars et al. (2005) chose to call the comparison group community delivered psychodynamic treatment (CDPT).

From the clinical computerized records, Vinnars et al. (2005) were able to compare the number of sessions PD patients in general received in the clinic and compare it to the number of sessions the CDPT patients received. They reported that the number of sessions for the comparison group during the one-year treatment phase ($M = 21.3$, $SD = 15.5$) was significantly higher than the usual number of sessions delivered to PD outpatients ($M = 12.5$, $SD = 20.6$), (Mann-Whitney $U = 10258.00$, $p < .00$). Thus, the comparison treatment was a more session intensive treatment than regular Swedish TAU.

Although the manualized SEP was time-limited, CDPT was open-ended. That is, the research team did not determine the length of treatment in the CDPT group. However, this did not mean that all CDPT patients received a long term therapy. In fact, the mean number of total treatment sessions attended between pre-treatment and the one year follow-up assessment did not differ between the two groups (Mann-Whitney $U = 2994$, $p < .87$). On average, SEP patients received 26 sessions ($SD = 15.2$, $Mdn = 30$, $range = 0-78$) and CDPT patients received 28 sessions ($SD=23.7$, $Mdn = 22$, $range = 0-101$). Even when one focuses only on the time between the pre-treatment and post-treatment assessments, the SEP patients had a mean of 25 ($SD=13.0$, $Mdn = 30$, $range = 40$) sessions in contrast to 22 sessions for the CDPT patients ($SD = 15.5$, $Mdn = 21$, $range = 0-61$) sessions, respectively (Mann-Whitney $U = 2638$, $p < .19$).

Treatment Attendance

As the non-manualized treatment, by its nature, did not have a protocol in which treatment contracts were agreed upon, the definition of drop-outs for this condition was complicated. To solve the attendance issue, session data were collected from patients' medical records. Treatment attendance was classified into 1) regular once a week (SEP = 52, 65%, CDPT = 43, 56.6%), 2) irregular, i.e., less frequent than once a week, including an inability to keep regular appointments scheduled once a week (SEP = 16, 20%, CDPT = 17, 22.4%), or 3) no treatment, i.e., not attending more than two session after randomization (SEP = 12, 15%, CDPT = 16, 21.1%). No significant difference was found between the two treatments in terms of attendance ($\chi^2(2) = 1.35$, $p = .51$) (Vinnars et al., 2005).

Assessment Time-Points

Outcome measures were collected at three time-points in both treatments: 1) pre-treatment, 2) post-treatment at termination of SEP (after one year), and 3) follow-up after one additional year. Because the comparison condition was not time-limited treatment, they could still conceivably be in treatment at the time that SEP patients were in post-treatment and follow-up. The questionnaires were filled out at the CMHCs in connection with the assessment interviews. In the CDPT condition 29 patients (38.2%) and in the SEP group 13 patients (16.3%) were still in treatment during the follow-up phase. Ethical protocols for this study allowed patients who were still under considerable distress to continue SEP treatment. As a result there were still a number of patients in SEP treatment during follow-up.

Assessment Procedures

Clinical psychologists with extensive clinical experience conducted the Structural Clinical Interview for DSM-IV II (SCID-II) (First et al., 1997) and Karolinska Psychodynamic Profile (KAPP) interviews (Weinryb, Rössel, Gustavsson, Åsberg, & Barber, 1997; Weinryb & Rössel, 1991). The SCID diagnosticians met regularly with an experienced senior psychiatrist to discuss their ratings and to reduce rater drift throughout the whole trial. The interviewers conducting KAPP interviews also met regularly with the developer of the KAPP method (Robert Weinryb) for several years of training prior to starting the study and continued to do so throughout the study for the purpose of reducing rater drift.

