

Thesis for doctoral degree (Ph.D.)  
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TIME-LIMITED DYNAMIC  
PSYCHOTHERAPY FOR  
PSYCHIATRIC OUTPATIENTS  
WITH PERSONALITY  
DISORDERS. A RANDOMIZED  
CONTROLLED TRIAL

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**Karolinska  
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From DEPARTMENT OF CLINICAL NEUROSCIENCE, SECTION  
OF PSYCHOTHERAPY  
Karolinska Institutet, Stockholm, Sweden

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To my Mother, Father and to Robert.



## ABSTRACT

This thesis presents data collected from a randomized controlled trial (RCT) for psychiatric outpatients with at least one diagnosis of Personality Disorder (PD). There is a high prevalence of PD among patients from both primary care and psychiatry, and these patients are often considered difficult to treat. Further, there is little evidence suggesting that any psychological treatment is effective for PD. Within the context of a RCT, we examined the clinical utility of a manualized psychodynamic treatment possessing some empirical evidence for treating other psychiatric conditions. Out of 371 consecutive patients assessed for eligibility, 159 were non-PD, and 56 PD patients were unwilling to participate. The remaining 156 PD patients were randomized to either a manualized version of Supportive-Expressive Psychotherapy (SEP) (n=80) or to a control condition (n=76) that consisted of non-manualized community delivered psychodynamic treatment (CDPT). In study I, we explored the extent to which the treatments were able to a) reduce the prevalence of PD diagnoses and reduce their severity, b) decrease the number of PD features, c) reduce the overall levels of psychiatric severity, d) improve global level of functioning, and e) demonstrate cost-effectiveness in reducing health care consumption (as measured by number of visits after termination of treatment). Results demonstrated that patients improved significantly in all aspects, but that no significant difference between the two treatments was found. However, SEP was more cost effective than CDPT.

In study II, significant patient variables were tested for the purpose of exploring whether they either moderated or predicted the reduction of psychiatric symptoms (SCL-90). We found that intake level of PD criteria was associated with poorer outcome in both treatments and also that higher vindictiveness predicted a better outcome. Further, patients high in dominance showed greater improvements following CDPT than SEP. Study III explored to what extent quality of object relation and ego functions, psychological mindedness, interpersonal problems, and some "big five" personality traits (viz., neuroticism, agreeableness and extraversion), improved after treatment. We found significant improvements for most variables, but effect sizes and reliable change indices (RCI) showed that improvements were small to moderate, and few patients recovered to a healthy level. Study IV had two purposes: (a) identify baseline measures which can identify patients' non-response to treatment at respective endpoint, (b) create a prediction index for identifying these severe non-responders in the future. Fifty-four socio-demographic and clinical pre-treatment variables were used to identify those with extreme non-responder (ENR) status as defined by psychiatric symptoms and PD severity. Social withdrawal for CDPT and high levels of anxiety for SEP discriminated ENR in reducing symptomatic distress. Measures indicating detachment and social withdrawal discriminated ENR for both treatments in reducing PD severity. In addition, alexithymia in CDPT and not believing in one's social capacity for SEP further discriminated ENR. Thus, discrimination of ENR was found to be domain specific.

The main conclusions from the trial are that: 1) it is possible to treat PD condition in one year with reasonably good results, 2) SEP is slightly better at reducing level of "personality disorderness," while CDPT is somewhat better at reducing psychiatric severity, 3) it is possible to define patients variables that predict and moderate outcome, 4) it is possible to predict extreme non-response to treatment with high level of accuracy, and 5) SEP seems to be slightly more cost effective than CDPT. Our outcome results are comparable with those from other psychotherapy trials for PD patients, supporting the validity of our results. The fact that the study was conducted in a "real-world" clinical psychiatric setting in which patients did not primarily ask for psychotherapy supports the ecological validity of our findings. The main effects of the trial do not indicate that manualized psychotherapy is more efficacious than non-manualized psychodynamic treatment except in terms of cost-effectiveness. However, our results do not indicate that manualized therapy leads to worst outcome.

Some issues that were not explored or failed in this trial should be addressed in future research. Psychoanalytically based attachment measure that has empirical support for prediction of outcome can be tried, since the KAPP did not show predictive validity in this study. The clinical utility of a four dimensional psychological model for classifying severe PD conditions and plan treatment accordingly is worth exploring as an alternative to DSM. Finally longer treatment periods over a few years should be explored to increase the external validity of clinical trials.

Keywords: Personality Disorders, time-limited dynamic psychotherapy, prediction of outcome, extreme non-response

## LIST OF PUBLICATIONS

The thesis is based on the following papers, which will be referred to in the text by their Roman numerals.

- I. Vinnars, B., Barber, J. P., Norén, K., Gallop, R., & Weinryb, R. M. (2005). Manualized Supportive Expressive Psychotherapy vs. non-manualized community delivered psychodynamic therapy for patients with personality disorders: Bridging efficacy and effectiveness. *American Journal of Psychiatry*, *162*, 1933-1940.
- II. Vinnars, B., Norén, K., Thormählen, B., Gallop, R., Lindgren, A., & Barber, J. (2007). Who can benefit from time-limited dynamic psychotherapy? A study of psychiatric outpatients with personality disorders. *Clinical Psychology and Psychotherapy*, *14*, 198-210.
- III. Vinnars, B., Gallop, R., Norén, K., Thormählen, B., & Barber, J. P. (Manuscript submitted). Is improvement of personality problems possible with time-limited manualized dynamic psychotherapy? A study of psychiatric patients with Personality Disorder.
- IV. Vinnars, B., Gallop, R., Norén, K., Thormählen, B., & Barber, J. P. (Manuscript submitted). Who cannot benefit from time-limited dynamic psychotherapy? A study of extreme non-responding patients with Personality Disorder.

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## LIST OF ABBREVIATIONS

|             |  |
|-------------|--|
| Axis I      | Syndrome diagnoses of DSM-IV                                     |
| Axis II     | Personality Disorders of DSM-IV                                  |
| BPD         | Borderline Personality Disorder                                  |
| CDPT        | Community Delivered Psychodynamic Treatment                      |
| CCRT        | Core Conflictual Relationship Theme                              |
| DDF         | Difficulties Describing Feeling, TAS-20 subscale                 |
| DIF         | Difficulties Identifying Feelings, TAS-20 subscale               |
| DSM-IV      | Diagnostic and Statistical Manual, fourth edition                |
| EOT         | Externally Oriented Thinking, TAS-20 subscale                    |
| EST         | Empirically supported treatments                                 |
| GAF         | Global assessment of functioning (DSM-IV axis V)                 |
| IIP         | Inventory of Interpersonal Problems                              |
| PCA         | Principal component analysis                                     |
| PD          | Personality Disorder   |
| PD NOS      | PD not otherwise specified                                       |
| RCT         | Randomized controlled trial                                      |
| RCI         | Reliable change index  |
| SCID screen | Self-report questionnaire for all Personality Disorder criterion |
| SSPS        | Schalling-Sifneos Personality Scale, measures Alexithymia        |
| SCL-90      | Symptom Check List-90  |
| SEP         | Supportive-Expressive Psychotherapy                              |
| TCF         | Target Complaint Form  |
| TAS-20      | Toronto Alexithymia Scale  |
| WBP         | Well-Being Profile   |

# 1 INTRODUCTION

This thesis presents data collected from a randomized controlled trial for psychiatric outpatients with at least one diagnosis of Personality Disorder (PD) from the Diagnostic and Statistical Manual of Mental Disorders fourth edition (DSM-IV) (American Psychiatric Association, 1994). There is a high prevalence of PD among patients from both primary care and psychiatry. They are considered difficult to treat, and empirical evidence for any specific psychological treatment is considered weak. Using RCT, we examined the clinical utility in a clinical setting for a manualized psychodynamic treatment that has achieved some empirical evidence for other psychiatric conditions. Patients were randomized to either a manualized time-limited psychodynamic psychotherapy or to a control condition that consisted of non-manualized community delivered psychodynamic treatment. We explored different clinical hypotheses and also performed exploratory analyses.

## 2 BACKGROUND

The assessment and treatment of personality and its range of abnormality has been a much neglected area in psychiatry for decades. Deviant personality has often been assessed in a brief and cursory manner, and a patient presenting him/herself with severe problems in relating to others, non-psychotic cognitive deficiencies in thinking, identity problems or acting destructively and impulsively, is at risk of being rejected for psychiatric treatment if no psychiatric syndrome or illness was evident. One major reason DSM-III (APA, 1980) introduced a separate axis (axis II) for diagnosing Personality Disorder was the concern that pathology in personality would be overlooked when competing with other disorders. It was actually noted as an unofficial reason that the psychotherapists advising the task force were uncomfortable with the syndrome diagnoses and were offered a separate axis as a *quid pro quo* for accepting axis I (Tyrer et al., 2007). In a review from 2002, Kendell summarized the debate whether abnormality in personality is a psychiatric disorder or not as follows; “It is impossible to conclude with confidence that PD are, or are not, mental illnesses; there are ambiguities in the definitions and basic information about personality disorders is lacking.” Perhaps this ambiguity whether pathology in personality is a psychiatric disorder or not, is a reason why patients who suffer from severe conflicts and deficiencies in their personality and have a poor quality of life (Cramer, Torgersen, & Kringlen, 2006) still have problems getting adequate diagnosis and treatment. The DSM-IV has contributed to boasting research, but has so far failed in providing clinicians with treatment guidance, especially for severe PD conditions. Clinicians and psychotherapists have had to look elsewhere for psychological treatment models and theories of understanding the pathology. Psychoanalytic, interpersonal, integrative, cognitive, and cognitive-behavioral therapies have mainly been used for treating PD patients.

### 2.1 DSM-IV AND PERSONALITY DISORDERS

The introduction of PD as a separate axis in DSM led to an ability to achieve good diagnostic reliability and also served to considerably accelerate research in diagnostics, validation and treatment for PD. Decades of heated but rather fruitless debates regarding etiology have been put aside for the time being. Since 1980, a great deal of empirical evidence has been collected and the professional society now has empirical support, both of which allow for debates on the best empirically based taxonomy of personality pathology.

However, this accelerating research has simultaneously revealed the shortcomings of the very same nosological system, especially for treatment planning, which promoted the research and facilitated getting funded for research on the disorder. These shortcomings are being intensively discussed due to the fact that the publication of DSM-V is imminent. Further, the boundaries between the different PD disorders are usually viewed as arbitrary and are often charged with creating more problems than they solve. The problem of comorbidity or rather co-occurrence of several PD diagnoses in the same individual is the best example of this artifact of the DSM classification system. In fact, the majority of patients diagnosed with a PD are usually diagnosed with at least one other PD diagnosis (McGlashan et al., 2000). The term comorbidity is commonly referred to when simultaneous diagnoses occur in the same individual. But the term remains controversial (Krueger & Markon, 2006). It was originally applied in the context of an individual suffering from two etiologically separate and unrelated disorders. When co-present disorders occur by chance they can also be called co-occurring. However, if co-presence of two disorders is more

frequent than expected by chance the disorders are likely to be correlated and perhaps an expression for some shared mechanism. In this case the term co-occurrence is not correct but the term co-variation is more appropriate (Dimaggio & Norcross, 2008). In fact, co-occurrence of several PD diagnoses in the same patient is rather the rule than the exception and the DSM-IV has no solution as to what are possible common mechanisms or latent factors behind this co-variation. More important, it is not clear in what order the diagnoses should be addressed in treatment. Patients with co-occurring PD diagnoses have been found to have poorer quality of life and are probably in even more urgent need of treatment (Cramer et al., 2006). But with this state of diagnostic affairs, providing an evidence base and clinical guidelines for the disorder is complicated to say the least.