Outcome Measures

The KAPP—Quality of object-relations and specific ego-functions were measured with the KAPP, a rating instrument based upon psychoanalytic theory which intends to estimate relatively stable modes of mental functioning and character traits (Weinryb & Rössel, 1991). Data were collected through a semi-structured interview and subsequently rated on 18 items. The profile has been shown to be reliable and useful for assessing fairly stable character traits, and can also discriminate between patients with and without psychiatric psychopathology (Weinryb, Gustavsson, & Barber, 2003). Interrater reliability was found to be .84. Discriminant validity was demonstrated by showing that patients with a DSM-III-R psychiatric diagnosis had significantly higher scores on 17 of the 18 subscales from patients without such diagnoses. Stability over time (22 months) was demonstrated by a median correlation of .57 between two assessments in a sample of patients who had abdominal surgery (Weinryb et al., 1997).

Because of its relevance to dynamic therapy, we were mainly interested in psychodynamic measures of the quality of object relations. In a previous factor analysis conducted on a large sample of heterogeneous patients ($n = 528$), Lindgren et al. (2006) had found that the first factor corresponded to quality of object relations and ego strength. It consisted of the subscales intimacy and reciprocity, dependency and separation, controlling personality traits, frustration tolerance, impulse control, coping with aggressive affects, and personality organization.

Psychological Mindedness (PM)—Psychological mindedness was measured with the psychological mindedness scale (PMS) (Conte, Ratto, & Karasu, 1996). The PMS is a 45-item questionnaire that was constructed with the intention to measure whether patients were suitable for psychotherapy or not. The items are rated on a 4-point scale ('strongly agree' to 'strongly disagree') and higher scores indicated greater PM. Some PCA have been conducted with unstable and very different factor solutions (Conte, Ratto, & Karasu, 1996; Shill & Lymley, 2002). Thus, a mean PM score using all items in the scale was chosen (Vinnars et al., 2007). The Cronbach's α for PM was .85 in the current sample.

The Circumplex Version of the IIP—The IIP (Alden, Wiggins, & Pincus, 1990; Horowitz, Rosenberg, Baer, Ureno, & Villaseñor, 1988) has 8 subscales, each consisting of 8 items. The Swedish IIP-version (Weinryb et al., 1996) has been shown to have acceptable reliability (Cronbach's $\alpha = .70-.85$) which are in the same range as those reported by Alden (1990) for the original circumplex version of the IIP. Its discriminatory and construct validity was also established and found satisfactory (Weinryb et al., 1996). We used the mean score of all 64 items as a measure of the general level of interpersonal distress, and also computed mean score for each subscale to explore whether the amount of improvement differed among the different aspects of interpersonal functioning (Horowitz, Rosenberg, & Bartholomew, 1993). The Cronbach's α for IIP in the current sample was .92.

Neuroticism, agreeableness and impulsiveness—These traits were measured with the Karolinska Scale of Personality (KSP) (Schalling, Edman, & Åsberg, 1983). The KSP is a self-report personality inventory widely used in Scandinavia, aimed at assessing personality or temperament dimensions especially those believed to be markers of vulnerability for psychopathology. The inventory consists of 15 subscales (135 items in a 4-point Likert response format). The number of items in each scale ranges between 5 items (hostility and aggressiveness related scales) and 20 items (socialization scale) with the majority of scales having 10 items. The KSP has been shown to be longitudinally stable and to have acceptable validity (Gustavsson, 1997). Long-term (10 years) test-retest reliability has been found to be good in non-criminal adolescents, showing good stability on all KSP subscales ranging from .53 to .73 (Kampe, Edman, & Hannerz, 1996).

Several factor analyses using the 15 KSP subscales have been conducted with different samples in Sweden (Gustavsson, Weinryb, Göransson, Pedersen, & Åsberg, 1997), and these have resulted in different solutions. Therefore, a principle components analysis on patients' data from the CMHCs (where our patients were seen) was conducted. We included all patients (with both Axis I and II disorders) that were screened for participation in the RCT and used a varimax rotation ($n=454$). The results indicated a three-factor solution which explained 58.84% of the variance. Two of these three factors showed similarities with factors from the Five Factor Model. We termed the first factor neuroticism that contained subscales somatic anxiety, psychic anxiety, muscular tension, psychasthenia, socialization (negative), inhibition of aggression, guilt, and suspicion. The second factor corresponded to the negative dimension of agreeableness of the Five Factor Model and contained the subscales indirect aggression, verbal aggression, irritability and social desirability (negative). The third factor seemed to correspond to the impulsiveness pole of the dimension constraint/impulsiveness (Livesley, 2003) and contained monotony avoidance, impulsiveness, and detachment (negative). Cronbach's α for neuroticism was .81, for agreeableness .75 and for impulsiveness .54 in the current sample.

Data analytic strategy

Patients were randomized using a computerized stratification randomization procedure (urn) (Vinnars et al., 2005), with DSM-Clusters (A, B or C), marital status, age, and sex being used as stratification variables. Stratification guarantees balance for a number of covariates. The urn randomization procedure randomly assigns subjects, with a probability other than 0.5 to cells where there may be an imbalance.

Since we only had scores for the quality of object relations and ego functions (KAPP) data for two time-points (viz., intake and follow-up), we performed an analysis of covariance (ANCOVA) (partialling out the KAPP scores at intake) to explore if significant differences between treatments at follow-up existed. The IIP, KSP and PM data were of a longitudinal character with measurements at three time-points. To make use of all available data for each

subject we used a mixed-model ANOVA (also known as mixed-effect model) (Laird & Ware, 1982; Schwarz, 1993). Using an intent-to-treat approach, all patients were included in the statistical analyses regardless of whether or not they completed treatment.

The mixed effect model can model the time effect and include predictors and time variables as covariates. As our data indicated different rates of change between pre- and post-treatment compared to post-treatment and follow-up, we used a special type of mixed-effect model called a linear piece-wise mixed-effects model that modeled separate rates of change from pre- to post-treatment and from post-treatment through follow-up (Schwarz, 1993). Through estimation of $-2 \log$ likelihood estimates we decided that this model was preferable to models assuming linear change or models estimating the average over the longitudinal period. The $-2 \log$ likelihood estimates also indicated that we should use a compound symmetry structure to model the covariance structure. In the mixed effect model, treatment group was entered as fixed factor and time period, sex, and site as covariates.

In addition, we also examined the role of therapists' effects in those models. Due to the fact that in the CDPT condition there were many therapists who had less than 5 cases, these therapists could not be included in the analyses addressing therapist effect. Even when we took out these therapists, the statistical analyses were not able to converge due to the small amount of variability. In summary, we were not able to determine whether there was a therapist effect in this sample.

We calculated within-group effect sizes for all outcome variables using Cohen's d from intake to follow-up. Because we were interested in the question of the degree of change in personality and dynamic variables over and beyond the change in symptoms, we also calculated effect sizes adjusted for improvement in SCL-90 for all variables. Partialling out improvement in psychiatric symptoms from all outcome variables provides a "purer" measurement of personality improvement. In order to compare our effect sizes with other studies, we utilized a conservative approach to account for both non-adjusted and adjusted effect sizes in the result section.

Jacobson and Truax (1991) have proposed using a Reliable change index (RCI) as an alternative way to explore clinically significant improvement. An RC coefficient is equivalent to the difference between two scores divided by the standard error of the difference between the scores, which is derived from test-retest reliability of a measure and standard deviation of pretreatment scores on that measure. An RC coefficient that is larger than 1.96 is usually regarded as unlikely to occur without any actual change ($p < .05$). Since this is a rigorous procedure, we also used a method proposed by Samstag, Batchelder, Muran, Safran, and Winston (1998) to classify patients as improved, but not recovered, when they had a RC score greater than .5 but smaller than 1.96. We calculated RCI only for those instruments that had been shown to change significantly during treatment.

Results

Data Attrition

Regarding data on the quality of object relations and ego functions, we had access to 89 (57 %) of the total possible 156 observations at follow-up. For the remaining variables where patients were assessed at three time-points 468 (3*156 patients) observations could have been gathered and included in the statistical analyses. For PM, 348 observations were available (74.4% of the total possible observations). For the IIP and the KSP, we had respectively 78.4% and 77.4% of the total possible number of observations.