## **2.2 PREVALENCE OF PD DIAGNOSES**

In order to identify treatment needs and to provide adequate psychiatric resources, the estimation of prevalence is important. Prevalence studies for PD are far less common than for axis I disorders (DSM axis for diagnosing psychiatric syndromes). In 2001 Torgersen (Torgersen, Kringlen, & Cramer, 2001) reported only six such studies had been conducted that used adequate clinical interview. Results indicated varying prevalence for any DSM PD condition between 6.7 % to 22.5%. The representativeness of these studies was put in question. Torgersen et al. (Torgersen et al., 2001) reported a prevalence of 13.4% PD in a representative Norwegian sample. In an American representative sample (Samuels et al., 2002) a prevalence of 9% was reported for any PD diagnosis. Among psychiatric patients seen by psychiatric mental health teams in a catchment area in London 52% met diagnostic criteria for one or more PD diagnoses (Keown, Holloway, & Kuipers, 2002). The most recent prevalence study conducted using the SCID-II interview for evaluating PD among psychiatric patients reported 31.4% of the 10 official PD diagnoses in the DSM-IV (Zimmerman, Rothschild, & Chelminski, 2005). When PD NOS was included the prevalence increased to 45.5%. Even in primary care a PD diagnosis was found in 24% of a sample of patients and it was reported as a significant source of burden in primary care (Moran, Jenkins, Tylee, Blizard, & Mann, 2000). In one of the most common axis I disorder, depression comorbidity with PD has been found to be as high as between 40-50% (Mulder, 2004). Most published studies with anxiety disorders include patients with Panic disorder exclusively (Ozkan & Altindag, 2005) and rates of comorbidity with PD vary considerably from 35 to 90%, the latter probably considerably over estimated, but the fact still remains that comorbidity is high. During this study including an early pilot phase, we interviewed a consecutive sample of 462 psychiatric patients with SCID-II and found that almost 60% had at least one PD (Noren et al., 2007)

## **2.3 CLINICAL CONSEQUENCES OF A PD DIAGNOSIS**

In addition to being prevalent the PD diagnoses are often associated with occupational difficulties, marital dissolution and criminal problems (Bland, Stebelsky, Orn, & Newman, 1988; Johnson et al., 2000; McCranie & Kahan, 1986). Patients with PD have also been found to have a greater functional impairment than patients with major depression (Skodol et al., 2002) as well as higher utilization of treatment resources (Bender et al., 2001). The general clinical opinion, supported by research (Diguer, Barber, & Luborsky, 1993; Massion et al., 2002; Pilkonis & Frank, 1988; Reich & Green, 1991; Skodol et al., 2002), is that PD responds less well to

treatment. A recent review (Tyrer & Mulder, 2006) has modified this conclusion stating that the more severe and complex cases of (comorbid) PD do have a negative effect on most treatment outcomes for mental state disorders. However, this effect is much less marked when considering lower levels of severity of the disorder and when the treatment intervention is a pharmacological in nature. It is believed that poor treatment adherence is underlying this effect. The review further notes that no agreement exists on what constitutes a severe PD, but that it likely includes comorbidity covering several clusters and often including at least one cluster B diagnosis.

## **2.4 EMPIRICALLY SUPPORTED TREATMENTS AND USE OF SHORT-TERM PSYCHOTHERAPY**

Concern for the client welfare and the issues of cost-effectiveness in the public health care organizations has led to demands for psychological treatments to be evidence based. The initial impact of this was felt in 1996 when Sackett introduced the concept of evidence-based health care (Sackett, Rosenberg, Gray, Haynes, & Richardson, 1996). The concept was first used for psychological treatment under the title of empirically supported treatments (EST) (Chambless & Hollon, 1998) which was promoted by the American Psychological Association, division 12 task force on promotion and dissemination of psychological procedures (Chambless & Ollendick, 2001). The basic concepts of EST are 1) efficacy (internal validity), which ask the question whether the treatment has been shown to be beneficial in controlled research, 2) effectiveness (external validity) which ask whether a treatment is useful in clinical settings and finally 3) efficiency which answers the question whether the treatment is cost-effective. The gold standard of efficacy research is a randomized clinical (controlled) trial (RCT) in which a delineated sample of patients are randomized to a treatment of interest and/or to one or more control conditions. The purpose of this design is to assure the reasonable conclusion that the observed effects from the trial are due to the effects of the treatment and not confounding factors, such as passage of time, or the presence or absence of different types of clients in the different treatment conditions. Replication of a trial, preferably by another independent research team, is also essential in demonstrating efficacy, as well as to protect against possible investigator bias (i.e., allegiance effects). A treatment that has been shown to have efficacy in two independent RCTs is labeled an efficacious treatment and a treatment with efficacy in one RCT only is labeled as possibly efficacious pending replication (Chambless & Hollon, 1998). Most official clinical guidelines that are being issued to guide clinicians, researchers and decision-makers and to plan and direct the use of health care resources are based on the efficacy standard. Over the last decade the EST movement has had a strong, though not overwhelming impact on clinical practice, training, and the use of health care resources; it is an impact that is continuously growing. Above all, administrators and decision makers have been rapid in demanding the introduction of new empirically based psychological treatments and the elimination of “old” not empirically based treatments very often without realizing the complications of this field of research. The main criticism of the EST has been that it emphasizes internal over external validity (Leichsenring, 2005). There is a concern that controlled trials may not capture the full richness and diversity of clinical practice and furthermore that the randomization process may undermine the representativeness of the therapeutic encounter (Seligman, 1995). It has also been put forward as a critique that RCTs are based on two implicit fundamental assumptions: 1) the specific treatment and the technique it

uses is the primary source for outcome and 2) that psychotherapy outcome is most effectively measured by reduction in symptoms (Blatt & Zuroff, 2005). The first assumption ignores the so called non-specific therapeutic factors and the second assumption ignores the possibility that resolution of maladaptive personality traits can lead to higher well-being and quality of life and also reduce symptoms. Some researchers believe that they have empirically shown, either through own research or literature reviews of other's research that these assumptions are not valid (Blatt & Zuroff, 2005; Lambert & Barley, 2002; Westen, Novotny, & Thompson-Brenner, 2004). Much ink has been spilled between the advocates for efficacy and effectiveness aspects of psychotherapy research. Underlying this controversy, of course, is the realization that much is at stake here (Barber, 2007). Though it is often forgotten, even if efficacy trials are paramount in deciding casual issues, it is important that they be followed up by trials of effectiveness in actual clinical settings (Chambless & Ollendick, 2001). In other words both efficacy and effectiveness aspects of clinical trials are essential, one will not do without the other.

Most empirical psychotherapy research completed in the last decades has used different forms of manualized, time-limited psychotherapies, and the evidence from these trials is also what is being reported in clinical guidelines like from APA's division 12 task force for EST. This is also true for dynamic psychotherapy in spite of its reputation for providing mostly long-term open-ended treatment. Psychotherapy manuals are essential for evaluating EST in RCTs. The fundamental purpose of a psychotherapy manual is to specify or operationalize a treatment and provide guidelines to therapists for its implementation (Dobson & Hamilton, 2002), with different levels of specification that can be useful at different times. For example, in manuals that address very specific disorders (associations established through classical conditioning) session-by-session specification is likely to be an appropriate form of manualization. But longstanding generalized personality dispositions such as in PD, are not likely to be helped by session-by-session instructions (Westen, 2002). For efficacy conclusions to be possible treatment fidelity must be assured through the use of manuals. For research purposes it is vital to be able to contrast different treatments, one need to be as sure as possible that the delivered treatment is significantly close to the intended treatment (Barber & Crits-Christoph, 1996). Since the intent in efficacy research is to explore treatment effects, only therapist variability needs to be minimized by the use of manuals. Further, it is a means towards the end of being able to replicate a study as closely as possible. As with efficacy research standards the use of psychotherapy manuals have likewise been criticized for ignoring client heterogeneity, clinical judgment, theoretical integration and therapist flexibility (Addis & Waltz, 2002).

The extent and degree to which therapists are able to skillfully execute the techniques specified in the manual must be assessed, and this is done through the use of adherence/competence scales. The term adherence refers to what extent the therapist performs the interventions prescribed in the manual and competence refers to how skillfully these interventions are performed. Research has shown that adherence scales indeed can differentiate psychotherapies from each other, hence they are said to identify treatment fidelity (Barber, Foltz, Crits-Christoph, & Chittams, 2004; DeRubeis, Hollon, Evans, & Bemis, 1982; Hilsenroth, Blagy, Ackerman, Bonge, & Blais, 2005).

## **2.5 FACTORS THAT PREDICT AND MODERATE OUTCOME OF TREATMENT**

The EST movement assumes that it is possible to find an adequate psychotherapy for each disorder mostly defined by a DSM-IV diagnosis. It is not evident however, that the DSM diagnoses are the best predictors or moderators of outcome. There is e.g. evidence that underlying personality dimensions may have a stronger impact on outcome than an axis I diagnosis (Westen, Novotny, & Thompson-Brenner, 2004). The question has to be asked “which factors contribute to positive outcome in each type of therapy, in different therapies and across therapies” (Barber, 2007)? It is presumed that factors like pre-treatment characteristics in patients, among other factors, interact with treatment to produce differential effects that may be obscured when only the main effect of a trial is reported. In this context the terms predictors and moderators are used. If the predictive power of a variable is examined across treatment without considering the interaction of the variable with a specific treatment the term predictor is used. If the researcher is exploring the interaction between a pre-treatment variable that predicts outcome differently for different treatments the term moderator is used. In other words, a predictive variable gives a prognosis regardless of what treatment the patient is receiving, and a moderating variable give an indication of what treatment a patient is most likely to profit from.

## **2.6 TREATMENT FOR PD CONDITION**

In contrast to high prevalence and severe consequences of having a PD there is a scarcity of studies for psychological treatment of the disorder. The Cochrane institute recently published a report with empirical evidence for psychological treatment of one class of PD namely Borderline Personality Disorder (BPD) (Binks et al., 2006) using the efficacy standards described above. Their review suggests that there is some evidence that BPD can be treated, however, but at that stage the psychotherapies must be regarded as experimental, as the studies are too few and lack replication in a “real-world” setting (viz. effectiveness research is lacking). Since this report, three other studies have been published for BPD (Clarkin, Levy, Lenzenweger, & Kernberg, 2007; Giesen-Bloo et al., 2006; Linehan et al., 2006). Leichsenring conducted an extensive meta-analysis for the two mostly used psychological treatments for PD, namely psychodynamic therapy and cognitive behavior therapy (Leichsenring & Leibing, 2003). He found evidence that both treatments had effects with large effect sizes, 1.46 for dynamic psychotherapy and 1.00 for cognitive behavior therapy. In the psychodynamic trials there was a larger interest for measuring long-term effects than in cognitive behavior therapy. Like the Cochrane report, further trials are being required, particularly those which explore differential effects for different PD diagnoses with different treatments and those which utilize longer treatments and longer follow-up evaluations. Thus, due to small number of studies, the external validity of empirically supported psychotherapies for PD must be regarded as poor.

There is however a discrepancy between studies for all PD conditions and those for only the BPD. Borderline Personality Disorder is by far the most studied of the PD. For BPD the empirical evidence may be considered somewhat stronger than for PD in general.

## 2.7 SUPPORTIVE-EXPRESSIVE PSYCHOTHERAPY

In clinical practice psychodynamic psychotherapy has been and is still one of the most commonly practiced psychological treatments (Goisman, Warshaw, & Keller, 1999). At the same time psychodynamic psychotherapy is the one psychological treatment that has been found to have the least empirical support. Some psychodynamic psychotherapies have been developed specifically to be used in research and for which operationalization of basic psychodynamic concepts has been conducted. Supportive-Expressive Psychotherapy (SEP) (Leichsenring & Leibing, 2007; Luborsky, 1984) is an empirically based psychodynamic psychotherapy that was developed in close cooperation between clinicians, theorists and researchers. It has been studied in several clinical trials for a variety of mental disorders. The method's empirical value is demonstrated by the fact that it is one of few time-limited psychodynamic therapies for which evidence for efficacy has been found in two or more randomized controlled trials (Leichsenring & Leibing, 2007).

In SEP the concept of transference and its' consequences for all important relationships has been operationalized through the Core Conflictual Relationship theme (CCRT) (Luborsky, 1984; Luborsky & Crits-Christoph, 1998). Accurate CCRT formulations have been found to predict good psychotherapy outcome (Crits-Christoph, Cooper, & Luborsky, 1988) and pre-treatment CCRT formulations have been found to match treatment CCRTs regarding the psychotherapist thus presenting evidence consistent with the possible existence of the transference (Barber, Luborsky, Crits-Christoph, & Diguier, 1995). The CCRT is a method which utilizes a dynamic focus in combination with expressive techniques. Therefore, expressive techniques are intended to analyze the relationship between the patient's wishes (W), the corresponding either feared or real anticipated responses of others (RO), and the subsequent reaction of the self to these ROs, namely responses of self (RS). The combination of these three components is formulated as the CCRT of the patient. The whole CCRT is extracted from relationship episodes in which the patient narrates a specific and time-delimited event involving another significant person. The CCRT can be conceived of as an internalized psychological structure that influences the way the patient thinks of him/herself and his/her needs in relation to other people and also how he/she tends to react to others. The patient's symptoms are often formulated in terms of RS. In the therapeutic process, the patient and therapist jointly attempt to explore, clarify and express the relationship between these three components.

The typical CCRT for each patient will manifest itself not only in relationship to significant others, but also in relation to the therapist as transference reactions. The transference provides the therapist with the opportunity to immediately clarify how the CCRT manifests itself in an important emotionally meaningful relationship. The goal, and supposed working mechanism of the treatment, is that becoming aware of, and understanding the CCRT, will help the patient understand that his or her symptoms are a maladaptive solution to that person's Ws and feared ROs, and therefore the patient will need to find other more adaptive ways of expressing his/her Ws that will ultimately alter the patient's social reactions and decrease symptoms.

When treating patients with a diagnosis of PD, conceptualizing the role of symptom becomes more complicated. The maladaptive interpersonal reactions, behaviours, cognitions, and perceptions that form the PD diagnosis are part of the patient's personality, and are not experienced as symptoms (i.e., they are ego-syntonic). Symptoms are experienced in the more straightforward way akin to depressive and anxious reactions. The strategic difficulty for the therapist is to communicate that a long-standing trait of the patient's is problematic and

maladaptive, and must be explored, without giving the patient the impression that he/she is under attack from the therapist.

It has been proposed that treatment of PDs would profit by switching the focus from symptoms to the rigid belief systems and maladaptive interpersonal patterns that characterize PDs (Crits-Christoph & Barber, 2002). This proposition is supported by an emerging consensus among researchers (Livesley, 2001; Pincus, 2005) that the core of personality pathology involves problems with self, identity, and interpersonal dysfunction.

So far SEP has not been used for a patient sample with diverse DSM-IV PD diagnoses. Based on the preliminary research supporting SEP, this therapy seemed a good choice to explore the efficacy of dynamic therapy for a prevalent and difficult to treat psychiatric disorder.

## **2.8 AREAS OF EVALUATION**

Psychotherapy outcome research needs to target areas of problems that cause suffering for the patient and that are considered to be the core pathology of the disorder and in such a way that the study can be replicated. It is usually recommended to choose standardized methods for diagnosing the disorder, and to use reliable and valid outcome assessment instruments. In addition some treatment goals are theory specific, e.g. psychodynamic methods that aim at increasing capacity for reflective functioning or quality of object relations (Bateman & Fonagy, 2008; Fonagy et al., 1996). In these cases, measures are needed to evaluate these technique specific goals.

There seems to be an emerging consensus that at the core of the PD pathology are problems with self or identity and chronic interpersonal dysfunction (Livesley, 2001; Pincus, 2005). Clinicians from different orientations; cognitive, interpersonal, attachment and psychodynamic object-relations all emphasize concepts concerning these key areas (Clarkin, 2006).

Some specific outcome areas are of interest. Problem in relationship to others is a core area of pathology for patients with PD and interpersonal aspects of functioning are described both in psychodynamic and interpersonal theory. Psychodynamic psychotherapy has the ambition of resolving personality conflicts and improving personality pathology. One important concept in psychodynamic theory is quality of object relations and ego-functions (Weinryb & Rössel, 1991). It has been defined as a person's lifelong pattern of establishing certain kinds of relationships that range (along a continuum) from primitive to mature (Piper, Ogrodniczuk, & Joyce, 2004). Thus, it places the problems PD patient have connecting to others in a framework that bears relation to those problems we all struggle with.

Interpersonal problems are a major reason that people seek treatment (Gurtman, 1996; Hoglend, 1988) and PD patients typically manifest their pathology in this area. According to the circumplex interpersonal theory all interpersonal behaviors can be conceptualized as combinations or blends of the two basic independent dimensions of agency (dominance) and communion (affiliation) (Gurtman & Balakrishnan, 1998) represented by the axes in a circumplex model. Using these axes, four quadrants are created: hostile dominance, friendly dominance, friendly submissiveness, and hostile submissiveness (Alden, Wiggins, & Pincus, 1990).

Many researchers have recommended to link the study of PD to personality theory that has considerable more empirical evidence than the DSM-IV (Livesley, 2001; Schroeder, Wormworth, & Livesley, 1992). They believe that the conceptual underpinnings of DSM-IV are unclear and that relationship between PD and traditional personality theory should be more explored. The five-factor model, which

has received extensive empirical support, maybe useful in describing the main issues involved in PD (Costa & McCrae, 1997). Two of the five factors consist of the same dimensions as agency and communion in the circumplex model and the remaining three are agreeableness, extraversion and conscientiousness.

An important construct for affect regulation and stress coping, capacities that are often lacking in PD patients, is alexithymia. The alexithymia construct is described by the following: 1) difficulty identifying and describing feelings, 2) difficulty distinguishing between feelings and the bodily sensations of emotional arousal, 3) constricted imaginal processes as evidenced by a paucity of fantasies, and 4) an externally oriented cognitive style. It has been observed that alexithymic individuals have difficulties distinguishing between different affective states. Some researchers have all together rejected the concept claiming that these expressions can better be explained as ego defences particularly denial, repression, reaction formation and externalization. Nevertheless empirical evidence is strong for the concept and its expressions, especially negative emotions and somatic distress, which would not be expected if alexithymia is an effective coping response (Lane et al., 1994; Taylor, Bagby, Ryan, & Parker, 1990).

### **3 AIM OF THE THESIS**

The overall aim with this thesis is to compare time-limited manualized dynamic psychotherapy with community delivered psychodynamic therapy (CDPT) for psychiatric outpatients with at least one DSM-IV diagnosed PD. The study was designed to combine the demands of efficacy research (internal validity) with the clinical utility of a “real-world” clinical setting (external validity). The thesis can be divided in several part aims that were explored in the different studies.

#### **3.1 PRIMARY OUTCOME STUDY (PAPER I).**

This study explored primary outcome hypotheses concerning to what extent the treatments were able to a) reduce both the prevalence of patients having a PD diagnosis and the severity of the condition, b) decrease the number of PD features, c) diminish psychiatric symptoms, d) improve global level of functioning, and e) be cost-effective in reducing health care consumption measured as number of visits after termination of treatment (Vinnars, Barber, Norén, Gallop, & Weinryb, 2005).

#### **3.2 PREDICTION AND MODERATOR STUDY (PAPER II).**

In this study significant predictors and moderators were tested together in order to examine whether they moderated or predicted the reduction of psychiatric symptoms (SCL-90). We focused on five domains of patient variables; psychiatric diagnosis, psychodynamic variables, psychological mindedness, interpersonal variables and some personality trait variables (Vinnars et al., 2007).

#### **3.3 OUTCOME STUDY OF PATHOLOGICAL PERSONALITY PROBLEMS (PAPER III).**

Since psychodynamic psychotherapies target not only symptoms but also personality pathology this study explored to what extent quality of object relation and ego functions, psychological mindedness, interpersonal problems, and some personality traits improved after treatment. It also examined the temporal relationship, if any, between reduction in maladaptive interpersonal problems and psychiatric symptoms.

#### **3.4 EXTREME NON-RESPONSE TO TREATMENT (ENR) (PAPER IV).**

Most evidence based treatments for a delineated diagnostic group of patients do not succeed in improving the condition for all patients in treatment, and patients with PD are considered particularly difficult to treat. This study had two purposes: (a) identify baseline measures which can identify patients’ non-response to treatment at respective endpoint, (b) create a prediction index for identifying these severe non-responders in the future.

#### **3.5 FURTHER SECONDARY OUTCOMES.**

In most psychotherapy trials a number of instruments are used that are not always intended for publication. Apart from the results that have been published or submitted in studies 1-4, outcome data for patients self-rated well-being, alexithymia, target complaints, PD symptoms and frequency of social contact with others are presented in this section.

## 4 METHOD

### 4.1 PATIENTS

Patients had either self-applied for treatment or were referred for help at the outpatient departments of two Community Mental Health Centers (CMHC) in the greater Stockholm area, Sweden. The inclusion criteria included: 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 last year before intake, organic brain damage, pregnancy, or unwillingness to undergo psychotherapy.

Out of 371 consecutive patients assessed for eligibility, 159 were non-PD and 56 PD patients were unwilling to participate in the study. One hundred and fiftysix (156) PD patients were randomized: 80 to SEP and 76 to CDPT. The mean age was 35 years (SD=10.3), 31.4% were male, and 45% were single or divorced.