Change in Quality of Object Relations and Ego Functions

The ANCOVA showed no difference between treatments ($p = .62$), but a significant improvement over time ($F(1, 88) = 15.4, p < .00$) was found, indicating that object relations and ego functions improved significantly from intake to follow-up regardless of treatment. The effect size for the whole sample was .63, and the adjusted effect size was .83 indicating a higher “pure” improvement when symptomatic improvement was partialled out. Effect sizes for the two treatments are shown separately in Table 1.

Change in Psychological Mindedness

Psychological mindedness improved significantly during the active treatment phase ($F(1, 191) = 4.45, p > .05$) but not differentially across the two treatments. The non-adjusted effect size for the whole sample during the active treatment phase was .17 and the adjusted effect size for the same period was .16. From intake to follow-up the non-adjusted effect size was .08 and the adjusted effect size .05. During the follow-up phase no significant improvement was found. Separate effect sizes for the two treatments are shown in Table 1.

Change in Interpersonal Problems

Using the piecewise mixed-effects model we found a significant improvement of the mean IIP score during the active treatment phase ($F(1, 207) = 7.27, p > .01$), but no difference between the treatments. During the follow-up phase, there was neither significant improvement for the whole sample nor between the two treatments. The effect size of improvement from intake to termination was .20 (adjusted ES was .18) and from intake to follow-up .30 (adjusted ES was .29) for the whole sample. Thus, there was hardly any difference between non-adjusted and adjusted effect size. This indicated that the improvement in IIP was over and above symptomatic improvement. When we explored results for the different subscales, significant improvements for the whole sample were found during the active treatment phase (regardless of treatment condition) for four of the IIP subscales (socially avoidant ($F(1, 207) = 6.03, p < .05, ES = .14$, adjusted $ES = .16$), exploitable ($F(1, 207) = 4.30, p < .05, ES = .17$, adjusted $ES = .11$), overly nurturant ($F(1, 207) = 4.4, p < .05, ES = .15$, adjusted $ES = .11$) and intrusive ($F(1, 207) = 4.05, p < .05, ES = .11$, adjusted $ES = .08$)). The non-adjusted and adjusted effect sizes were quite similar for all subscales that improved significantly, again indicating that these very small interpersonal improvements were somewhat unrelated to symptomatic improvement.

Change in Personality Traits

During the active treatment phase we found a significant improvement in neuroticism ($F(1, 204) = 10.46, p < .001, ES = .48$, adjusted $ES = .25$) regardless of treatment mode. During the follow-up period we found a significant interaction with treatments ($F(1, 204) = 5.65, p < .05$) indicating that the control group improved significantly more than the SEP group (see Table 1). The unadjusted effect size for the control group was .61 from intake to follow-up and the adjusted effect size was .86. For SEP the unadjusted effect size was .32 and the adjusted .39. Level of agreeableness improved significantly during the active phase period regardless of treatment condition ($F(1, 204) = 4.81, p < .05, ES = .19$, adjusted $ES = .22$). During the follow-up phase we did not find any significant improvement for the whole sample or for treatments. In regards to impulsiveness, no significant improvement during the active treatment phase or during follow-up period was found.

Discussion

This study explored the extent to which manualized psychodynamic psychotherapy was superior to ordinary clinical treatment as conducted in the community in Scandinavia in

improving maladaptive personality functioning in patients with any DSM-IV PD diagnosis. We did not find any significant difference between the two treatments suggesting perhaps that the format of treatment (i.e., whether it was manualized psychodynamic or ordinary clinical treatment) did not seem to differentially impact change in personality. The one exception was for neuroticism, and this was only during follow-up. When improvement in psychiatric symptoms was partialled out, the comparison group demonstrated the highest rate of change on neuroticism from intake to follow-up (adjusted $ES = .86$) when compared to SEP (adjusted $ES = .39$). Nevertheless, we found significant improvements in the quality of object relations and ego functions from intake to the follow-up assessment for all patients. Interpersonal problems, agreeableness and psychological mindedness also demonstrated smaller but significant improvement during the active treatment phase. Contrary to expectation, impulsiveness did not improve.