Patient baseline clinical personality characteristics are presented in Table 1. No significant differences were found between treatment groups or between treatment sites. Socio-demographically, the sample was characterized by low level of education ( $p = .55$ ); high prevalence of low vocational training, disability, and sick leave ( $p = .94$ ); and high levels of single or divorced marital status ( $p = .44$ ).

Table 1.  
*Clinical Characteristics of Sample (n=156).*

| Characteristic                     | Treatment Groups |                |                  | Statistical analysis |    |     |
|------------------------------------|------------------|----------------|------------------|----------------------|----|-----|
|                                    | SEP<br>(N=80)    | CDPT<br>(N=76) | Total<br>(N=156) | Chi-square<br>Value  | df | p   |
| <i>Site</i>                        |                  |                |                  | .00                  | 1  | .98 |
| Tumba                              | 57 (71.3%)       | 54 (71.1%)     | 111 (71.2%)      |                      |    |     |
| Fittja                             | 23 (28.8%)       | 22 (28.9%)     | 45 (28.8%)       |                      |    |     |
| <i>PD diagnosis</i>                |                  |                |                  |                      |    |     |
| Avoidant                           | 24 (30.0%)       | 30 (39.5%)     | 54 (34.6%)       | 1.546                | 1  | .21 |
| Dependent                          | 8 (10.0%)        | 7 (10.5%)      | 15 (9.6%)        | .012                 | 1  | .91 |
| Obsessive                          | 17 (22.5%)       | 12 (15.8%)     | 29 (18.6%)       | 1.13                 | 1  | .29 |
| Passive-Aggressive                 | 8 (10.0%)        | 10 (13.2%)     | 18 (11.5%)       | .381                 | 1  | .54 |
| Depressive                         | 32 (40.0%)       | 25 (34.2%)     | 57 (36.5%)       | .559                 | 1  | .46 |
| Paranoid                           | 14 (17.5%)       | 13 (17.1%)     | 27 (17.3%)       | .004                 | 1  | .95 |
| Schizoid                           | 4 (5.0%)         | 3 (3.9%)       | 7 (4.5%)         | .101                 | 1  | .75 |
| Schizotypal                        | 1 (1.3%)         | 1 (1.3%)       | 2 (1.3%)         | .001                 | 1  | .97 |
| Histrionic                         | 2 (2.5%)         | 1 (1.3%)       | 3 (1.9%)         | .290                 | 1  | .59 |
| Narcissistic                       | 6 (7.5%)         | 2 (2.6%)       | 8 (5.1%)         | 1.899                | 1  | .17 |
| Borderline                         | 17 (21.3%)       | 21 (28.9%)     | 38 (25.0%)       | 1.232                | 1  | .27 |
| Antisocial                         | 9 (11.3%)        | 3 (3.9%)       | 12 (7.7%)        | 2.927                | 1  | .09 |
| PD NOS                             | 11 (13.8%)       | 15 (20.0%)     | 26 (16.8%)       | 1.083                | 1  | .10 |
| <i>Comorbidity of PD diagnoses</i> |                  |                |                  | 1.945                | 5  | .86 |
| One PD diagnosis                   | 34 (42.5%)       | 36 (47.4%)     | 70 (44.9%)       |                      |    |     |

|                   |            |            |            |
|-------------------|------------|------------|------------|
| Two PD diagnoses  | 30 (37.5%) | 25 (32.9%) | 55 (35.3%) |
| >Two PD diagnoses | 16 (20.0%) | 15 (19.7%) | 31 (19.9%) |

| <i>DSM III-R, axis I</i>           | <i>SEP</i> | <i>CDPT</i> | <i>Total</i> |      |   |      |
|------------------------------------|------------|-------------|--------------|------|---|------|
| No axis I disorder                 | 11 (13.7%) | 6 (7.9%)    | 17 (10.9%)   | 1.24 | 1 | .26  |
| Depressive disorder                | 53 (66.3%) | 51 (67.1%)  | 104 (66.7%)  | .13  | 1 | .91  |
| Anxiety disorder                   | 36 (45.0%) | 33 (43.4%)  | 69 (44.2%)   | .04  | 1 | .84  |
| Suicidal- or parasuicidal attempts | 22 (27.5%) | 22 (28.9%)  | 44 (28.2%)   | 1.11 | 3 | .776 |

  

|                   | Treatment group  |                   |                    | Analysis         |        |     |
|-------------------|------------------|-------------------|--------------------|------------------|--------|-----|
|                   | SEP<br>Mean (SD) | CDPT<br>Mean (SD) | Total<br>Mean (SD) | ANOVA<br>F-value | df     | p   |
| Age               | 35.1 (10.4)      | 35.0 (10.3)       | 35.1 (10.3)        | .005             | 1, 156 | .95 |
| SCL-90            | 1.4 (0.6)        | 1.5 (0.7)         | 1.5 (0.6)          | .887             | 1, 148 | .35 |
| Total PD criteria | 20.2 (8.2)       | 19.0 (9.1)        | 19.6 (8.6)         | .726             | 1, 155 | .40 |
| GAF               | 61.2 (8.0)       | 59.7 (8.7)        | 60.5 (8.4)         | 1.343            | 1, 155 | .25 |

Note. All analyses included an adjustment for site and gender variation.

## 4.2 INTAKE PROCEDURE

All patients seeking help at two neighboring CMHCs were invited to participate in a psychiatric screening. In general, patients asked for non-specific psychiatric treatment and not for psychotherapy. After the screening procedures were completed patients with a PD received both written and verbal explanations of the RCT and signed a written consent form if they agreed to participate in the study. The study was approved by the Research Ethics Committee of the Karolinska Institutet.

## 4.3 RANDOMIZATION PROCEDURE

Patients were randomized using a computerized stratification randomization procedure (urn) (Wei, 1978). Stratification guarantees balance for a number of covariates. The urn randomization randomly assigns subjects, with a probability other than 0.5 to cells where there may be an imbalance. 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 above 50), and sex. Patients were categorized into PD clusters according to their PD diagnosis. If a patient had multiple PD 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. We did not presume any site-specific variation, since clinical characteristics of patients at both CMHCs were very similar.

## 4.4 TREATMENTS

SEP consisted of 40 weekly sessions and was delivered according to Luborsky's treatment manuals (Luborsky, 1984). In the open-ended CDPT condition, clinicians 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 specific treatment focus and approaches was representative of the non-managed care health system in Scandinavia at the time the trial was conducted.

The control condition was originally called treatment as usual (TAU), but this was not a sufficiently accurate description because: 1) Swedish TAU was not similar to North American "TAU". For example, the CDPT patients received an average of 21 sessions while many reports indicated that average US patients received only 8 sessions, 2) the control group was not comparable to Swedish standard PD treatment at the clinics because the number of sessions during the one-year treatment phase ( $M=21$ ,  $SD=15.5$ ) was significantly higher than the usual number of sessions presently delivered to PD outpatients ( $M=12.5$ ,  $SD=20.6$ ), (Mann-Whitney  $U=10258.00$ ,  $p<.000$ ). Most likely participating in the study resulted in a greater number of sessions given to those patients randomized to CDPT (sometimes called the Hawthorne effect, thereby making CDPT more intensive than regular Swedish TAU). CDPT was for the most part conducted by experienced dynamically trained therapists. All CDPT therapists received ongoing psychodynamic supervision. One therapist in cognitive training treated three patients (3.9%) and focused on elucidating interpersonal patterns.

The mean number of total treatment sessions attended between pre-treatment and follow-up assessment was 26 ( $SD=15.2$ , median=30, range=0-78) for the SEP patients and 28 ( $SD=23.7$ , median=22, range=0-101) for the CDPT patients (Mann-Whitney=2994,  $p<.87$ ). Between pre-treatment and post-treatment assessment, the SEP and CDPT patients had a mean of 25 ( $SD=13.0$ , median=30, range=40) and 22 ( $SD=15.5$ , median=21, range=0-61) sessions, respectively (Mann-Whitney  $U=2638$ ,  $p<.19$ ).

All patients were able to receive concomitant psychopharmacological treatment after consultation with a psychiatrist. Between pre-treatment and post-treatment, 38 (47.5%) patients in the SEP group and 43 (56.5%) patients in the CDPT group had been prescribed psychotropic medication ( $p=.30$ ). Between post-treatment and follow-up, 25 (31.2%) of the SEP patients and 31 (40.7%) of the CDPT patients used psychotropic medication ( $p=.21$ ).

#### **4.5 THERAPISTS**

Six psychologists conducted the SEP and 21 clinicians performed the CDPT treatment. Three senior SEP therapists (KN, BT and BV), 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 SEP therapists had received their training at the Center for Psychotherapy Research, University of Pennsylvania, where SEP was developed by Lester Luborsky, Paul Crits-Christoph, Jacques P. Barber and others. The pilot therapies of these three therapists were translated into English and rated by adherence raters at the Centre until the three senior therapists were considered to have adequate adherence/competence to start training the other SEP therapists in Sweden.

The CDPT clinicians had a mean experience in psychiatry and dynamic psychotherapy of 12.5 years. All therapists except one had at least one year of full time formal post graduate training in dynamic psychotherapy. 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. This group consisted of 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 ( $n=2$ ).

## **4.6 TREATMENT ADHERENCE/COMPETENCE**

All therapy sessions in the SEP group were videotaped. In CDPT audio-taping was voluntary for therapists. Treatment adherence/competence was assessed with Barber's adherence scale (Barber, Krakauer, Calvo, Badgio, & Faude, 1997; Barber, Mercer, Krakauer, & Calvo, 1996) by two reliable independent raters. The scale was used to assess therapists' adherence to SEP and its competent delivery. 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). For SEP data for 66 (82.5%) patients and for CDPT data for 19 (25%) patients was collected. Intraclass correlations for the two independent raters adherence ratings were calculated and found to be good (general therapeutic techniques= .81, supportive techniques= .76, and expressive techniques= .81). Mean adherence ratings for SEP general therapeutic technique was 4.06, for supportive techniques 3.48, and for expressive technique 3.51. Mean adherence for CDPT general therapeutic technique was 3.5, for supportive technique 3.08, and for expressive techniques 2.83. In the SEP treatment, the mean competence for general therapeutic techniques was 4.64, for supportive techniques 4.58 and for expressive techniques 4.49. In CDPT competence for general therapeutic technique was 3.91, for supportive technique 4.02 and for expressive technique 3.68.

## **4.7 ASSESSMENT TIME POINTS**

Data for all outcome measures were collected at three time-points for all patients: 1) pre-treatment, 2) post-treatment at termination of SEP, and 3) follow-up after one additional year. These time-points were chosen to fit the SEP schedule. As CDPT patients were not undergoing time-limited treatment, they could still be in treatment at both post-treatment and follow-up. The questionnaires were filled out at the CMHCs in connection with the assessment interviews. The psychodynamic interview (KAPP) was however only conducted at the intake and follow-up evaluations.

## **4.8 INSTRUMENTS AND MEASURES**

Both observer and self-rated measures were used for the evaluation of outcome. The observer rated measures were collected through two different interviews (SCID and KAPP).

### **4.8.1 Observer-rated instruments and measures**

#### *4.8.1.1 Psychiatric interview and Axis II psychiatric diagnosis (SCID).*

The Structural Clinical Interview for DSM-IV (SCID) (First, Spitzer, & Gibbon, 1997) was used to determine psychiatric diagnosis. Experienced clinical psychologists, who met regularly with an experienced senior psychiatrist to reduce rater drift, conducted the interviews. Two methods of assessing PD pathology were used. 1) The standard categorical approach (requiring patients to fulfill a specific number of criteria in order to meet one of the 13 specific diagnoses, including PD NOS). 2) A dimensional approach to measure PD severity, which utilized a PD severity index computed by summarizing all positive criteria on axis II, resulting in a scale that ranged from 0 to 93. The rationale for this index was to address a major critique of the categorical diagnostic system, which is the use of arbitrary cut off points for the delineation of PD (Widiger, 1993).

#### *4.8.1.2 Psychodynamic interview and variables (KAPP).*

We used the Karolinska Psychodynamic Profile (KAPP) (Weinryb & Rössel, 1991; Weinryb et al., 1997), to rate the relatively stable modes of mental functioning and character traits relevant to psychodynamic theory. The KAPP ratings are made from information obtained through a semi-structured interview procedure. Interviews were conducted by an experienced clinical psychologist, who had met regularly with the developer of the KAPP method (Robert Weinryb) for several years of training prior to starting the study. KAPP seminars continued throughout the study to reduce rater drift.

The KAPP profile consists of eighteen subscales. It 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).

Because of its relevance to dynamic therapy, we were mainly interested in psychodynamic measures of the quality of object relations for study II and III. The KAPP includes such subscales as well as other subscales that were of lesser interest for us in these two studies. To test whether the KAPP contained an independent factor similar to our variables of interest we used the results from a principal component analysis with varimax rotation (PCA) that was conducted in a large sample of heterogeneous patients ( $n=528$ ) (Lindgren et al., 2006). This analysis was described fully in paper II. Due to our interest in quality of object relations, we selected the first factor quality of object relations and specific ego functions for studies II and III. For study IV we used all five factors including affect differentiation, the importance attached to the body as a factor of self-esteem, the individual's sense of his or her social significance and different aspects of sexuality.

### **4.8.2 Self-rated instruments and measures**

#### *4.8.2.1 Socio-demographic including socio-economic data.*

A questionnaire was constructed by the three principal investigators regarding different socio-demographic data that the patient filled out.

#### *4.8.2.2 Severity of Psychiatric symptoms.*

The Symptom Check List-90 (SCL-90) (Derogatis, 1983) was used to measure patients' subjective experiences of psychiatric symptoms. The General Severity Index (GSI), a mean of all items of the SCL-90 was used (Andersen & Johansson, 1998; Fridell, 2002). In a Swedish standardization the mean GSI for women was found to be .49 (SD= .44) and for men .32 (SD= .32) (Fridell, 2002). The overall GSI mean was .36 (SD= .33). The mean for psychiatric patients was 1.02 (SD= .69) for men and 1.21 (SD= .73) for women.

#### *4.8.2.3 Global functioning.*

The DSM-IV Global Assessment of Functioning Scale (GAF) was used for measuring global symptomatic and social functioning (American Psychiatric Association, 1994).

#### *4.8.2.4 Medication and number of sessions.*

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

#### 4.8.2.5 Psychological Mindedness (PM).

Psychological mindedness was measured with the psychological mindedness scale (PMS) (Conte et al., 1990). This is a 45-item self-report questionnaire originally designed to assess patient suitability for psychodynamic psychotherapy, where items are rated on a 4-point scale ('strongly agree' to 'strongly disagree'). Higher scores indicated greater PM. In a preliminary study (Conte et al., 1990), the PMS was found to have high reliability and to be predictive of positive psychotherapy outcome with psychiatric patients. In two principal component analyses (PCA) using different samples, somewhat different and unstable factor solutions were obtained (Conte, Ratto, & Karasu, 1996; Shill & Lymley, 2002). Due to the instability of previous PCA and the very high Cronbach Alpha (0.87) of the 45-item PM scale, we decided to use the mean PM score for all 45 items.

#### 4.8.2.6 Interpersonal variables.

The subjective experience of interpersonal distress was measured by the circumplex 64-item version (Alden et al., 1990; Psykologiförlaget, 2002) of the IIP (Horowitz, Rosenberg, Baer, Ureno, & Villaseñor, 1988). The scale is based on circumplex interpersonal theory and consists of eight subscales (octants); domineering, vindictive, cold, socially avoidant, nonassertive, exploitable, overly nurturant, and intrusive. The Swedish IIP-version (Weinryb et al., 1996) was validated and shown to have acceptable internal consistency (Cronbach's alpha = .70-.85). The mean score of all 64 items was used as a measure of the general level of interpersonal distress and in addition the mean score for each subscale was also used. Table 2 provides the inter-scale correlations between the IIP subscales which are as expected according to the circumplex model. Adjacent subscales have quite high correlation, then correlation decreases and opposite subscales have low correlation.

Table 2.

*Inter-scale Correlation Matrix for IIP subscales.*

|      | Dom <sup>1</sup> | Vind <sup>2</sup> | Cold <sup>3</sup> | Soav <sup>4</sup> | Noas <sup>5</sup> | Expl <sup>6</sup> | Ovnu <sup>7</sup> | Intr <sup>8</sup> |
|------|------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| domi | 1.00             | .55               | .31               | .06               | -.06              | .02               | .11               | .45               |
| vind | .55              | 1.00              | .58               | .44               | .25               | .11               | .04               | .32               |
| cold | .31              | .58               | 1.00              | .67               | .30               | .26               | .13               | -.07              |
| soav | .06              | .44               | .67               | 1.00              | .57               | .35               | .20               | -.080             |
| noas | -.06             | .25               | .30               | .57               | 1.00              | .70               | .50               | .20               |
| expl | .02              | .11               | .26               | .35               | .70               | 1.00              | .78               | .26               |
| ovnu | .11              | .04               | .13               | .20               | .50               | .78               | 1.00              | .45               |
| intr | .45              | .32               | -.07              | -.08              | .20               | .26               | .45               | 1.00              |

<sup>1</sup> dominant, <sup>2</sup> vindictive, <sup>3</sup> cold, <sup>4</sup> socially avoidant, <sup>5</sup> non assertive, <sup>6</sup> exploitable, <sup>7</sup> overly nurturant, and <sup>8</sup> intrusive.

#### 4.8.2.7 Personality trait variables.

Neuroticism, extraversion and aggression/hostility 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. It is constructed within a biological frame. The inventory consists of 15 subscales (135 items in a 4-point Likert response format). The length of the scales 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 PCAs, using subscales, have been conducted with different samples in Sweden (Gustavsson, Weinryb, Göransson, Pedersen, & Åsberg, 1997) and have resulted in different factor solutions. Therefore, we decided to conduct the factor analysis on patients' data from the CMHCs where our patients were seen. We included all patients for whom we had randomized a subset for the present study for a PCA with varimax rotation ( $n=454$ ). We used factors with eigenvalues higher than 1 and included subscales with loadings higher than .40, and obtained a three-factor solution which explained 58.84% of the variance. These three factors showed similarities with three factors from the five-factor model. The first factor (32.17%, 4.83), neuroticism, contained subscales somatic anxiety, psychic anxiety, muscular tension, psychasthenia, socialization (negative), inhibition of aggression, guilt, and suspicion. The second factor (16.28%, 2.44) corresponded to the negative dimension of agreeableness and contained the subscales indirect aggression, verbal aggression, irritability and social desirability (negative). The third factor (10.39%, 1.59) seemed to correspond to extraversion of the extraversion/introversion dimension and contained monotony avoidance, impulsiveness, and detachment (negative).

#### 4.8.2.8 *SCID II SCREEN.*

This is a self-report instrument including all questions for all items in the DSM-IV axis II. It has a simple yes/no format (First et al., 1997). The sum of all items was used as outcome measure in the same manner the total sum of the SCID-II interview criterion was used.

#### 4.8.2.9 *Alexithymia.*

Alexithymia was measured with the Toronto Alexithymia Scale (TAS-20) (Bagby, Parker, & Taylor, 1994; Bagby, Taylor, & Parker, 1994; Bagby, Taylor, & Ryan, 1986b; Taylor, Bagby, & Parker, 2003), the most widely used instrument that has been found to have good psychometric properties. Authors have reported good internal consistency (Cronbach's  $\alpha = .81$ ) and test-retest reliability ( $r = .77$ ). Principal component analysis has identified three components labelled 1) difficulties identifying feelings, 2) difficulties describing feelings and 3) externally oriented thinking. The Schalling-Sifneos Personality Scale (SSPS) (Sifneos, 1986) was also used for measuring alexithymia and have demonstrated reliability and convergent and validity and a factor structure convergent with the alexithymia construct (Bagby, Taylor, & Ryan, 1986a).

#### 4.8.2.10 *Well-being.*

The subjective feeling of well-being was measured with the Well-being Profile (WBP) (Weinryb, Liljeqvist, Poppen, & Gustavsson, 2003), a self-report instrument developed from an earlier interview-based rating scale for emotional distress (Wiholm, Åsberg, Jacobson, Boman, & Gahrton, 1984) and from the Comprehensive Psychopathological Rating Scale (Åsberg, Montgomery, Perris, Schalling, & Sedvall, 1978). The scale consists of 11 subscales: 1) aches and pains; 2) staying power; 3) initiative; 4) emotional involvement; 5) sleep; 6) appetite; 7) mood; 8) anxiety; 9) irritability and anger; 10) worry over trifles; and 10) sexual interest. Every subscale consists of a description of the area covered in the subscale and of four predefined levels that are described in one or a few sentences. The patient has to choose the level that fits best. Level 1 represents no problem, and level 4 a multiplicity of problems. Higher scores indicate more problems with well-being. The structure of the scale resembles that of the Beck Depression Inventory (BDI). The WBP has been used in one study that did not include psychiatric patients, but somatic patients with

ulcerative colitis that were evaluated before and after surgery with ileal pouch-anal anastomosis (Weinryb et al., 2003). No psychometric properties have been reported on the scale so far.

#### *4.8.2.11 Patients Target complaints.*

This form requires the patient to define three personally formulated goals for treatment and rate their severity on a 13-grade scale. The exact same formulations were presented to the patient at the termination and follow-up evaluations and patient were asked to rate the severity of the complaints again (Battle, Imber, Hoehn-Saric, Nash, & Frank, 1966). This form has been used in several psychotherapy studies but the results have seldom been reported.

#### *4.8.2.12 Contact with others.*

This is a self-report scale that measures the weekly frequency of social contacts with other people. The scale was based on a living condition survey (ULF) constructed by statistics Sweden (Wikman & Wärneryd, 1990). Questions from the ULF form was used solely for this study and consequently no psychometric properties of the scale have so far been evaluated.