The largest improvements (in terms of effect sizes) were for quality of object relations and neuroticism when symptomatic improvement was partialled out. Both variables assess pathological traits that are fairly stable and thus not expected to improve easily. During the two year period of the study, core aspects of the PD condition such as quality of object relations improved. This is consistent with the aim of psychodynamic therapy whether manualized or not. Only one psychotherapy study has previously used the KAPP. This was a naturalistic study exploring effects of several years of psychoanalytic psychotherapy for a sample of patients (mostly without comorbid PD) and the degree of improvement was of similar magnitude to ours (Wilczek, Weinryb, Barber, Gustavsson, & Åsberg, 2004). Høglend (1993) and Høglend and Piper (1995) have also reported change in dynamic constructs such as quality of object relationships in a mixed sample of PD and non-PD patients. Another theoretically relevant measure of psychodynamic therapy is reflective functioning which was not measured in our study. Levy et al. (2006) have shown that reflective functioning improved in BPD patients following transference focused psychodynamic psychotherapy but not following dialectical behavior therapy or supportive psychodynamic psychotherapy. Taken together, these findings suggest that quality of object relations improve following psychodynamic psychotherapy and that this is perhaps specific to dynamic therapy.

Although high levels of neuroticism are fairly common in BPD and some Cluster C PD patients, we did not find studies reporting change in neuroticism in PD patients after psychotherapy. Improving levels of neuroticism may be important, as it is considered a pathogenic trait underlying several Axis I disorders (Zinbarg et al., 1994). High levels of neuroticism have been related to longer time to remission in severely depressed patients (O'Leary & Costello, 2001) and to greater symptomatic and occupational impairment and global dysfunction (Miller & Pilkonis, 2006). We are puzzled about why the non-manualized treatment produced a greater change in neuroticism than SEP. Preliminary results of SEP with patients with generalized anxiety disorder suggest that it could be an effective treatment for anxiety disorders (Crits-Christoph, Connolly, Azarian, Crits-Christoph, & Shappell, 1996) and therefore perhaps for neuroticism which is related to anxiety. Before trying to speculate on reasons why non-manualized clinical treatment was superior to manualized psychodynamic treatment, these results need to be replicated.

Looking at rate of recovery, we found that very few patients recovered on any outcome measure using the traditional RCI method. However using the much more liberal concept of clinically significant improvement (Samstag, Batchelder, Muran, Safran, & Winston, 1998) the number of patients classified as improved on the quality of object relation variable was 48.3%, and was a bit larger than the number of patients demonstrating reliable change improvement in neuroticism and other outcome measures. Perhaps the fact that half the group improved in terms of the quality of their interpersonal functioning (object relations)

can be regarded consistent with the goal of time limited SEP as inducing a small but significant change in character (Luborsky, 1984). Even though therapy did not lead to clinically significant recovery, it can perhaps be conceived of as initiating a psychodynamic structural process of change as reflected by the observed change in quality of object relations.

Considering patients' improvement during the follow up phase, a naturalistic Swedish study evaluating the effects of psychoanalysis and long-term dynamic psychotherapy reported that patients who received either psychodynamic therapy or psychoanalysis continued to improve symptomatically after the end of these fairly intensive treatments (Sandell, Blomberg, & Lazar, 2002). Interestingly, patients who underwent psychoanalysis continued to make significantly more progress after termination than those who received dynamic therapy. However, we were not able to detect a further improvement during the follow-up phase on any of the primary outcome measures (Vinnars et al., 2005). Thus, we have no evidence supporting a major tenet of time-limited dynamic psychotherapy that once a process of change is set in motion, that this progress continues after therapy termination. Combining our results with Sandell et al. (2002), it could be that to put this process in motion, one would need a more session intensive treatment.

Significant improvements in the other measures of personality were of a small and rather insignificant magnitude as one can infer from examining these within-group effect sizes. This small improvement was especially troubling in regards to interpersonal pathology, as this is considered to be a major part of PD pathology and is specifically targeted by dynamic therapy. Because the IIP has been used extensively in psychotherapy research, it is possible to compare our results with those of other trials. Muran et al. (2005) reported results most similar to ours for a sample of Cluster C patients using a similar length of treatment. However, Svartberg (2004) also treated Cluster C patients with a similarly planned duration of 40 sessions and showed higher effect sizes (1.07 after treatment) than ours (ES of .30 at follow-up) and those of Muran et al (ES of .31, .33 and .40 at follow-up). The reasons for these differences are not clear. Although one would have expected that longer treatments results in larger IIP change (Huber et al., 2007) than shorter ones, one long-term psychotherapy study stretching over several years did not find greater change than we did. More specifically, Lorentzen et al. (2002) reported an effect size of only .59 in a study of long-term psychoanalytic psychotherapy (68% with different PD diagnoses). Nevertheless, Bateman and Fonagy (2001) obtained greater effect sizes using a more intensive, long term treatment for a severe BPD sample. It could be that interpersonal problems are too ego-syntonic for the patient to report change in a self-rating. Perhaps a different way of assessing change (e.g., projective testing) could uncover a change since research has shown that self-report measures and projective tests measure different aspects of a construct (Bornstein, 2002). In summary, the results from these studies indicate that improvement in interpersonal problems is possible. However, it is hard to predict in advance what specific treatment, what treatment length, or for what specific sample of patients these interpersonal problems will improve.

This study did not specifically explore the relation between treatment duration and outcome. It is however a common clinical belief that longer treatment will lead to greater improvement, and many clinicians are skeptical of the therapeutic value of time-limited psychotherapies for severe disorders. Very few studies have explored this relation and even those with positive findings are based on relatively few studies (Leichsenring & Leibing, 2003). The strongest evidence that long-term treatment yields better outcomes than briefer time-limited can be found in the Helsinki Psychotherapy study (Knekt et al., 2008). The issue is complex and it is quite likely the length of treatment-outcome relation could be mediated by several factors, i.e. patients' awareness of their focal problems, which is often

impaired in PD patients (Steenbarger (1994). Planning treatment duration in advance may not be necessary, even if this option runs contrary to demands imposed by clinical policy and reimbursement restrictions. Stiles, Barkham, Connell and Mellor-Clark (2008) proposed a responsive regulation model suggesting that in clinical practice the level of improvement and treatment duration were reciprocally regulated so that treatments tend to end when clients have improved to a sufficient degree.

There were some limitations to this study and its possible conclusions. Foremost we were not able to control the treatment delivered in the comparison group since it was aimed at being a naturalistic comparison. Audio taping was voluntary in the comparison group and consequently it was not feasible to conduct adherence/competence ratings for that treatment due to the low number of cases. In addition, while in SEP there were 6 therapists, the comparison group included 21 therapists. Due to the fact that we did not have enough patients per therapist in the comparison group, we could not conduct analyses examining the impact of therapist effects. Consequently we cannot ascertain that lack of differences on the current measures of outcome was not driven by a therapist effect. We could however show that differences in number of sessions over both treatments did not influence the results. Similarly, the length of therapy was not significantly different between the two groups preventing us from refuting or corroborating the hypothesis that longer treatment would be better for demonstrating characterological change (Kopta, et al., 1994). Although this was not the intent of the trial protocol, both treatments were based on dynamic therapy, due to the fact that most Swedish psychotherapists (at least in the 1990s) received psychodynamic training. Consequently, a different control group based on another psychological theory would have been preferable to control for the hypothesis that psychodynamic psychotherapy brings about improvement in quality of object relations and ego functions.