#### *4.8.2.13 CRQ (Central Relationship questionnaire).*

This scale was added after initiating the study (Barber, Foltz, & Weinryb, 1998). It is a self-report instrument which describes the individual's Core Conflictual Relationship Theme (CCRT). The CCRT is described in the background section. Each patient fills out the CRQ formula containing 195 items for five different significant other persons, one of which is the therapist.

## 5 STATISTICAL METHOD

The thesis has used mainly two different types of statistical analysis. In paper I, II and III a mixed effect model and in paper IV a combination of standard stepwise logistic regression analysis including receiver operating characteristic (ROC) curves were employed. These were the main analyses but other analyses were also used as complements.

Because of the longitudinal nature of our data (three time-points of assessment), we implemented a mixed-effects model (Harville, 1977; Laird & Ware, 1982; Schwarz, 1993) (also known as hierarchical linear model (HLM), multilevel models, and random regression models). Mixed effect model is a generic term comprising statistical models that include a fixed factor (i.e. treatment) and random effects, covariance pattern models, and a combination of these (Gueorguieva & Krystal, 2004). This approach has major advantages over traditional analytical approaches such as repeated measures analysis of variance and is considered the state-of-the-art in both psychiatric and psychotherapy research (Gueorguieva & Krystal, 2004). It makes use of all available data, and is not affected by randomly missing data, which is in total contrast to the traditional approach of repeated measures anova, which requires complete data for all subject. Thus the mixed effects model increases statistical power. All patients that were randomized at intake remain in the statistical analyses whether they completed treatment or not. This results in an intent-to-treat approach. This is a conservative approach to evaluating treatment effects for those patients for whom the treatment was intended, regardless of whether they completed treatment or not.

In the mixed effect models it is also possible to model the time effect and include predictors and time variables as covariates. The researcher can specify different models with different complexity and then select the best-fitting one using indices of relative goodness of fit such as the  $-2$  log likelihood function, AIC (Akaike information criteria) and BIC (Bayesian information criteria).

In paper I, our main focus was on the comparison of the treatment effect for the 156 patients over time, for which we saw no statistical difference between groups. The analytical method in this manuscript required the use of clustered data methods, to accommodate the within subject correlation of the repeated measurements over time. We implemented a special type of mixed-effects model, the general mixed-model analysis of variance (GMMAV) which examines average outcome, rather than assuming a linear slope over time.

For paper II and paper III, the investigation of our data indicated unsurprisingly that there were different rates of change between pre- and post-treatment compared to post-treatment and follow-up. Therefore, we used a special type of mixed-effects model: a linear piece-wise mixed-effects model that modelled separate rates of change from pre- to post-treatment and post-treatment through follow-up. This enabled us to examine each time period for differential effects of treatment and to determine whether differences in treatment vary for each respective predicting factor. This model was compared to two alternate models: a model assuming linear change and a model that estimates the average over the longitudinal period. For both models, the fit of the piece-wise linear model was better than the linear model as estimated by the comparison of  $-2$  log likelihood estimates for each model, as well as an assessment of residuals for each model. In this model treatment was used as a fixed factor and predictor, time period, sex and site were entered as covariates. The interactions we examined were between treatment, time period and predictor as fixed effects. In addition, the covariance structure of the repeated observations was modelled using compound symmetry structure. Paralleling the

choice of the mean structure, choice of the covariance structure was assessed through comparison of indices of relative goodness of fit, also known as information criteria of fit, including the  $-2$  log likelihood function, AIC (Akaike information criteria) and BIC (Bayesian information criteria). We compared compound symmetry, variance components, and unstructured covariance structures. Compound symmetry, which assumes a pooled variance at each time point and equal correlation between pairs of time points, was determined to be sufficient using the  $-2$  log likelihood function.

For paper III we explored the temporal relation between change in interpersonal problems and psychiatric symptoms. In addition we used a lag function to relate the change between period one with change during period two (i.e. active treatment phase and follow-up phase). This means that rate of change during follow-up of one variable was tested for significant interaction with the lagged (the previous=treatment phase) time period for the other variable.

To assess the potential impact of missing data in the primary outcome study (paper I), a pattern-mixture approach was used (Hedeker & Gibbons, 1997). 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 GMMAVs. 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 between CDPT and SEP was dependent on missing data patterns, we included a three-way interaction between time, treatment, and completer status.

The KAPP data was evaluated at two time-points only which made the mixed model analysis impossible for this variable. Instead we performed an ANCOVA analysis (partialling out the KAPP scores at intake) to explore if significant differences between treatments at follow-up existed. To explore if there was a significant improvement in KAPP from intake to follow-up (regardless of treatment), we created a KAPP change variable subtracting scores at follow-up from scores at intake. We used scores at intake as covariate and the KAPP change variable as dependent variable.

For binary outcome (e.g., meets/does not meet diagnostic criteria for PD diagnosis in paper I), we used a GMMAV implemented in the SAS macro, GLIMMIX (Littell, Milliken, Stroup, & Wolfinger, 1996). To assess goodness-of-fit, residuals from the fitted model were inspected. The likelihood estimation above is especially robust with respect to missing data.

Analysis of the number of available sessions in paper I was examined through non-parametric methods.

In order to estimate the clinical significance in paper I and III we calculated effect sizes based on Cohen's  $D$  for all outcome measures. In study III we wanted to explore improvement in personality problems over and beyond improvement for psychiatric symptoms. Thus, we also calculated effect sizes for which we partialled out improvement in SCL-90. Both non adjusted and adjusted (for improvement in psychiatric symptoms) effect sizes are reported. We also calculated reliable change index (RCI) in that study (Jacobson & Truax, 1991), to explore how many patients that returned to a normal range of functioning. An RCI coefficient that is larger than 1.96 is usually regarded as unlikely to occur without any actual change ( $p < .05$ ). Since this is a very rigorous procedure, we also used a method proposed by Samstag et al. (Samstag, Batchelder, Muran, Safran, & Winston, 1998) to classify patients as improved, but not recovered, when they had a RC score of  $> .05$  but  $< 1.96$  (Muran, Wallner Samstag, Safran, & Winston, 2005; Wallner Samstag, Batchelder, Muran,

Safran, & Winston, 1998). We calculated RCI only for those instruments that were statistically significant.

The fourth exploratory study (paper IV) was conducted in a different way because we identified outcome in terms of non-response versus response rather than as changes over time. To be included in this analysis, patients needed to have an endpoint assessment; therefore, our analysis was a completer analysis and not an intent-to-treat analysis as in papers I, II and III. We used a combination of standard stepwise logistic regression analysis and receiver operating characteristic (ROC) curves to explore which pre-treatment variables was able to successfully discriminate extreme non-response (ENR) using SCL-90 and total PD criterion as outcome variables. The analyses were performed in several steps. The first statistical step was to perform a standard stepwise logistic regression analysis to identify the predictors that individually best separated ENR from non ENR patients. We determined the important predictors based on statistical significance ( $p < .05$ ) as well as the individual variables discrimination effect, which is measured as the Area under the curve (AUC) (Kufera and Mitchell, 1999). AUC is a common statistic reported in many software packages for performing logistic regression as the C-value. Variables showing good discrimination would have C-values in excess of .70. Unfortunately, in this sample many of the binary scales with the reduced range scales would likely lead to lower AUC compared with continuous scales why. This would have been unfavourable for the binary variables. We excluded variables with more than 5-10% missing values for the respective outcome measure.

All standard stepwise approaches have an inherent unreliability. To address this issue, we replicated the stepwise logistic regression analyses 1000 times by sampling with replacements from the original sample. This is called a bootstrapping procedure. Within each stepwise regression, we identified the variables retained as significant predictors based on an entry level significance value of  $p=0.20$  and a retention level of significance of  $p=0.05$ . Each bootstrap procedure will result in a collection of retained predictors from its final step in the stepwise process. Since the sample is acquired through a sampling with replacement process from the original sample, the collection of retained predictors may vary across the bootstrap procedures. To proceed with the formulation of the final predictive model, which will result in a reliable set of final predictors, we identified those predictors that were significant over one-thirds of the bootstrap procedures. This is a reduced threshold as compared to Coffman et al. (2007) in order to accommodate the larger number of predictors and the stricter retention level of significance. These identified variables were then used for the next step in the procedure.

Variables that were identified as significant 1/3 of the time in the bootstrap regression analysis process and with no more than 5-10% missing data, were then included in a final stepwise logistic regression procedure, excluding non-significant variables. One reason for removing non-significant variables in this procedure is because they may have a high correlation with other variables included in the analysis (multicollinearity).

In the last step we derived the receiver operating characteristic (ROC) curves for the significant variables in the final model of our stepwise logistic regression analysis (Kufera & Mitchell, 1999). The ROC summarizes the performance of a diagnostic test to optimize the predictive value of the included set of variables in this diagnostic test. A high performance on part of the given variable is characterized by a high chance for discriminating true positives (sensitivity) and true negatives (specificity) for any value of the predictive variable. In other words, the ROC curves plots "hits" and "misses". When both measures are high and plotted

against each other the result is a curve that rises quickly and is close to the upper left corner of the graph. The closer the curve is to the 45-degree diagonal line, the closer the variable is discriminate ENR status at the pure chance level. The area under the curve quantifies the exactness of the predictive or discriminatory power of the variable, and ranges from .50 (pure chance) to 1.0 for exact prediction. The c-value at this stage summarizes the discriminatory capacity of the test. A standard for the discriminatory capacity of the test is that values between .90-1 are excellent, from .80-.90 are good, from .70-.80 are fair, from .60-.70 are poor and from .50-.60 have failed.

Through the ROC modelling we proceeded to determine the optimal operation point (OOP) on the ROC. Through this OOP we could produce a prediction model, which is a mathematical equation based on the baseline predictors current values. From this equation, we predicted non-response or response at the level of sensitivity and specificity determined at the OOP. When an individuals baseline predictors at their current values yield a positive or zero value from the mathematical equation, the individual is predicted as an ENR patient. When individuals' baseline predictors at their current values yield a negative value from the mathematical equation, the individual is predicted as a non-ENR patient. This is unlike the earlier investigations described in paper II. The earlier studies focused more on explanation and association, whereas, this offers a prediction mode, through knowledge of the baseline measures. This prediction model can be exported and cross validated in other studies analyzing the same group of patients, with the same battery of measures. Therefore, based on this model, an investigator can determine whether a patients positive ENR or negative ENR at the rate of the sensitivity and specificity, respectively, of the system at the OOP.

## 6 RESULTS

### 6.1 PRIMARY OUTCOME STUDY (I).

All of the primary outcome measures, psychiatric symptoms (SCL-90), level of psycho-social functioning (GAF) and PD severity (total number of positive axis II criteria), used showed a statistically significant improvement, but no significant difference between the two treatment groups were found. Effect sizes were moderate to large (table 2). At post-treatment 38 (33.6%) of 113 patients being evaluated and at follow-up 58 (46.5%) of 124 patients being evaluated did no longer fulfill criteria for a PD diagnosis. For patients still having a PD diagnosis but not the same as at intake and changing PD diagnosis to a less functionally impaired PD cluster, improvement was significant over time (from pre-treatment to follow-up,  $\chi^2 = 59.51$ ,  $df=12$ ,  $p < .001$ ). Patients with PD NOS improved the most (82%), while those with cluster C diagnoses improved the least (58.5%) irrespective of treatment.