In conclusion, it appears possible to obtain improved functioning in various important aspects of pathological personality functioning. The number of patients achieving recovery was small. Perhaps it is not realistic to expect many of these patients to achieve a normal range of functioning in a one year treatment. However, using a measure of clinically significant improvement, a large number of patients did improve in some major aspects of the disorder. It remains to be seen if prolongation of the treatment (perhaps up to two or more years), may contribute to further improvement in maladaptive personality functioning. Therefore, the recommendation that longer treatment will be beneficial is not obvious but requires further study.

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Table 1

Change in quality of object relations and ego functions, neuroticism, agreeableness, impulsiveness and psychological mindedness.

Variable	Time	Treatment	n	M	SD	Effect size	Adjusted effect size
<i>Quality of object relations and ego functions</i>							
Intake		SEP	78	2.04	.35		
		Control	74	2.10	.30		
Follow-up		SEP	48	1.79	.39	-.59	-.82
		Control	44	1.77	.41	-.68	-.82
T-score							
<i>Neuroticism</i>							
Intake		SEP	78	60.67	8.66		
		Control	72	61.91	8.14		
Termination		SEP	55	56.84	8.27	-.34	-.30
		Control	46	58.95	10.0	-.15	-.18
Follow-up		SEP	60	58.49	9.50	-.37	-.39
		Control	51	55.96	8.90	-.61	-.86
<i>Agreeableness</i>							
Intake		SEP	78	54.58	8.34		
		Control	73	53.24	7.49		
Termination		SEP	54	51.39	8.41	-.25	-.34
		Control	46	52.56	7.88	-.12	-.11
Follow-up		SEP	60	51.25	7.39	-.44	-.43
		Control	51	49.91	6.32	-.38	-.31
<i>Impulsiveness</i>							
Intake		SEP	78	47.94	7.64		
		Control	72	49.84	8.55		
Termination		SEP	50	48.18	8.35	.02	.01
		Control	45	48.26	7.82	-.06	-.016
Follow-up		SEP	60	48.06	8.2	.00	-.15
		Control	51	50.06	7.97	-.02	.06

Variable	Time	Treatment	n	M	SD	Effect size	Adjusted effect size
<i>Psychological Mindedness</i>							
Intake		SEP	73	2.09	.29		
		Control	70	2.06	.26		
Termination		SEP	51	2.02	.32	-.06	-.02
		Control	48	1.97	.26	-.30	-.33
Follow-up		SEP	57	2.09	.31	.07	.19
		Control	49	1.97	.29	-.26	-.27
<i>Interpersonal problems average</i>							
Intake		SEP	78	1.28	.48		
		Control	74	1.31	.46		
Termination		SEP	51	1.09	.53	.21	.13
		Control	49	1.15	.54	.19	.18
Follow-up		SEP	63	1.06	.52	.42	.40
		Control	52	1.16	.69	.17	.15

Table 2

Reliable change index (RCI)

Variable		Recovered	Improved	Chi ²
KAPP obj (n=89)		3 (3.37%)	43 (48.31)	
IIP total termination	SEP (n=51)	2 (3.9%)	18 (35.29%)	ns
	Control (n=48)	1 (2.08%)	18 (37.5%)	
IIP total follow-up	SEP (n=61)	2 (3.28%)	21 (34.42%)	ns
	Control (n=50)	3 (6%)	15 (30%)	
KSP neuroticism follow-up	SEP (n=59)	5 (8.47%)	18 (30.5%)	ns
	Control (n=49)	6 (12.24%)	16 (32.65%)	
KSP extraversion follow-up	SEP (n=59)	2 (3.4%)	18 (30.5%)	ns
	Control (n=49)	1 (2%)	14 (28.6%)	
KSP aggression follow-up	SEP (n=59)	2 (3.4%)	26 (44.1%)	ns
	Control (n=49)	2 (4%)	23 (46%)	
PM	SEP (n=51)	4 (7.8%)	12 (23.5%)	ns (p =0.073)
	Control (n=45)	10 (10.4%)	13 (13.5%)	