During the follow-up period, SEP patients had significantly fewer visits at the CMCHs than CDPT patients. To evaluate clinically significant improvement of SCL-90, equivalency ( $CE_i(863)=1.69$ ,  $p = .95$ ) test and traditional t-tests ( $t=-10.13$ ,  $p < .001$ ), both comparing patient outcome with the non-clinical sample, were performed. These results indicated that patients changed significantly but did not return to non-clinical levels.

To examine whether the change in Axis II disorder (PD severity Index) was driven by change in Axis I pathology, we partialled out change in SCL 90 (a proxy of change in Axis I pathology) ( $p < .001$ ) and found that change in PD severity index over time was still significant ( $p < .001$ ). Thus PD pathology improvement over time was over and beyond the change explained by psychiatric symptoms.

Table 3.

*Change in Personality Disorder Severity Index, Psychiatric Symptoms and Global Assessment of Functioning during treatment.*

| Treatment                            | Pre-treatment |     | Post-treatment |     | Follow-up |     | ES <sup>1</sup> | F-value | Statistics |       |
|--------------------------------------|---------------|-----|----------------|-----|-----------|-----|-----------------|---------|------------|-------|
|                                      | Mean          | SD  | Mean           | SD  | Mean      | SD  |                 |         | df         | p     |
| <i>Severity Index<sup>1</sup></i>    |               |     |                |     |           |     |                 |         |            |       |
| Time                                 |               |     |                |     |           |     |                 | 41.01   | 2, 152     | <.001 |
| Time *Treatment                      |               |     |                |     |           |     |                 | .78     | 2, 152     | .46   |
| <b>SEP</b>                           | 20.2          | 8.2 | 15.3           | 9.5 | 12.8      | 8.8 | .99             |         |            |       |
| <b>CDPT</b>                          | 19.0          | 9.1 | 13.4           | 9.1 | 12.2      | 9.3 | .61             |         |            |       |
| <i>Psychiatric symptoms (SCL-90)</i> |               |     |                |     |           |     |                 |         |            |       |
| Time                                 |               |     |                |     |           |     |                 | 51.46   | 2, 150     | <.001 |
| Time * Treatment                     |               |     |                |     |           |     |                 | 2.20    | 2, 150     | .11   |
| <b>SEP</b>                           | 1.42          | .60 | .91            | .75 | .99       | .75 | .72             |         |            |       |

|      |      |     |     |     |     |     |     |
|------|------|-----|-----|-----|-----|-----|-----|
| CDPT | 1.52 | .66 | .79 | .59 | .88 | .83 | .87 |
|------|------|-----|-----|-----|-----|-----|-----|

*Global assessment of functioning (GAF)*

|                  |       |     |       |      |       |       |        |       |
|------------------|-------|-----|-------|------|-------|-------|--------|-------|
| Time             |       |     |       |      |       | 26.07 | 2, 152 | <.001 |
| Time * Treatment |       |     |       |      |       | .01   | 2, 152 | .99   |
| SEP              | 61.23 | 8.0 | 66.08 | 12.6 | 67.39 | 10.0  | .64    |       |
| CDPT             | 59.68 | 8.7 | 64.48 | 8.6  | 66.32 | 11.1  | .59    |       |

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Note. All analyses included an adjustment for site and gender variation.

<sup>1</sup> ES refers to effect size.

<sup>2</sup> Severity Index refers to the total number of positive criteria on axis II.

## 6.2 PREDICTION AND MODERATOR STUDY (II).

In this study variables were tested to examine whether they predicted and/or moderated the reduction of psychiatric symptoms (SCL-90). To determine which variables were the most important predictors, we entered all the significant predictor variables, treatment condition and time of phase of treatment into one mixed model analysis predicting reduction of psychiatric symptoms (SCL-90). Two variables predicted outcome, total PD criterion ( $p < .001$ ) and IIP vindictiveness ( $p = .003$ ) across treatments and one variable moderated outcome, IIP dominance ( $p < .001$ ) in favor of CDPT. To understand or to examine the direction of the significant relation between change in the SCL-90 and pre-treatment variables (total number of PD criteria, IIP dominant, and IIP vindictive), we computed partial correlations between these variables and residualized change score (from intake to end of treatment) within each treatment group. Each partial correlation also controlled for the remaining predictive measures. When patients had a high total number of PD criteria at intake, patients had higher levels of psychiatric symptom severity at termination regardless of treatment condition. Patients having high scores on IIP vindictive, surprisingly, had a lower level of psychiatric symptom severity at termination regardless of treatment. Finally, high scores on IIP dominant were related to lower levels of psychiatric symptoms following CDPT than following SEP.

## 6.3 OUTCOME STUDY OF PATHOLOGICAL PERSONALITY PROBLEMS (III).

Improvements were found in the quality of object relations and ego functions ( $Pr < .001$ ), and during the active treatment phase for psychological mindedness ( $p > .05$ ), interpersonal problems ( $p > .01$ ), and personality traits like neuroticism ( $p < .001$ ) and agreeableness ( $p < .05$ ). During the follow-up period we found a significant interaction with treatments ( $p < .05$ ) for neuroticism indicating that the control group improved significantly more than the SEP group.

We used a lag function to explore if we could find a significant relation between change in psychiatric symptoms during the active treatment phase and subsequent change in interpersonal problems during the follow-up. No significant relation was observed. The same procedure was reversely used to explore whether change in IIP during the active treatment phase was significantly related to subsequent change in psychiatric symptoms during the follow-up phase, but without any significant finding.

Effect sizes showed that improvement was small to moderate for most variables. Quality of object relations and ego-functions and neuroticism had the highest effect sizes. Very few patients recovered to a normal range of functioning according to the RCI. But 48.3% were improved in quality of object relations and ego-functions in the whole sample.

#### 6.4 EXTREME NON-RESPONSE TO TREATMENT (IV).

In this exploratory study we used 54 socio-demographic and (mainly) clinical pre-treatment variables to discriminate responder or extreme non-responder (ENR) status regarding level of psychiatric symptoms and PD severity. For reasons of clarity only the standardized estimates are presented for each significant discrimination variable in table 4 and the significant discrimination variables are presented in order of relative importance.

Table 4.

*Discrimination of ENR status for Psychiatric symptoms and PD severity as outcome measures*

| Variables, sample, time points         | ENR in terms of Psychiatric symptoms | Stand Est. <sup>1</sup> | ENR in terms of PD severity      | Stand. Est. |
|--|--------------------------------------|-------------------------|----------------------------------|-------------|
| <i>Entire sample, atp</i> <sup>2</sup> | Psychiatric symptoms                 | .67                     | Total PD criterion               | .68         |
|  | Total PD criterion                   | .38                     | Difficulties describing feelings | .37         |
|  |                                      |                         | Marital status                   | -.36        |
| <i>Entire sample, TM</i> <sup>3</sup>  | Total PD criterion                   | .59                     | Neuroticism                      | .53         |
|  | Overly Nurturant                     | .50                     | PD cluster A                     |             |
|  | Neuroticism                          | .46                     |                                  |             |
| <i>Entire sample, FU</i> <sup>4</sup>  | Psychiatric symptoms                 | .76                     | Total PD criterion               | .79         |
| <i>SEP, atp</i>                        | Psychiatric symptoms                 | .98                     | Total PD criterion               | 1.43        |
|  |                                      |                         | One's social significance        | .80         |
| <i>SEP, TM</i>                         | Neuroticism                          | 1.08                    | Cold                             | .59         |
| <i>SEP, FU</i>                         | Psychiatric symptoms                 | .89                     | Total PD criterion               | 1.17        |
|  |                                      |                         | One's social significance        | .69         |
| <i>CDPT, atp</i>                       | Socially avoidant                    | .94                     | Difficulties describing feelings | .59         |
|  | Passive-Aggressive PD                | .76                     | Agency                           | .59         |
|  | GAF                                  | -.51                    | Total PD criterion               | .54         |
| <i>CDPT, TM</i>                        | Socially Avoidant                    | .93                     | Difficulties describing feelings | .91         |
|  | Passive-Aggressive PD                | .72                     | Total PD criterion               | .14         |
| <i>CDPT, FU</i>                        | Socially Avoidant                    | .99                     | Total PD criterion               | .61         |

<sup>1</sup> Standardized estimates. All discriminative variables have been standardized in order to compare their relative importance to each other.

<sup>2</sup> Any time point.

<sup>3</sup> Termination.

<sup>4</sup> Follow-up.

We found different domains of discrimination for the two outcome measures but also for the two treatments, all with good to excellent discriminatory capacity (see statistical section).

At termination in order of relative importance overly nurturant ( $p < .03$ ), total PD criterion ( $p < .01$ ), and neuroticism ( $p < .04$ ), were significant with a total c-value of .842. For PD severity for the entire sample the significant variables at any time-point were difficulties identifying feelings ( $p < .01$ ), total PD criterion ( $p < .00$ ) and marital status ( $p < .01$ ), with a discrimination accuracy of .876. At termination for PD severity neuroticism ( $p < .00$ ), marital status ( $p < .02$ ) and PD cluster A) ( $p < .00$ ), were significant discriminating ENR status with a c-value of .882. At follow-up only total PD criterion was significant ( $p < .00$ ).

When the two treatments were analyzed separately first for SEP regarding psychiatric symptoms we found that psychiatric symptoms was significant ( $p < .00$ ), with a c-value of .814. At termination neuroticism was the only significant variable ( $p < .00$ ), with a c-value of .903. At follow-up again only psychiatric symptoms was significant ( $p < .00$ ). For PD severity ENR status at any time-point feeling of one's social significance ( $p < .00$ ) and total PD criterion ( $p < .00$ ) were significant with a c-value of .902. At termination only the IIP variable cold ( $p < .00$ ) was significant with a c-value of .811 and at follow-up the variables feeling of one's social significant (KAPP) ( $p < .00$ ) and total PD criterion ( $p < .00$ ) were significant. The c-value was .909.

For CDPT regarding psychiatric symptoms ENR status at either time-point in order of relative importance Passive-Aggressive PD disorder ( $p < .00$ ), socially avoidant (IIP) ( $p < .00$ ) and GAF ( $p < .046$ ) were significant with a c-value of .888. At termination the variables Passive-Aggressive PD diagnosis ( $p < .01$ ) and socially avoidant (IIP) ( $p = .01$ ) were significant with a c-value of .854. At follow-up finally only one variable socially avoidant was significant ( $p < .001$ ) with a c-value of .867. When ENR status was discriminated for PD severity at either time-point difficulties describing feelings ( $p < .01$ ), agency ( $p < .02$ ) and total PD criterion ( $p < .04$ ), were significant with a c-value of .900. At termination difficulties describing feelings ( $p > .00$ ) and total PD criterion ( $p < .03$ ) were significant showing a c-value of .888. At follow-up finally only total PD criterion was significant ( $p < .01$ ) with a c-value of .786.

For each outcome measure and for entire sample, SEP and CDPT respectively regression equations were calculated that gives the probability for a patient to be an ENR when the results on the significant variables are available for that patient.

## **6.5 FURTHER OUTCOME RESULTS.**

The study included a number of scales that were either intended to be used for the first time in order to gather further psychometric data, or to use as secondary outcome measures. None of the results using the instruments and measures covered in this section have been submitted for publications. For all measures in this section effect sizes are indicated in table 6. Please note that because these analyses are exploratory, we have not conducted a Bonferroni correction. We conducted mixed model ANOVA analyses using the hockey-stick model (see statistical section) for the active treatment and the follow-up phase separately. When we performed analyses of the four factors for the WBP we choose to do only a mixed model ANOVA for

change over time since the purpose was to explore the psychometric properties of the scale. This procedure comprised in total 18 analyses.

### 6.5.1 WBP.

CDPT show significant greater improvement in well being during the active treatment phase ( $F(1, 240.43)= 4.317, p< .04$ ) as compared to SEP. During the follow-up phase there was no significant improvement for the whole sample. Since the WBP has so far only been used in one study (Weinryb, Gustavsson, Åsberg, & Rössel, 1994), and never in a psychotherapy study with psychiatric patients it is difficult to evaluate the clinical significance of this statistically significant finding. Therefore we conducted a psychometric evaluation of the scale in our sample to explore for example to what extent the scale really measures a single construct (well-being). A principal component analysis was thus conducted and resulted in four factors explaining 63.9% of the variance (factor 1 eigenvalue= 3.40, variance explained=30.53%, factor 2, eigenvalue=1.39, variance explained=12.64%, factor 3, eigenvalue=1.25, variance explained=11.35% and factor 4, eigenvalue=1.04, variance explained=9.46%) (table 5).

Table 5.  
*Pattern Matrix*<sup>a</sup>

|     |                        | Component |      |     |      |
|-----|------------------------|-----------|------|-----|------|
|     |                        | 1         | 2    | 3   | 4    |
| 1.  | Aches and pains        |           | .31  | .55 | -.34 |
| 2.  | Staying power          | .42       |      | .31 |      |
| 3.  | Initiative             | .83       |      |     |      |
| 4.  | Emotional involvement  | .82       |      |     |      |
| 5.  | Sleep                  |           | .67  | .36 |      |
| 6.  | Appetite               | .46       | -.36 | .38 |      |
| 7.  | Mood                   | .73       |      |     |      |
| 8.  | Anxiety                |           |      |     | -.76 |
| 9.  | Irritability and anger |           | .79  |     |      |
| 10. | Worry over trifles     |           |      |     | -.86 |
| 11. | Sexuality              |           |      | .81 |      |

Extraction Method: Principal Component Analysis.

Rotation Method: Oblimin with Kaiser Normalization.

<sup>a</sup> Rotation converged in 24 iterations.

When qualitatively studying the items included in the first factor it is clear that these are all indications of depression (table 4). The remaining three factors are difficult to understand in a more precise manner. The general conclusion seems to be that the WBP measures a general construct of ill-health, both psychic and somatic. We proceeded with a mixed mode ANOVA exploring the change over time for each factor. For factor I we used items 2, 3, 4, 6 and 7, for factor 2 items 5 and 9, for factor 3 items 1 and 11 and for factor 4 items 8 and 10. Results for factor 1 showed that CDPT was superior to SEP ( $F(2, 237.23)=3.27, p= .04$ ). Factor 2 showed a significant improvement over time ( $F(2, 233.23)=25.65, p= .00$ ), but no differences between treatments was found. Factor 3 and factor 4 showed neither significant improvement over time nor significant difference between treatments.

Furthermore the correlation between the GSI of the SCL-90 and the mean score of the WBP at intake was  $.605^{**}, p < .01$ , showing a high degree of overlap and indicating that the WBP may rather measure aspects of physical and psychiatric suffering than well-being per se.

### 6.5.2 TAS-20.

During the active treatment phase CDPT improved significantly more than SEP regarding Difficulties identifying feelings (DIF) ( $F(1, 228.33) = 5.61, p = .019$ ). Difficulties describing feeling (DDF) improved for the whole sample during the follow-up phase ( $F(1, 224,13) = 6.22, p = .013$ ), but no significant improvement was found during the active treatment phase. For externally oriented thinking (EOT) no significant improvement was found during either time-phase.

### 6.5.3 TCF.

During the active treatment phase the whole sample improved significantly ( $F(1, 193.47) = 93.27, p < .000$ ) regarding the first major complaint in the form, but there was no significant difference between the two treatments. Regarding the mean of the three complaints all patients improved significantly during the active treatment phase ( $F(1, 194.21) = 122.41, p < .000$ ), but there was no significant difference between the two treatments. No significant improvement was found during the follow-up phase.

### 6.5.4 SSPS.

During the treatment phase the whole sample improved significantly ( $F(1, 225.12) = 7.97, p = .005$ ), but there was not significant difference between the treatments. During follow-up no significant improvement was found.

### 6.5.5 SCID II screen.

During the treatment phase the whole sample improved ( $F(1, 232.17) = 275.87, p < .000$ ), but there was no significant difference between the treatments. No significant improvement was found during the follow-up phase.

### 6.5.6 Contact with others.

There were a considerable amount of missing data for this scale, we only gathered 39.8% during the active treatment phase and 21.2% during the follow-up phase. Due to this amount of missing data it was not considered as meaningful to analyze the Contact with others scale.

### 6.5.7 CRQ.

The CRQ contains 195 items and is filled out by the subject for five different significant other persons in his life. At each time-point  $5 \times 156 = 780$  forms are thus possible. At termination we gathered 189 (24%) and at follow-up 116 formulas (14.8%). Due to this amount of missing data and the complicated scoring process it was not deemed as meaningful to analyze the CRQ.

Table 6.  
*Effect sizes for secondary outcome measures*

| Variable       | Effect size intake - termination |      | Effect size intake – follow-up |      |
|----------------|----------------------------------|------|--------------------------------|------|
|                | SEP                              | CDPT | SEP                            | CDPT |
| WBP            | .53                              | .90  | .46                            | .92  |
| TAS-20-DIF     | .21                              | .61  | .40                            | .70  |
| TAS-20-DDF     | .09                              | .28  | .23                            | .53  |
| TAS-20-EOT     | .12                              | .24  | .37                            | .25  |
| TCF-complaint1 | 1.30                             | 1.29 | 1.32                           | 1.31 |
| TCF-mean       | 1.60                             | 1.34 | 1.16                           | 1.27 |
| SSPS           | .42                              | .19  | .18                            | .21  |
| SCID II Screen | 2.21                             | 2.52 | 2.37                           | 2.68 |



## **7 DISCUSSION**

### **7.1 GENERAL COMMENTS**

This trial adds to the empirical evidence for psychotherapeutic treatment of patients with any of the DSM-IV Personality Disorders (PD), evidence that has so far been considered weak. The main conclusions from the trial are that 1) it is possible to treat the PD condition for one year with reasonably good results, 2) it is possible to predict who will improve following dynamic therapy, 3) it is possible to predict extreme non-response to treatment with high level of accuracy and 4) SEP seems to have a cost-effective aspect.

In comparison with results reported from other psychotherapy trials for PD patients the primary outcome improvements in this trial are by and large in the same range (Leichsenring & Leibling, 2003, 2007). The similarity between our findings and those from the literature support the validity of the present results. The fact that the study was conducted in a “real-world” clinical psychiatric setting in which patients did not primarily ask for psychotherapy also support the external validity of the study. The main effects of the trial does not however indicate that manualized psychotherapy is more efficacious than non-manualized psychodynamic treatment, except for a cost-effectiveness aspect.

Even though no significant main effect was found between treatments it was possible to distinguish tendencies for each treatment to do better in different domains of outcome. Several measures that were highly intercorrelated, psychiatric symptoms (SCL-90), the WBP and neuroticism, all indicated that CDPT was doing better in reducing anxiousness and symptomatic distress in the PD patients. However the opposite tendency was detectable in SEP for longstanding PD severity which was more effectively addressed with the manualized treatment.

We were further able to provide clinicians with high accuracy prediction formulas for treatment failure, something that can be highly cost effective in clinical practice and may help prevent unnecessary suffering on part of the patient. These predictions also showed different areas of functioning predict treatment failure, thus indicating that different patients may profit differently from the two treatments.

To our knowledge it is the first time manualized and non-manualized psychodynamic treatments are being compared in a randomized trial. Most clinicians do not use manuals but are exposed to increasing demands from evidence based research and clinical guidelines to employ time-limited psychotherapy manuals in their practice. Thus it is strength of the study that most clinicians are able to recognize the treatment options and profit from the results.

### **7.2 PRIMARY RESULTS**

The three primary outcome measures were chosen with the intention to capture a cross-section of important aspects and consequences of the PD condition and also to be able to compare with other studies in which the same condition was treated. Two of the three primary outcome measures for symptoms and social functioning (SCL-90 and GAF) are among the most commonly used in clinical trials for PD patients (Leichsenring & Leibling, 2003). The third, personality disorder severity, although not used in earlier research, was chosen to measure the severity of the PD condition itself and to offer an alternative to the arbitrary cut-off limits for all categorical PD diagnoses that has been criticized. We found that the PD severity measure made sense to use since it includes many non-symptomatic aspects like maladaptive behaviours, cognitions, perceptions, and interpersonal behaviours that

may actually generate symptomatic distress. Patients improved significantly in all three aspects but there was no significant difference between the treatments. Furthermore, patients did not return to normal level of functioning as assessed by the SCL-90. What is interesting is that the principal areas of change seemed to differ between treatments. There was a tendency for CDPT to be more effective at reducing psychiatric suffering (including symptoms and improving well being) and for SEP to be more effective at reducing PD pathology as measured by the total number of PD criterion.

Since several measures of personality pathology may be influenced by symptomatic suffering, as indicated by high intake correlation between some of these measures (i.e. neuroticism) and psychiatric symptoms, the possibility that improvements in PD severity and other measures of personality pathology are not simply due to an improvement of axis I pathology had to be explored. Since we partialled out the effect of psychiatric symptoms when analyzing improvement in PD severity (paper I) and all measures of personality pathology (paper III) we are however confident that this was not the case and that we have reported results indicate changes on personality measures independently over and beyond change in psychiatric symptoms. One could speculate that working through the CCRTs actually improves the rigid belief systems and maladaptive interpersonal patterns that characterize PDs and that have been proposed as important goals for treatment (Crits-Christoph & Barber, 2002). However, it remains to be understood why this improvement in personality pathology was not accompanied by a similar reduction in psychiatric symptoms.

Since we applied a fairly long follow-up period of one year at which continued improvement in diagnosis took place we also feel assured that the improvement in PD diagnoses is not state-dependent. However, roughly 66% (termination) and 54% (follow-up) of the patients maintained a PD diagnosis at termination and follow-up. Perhaps this partly accounts for the fact that psychiatric symptoms were not clinically significantly improved after treatment.

### **7.3 LONGSTANDING PERSONALITY PATHOLOGY**

Since PD is characterized by a multidimensional spectrum of long-term personality pathology we wanted to explore specific aspects of personality improvement. A specific reason to target personality functioning is the likelihood that more mature levels of personality traits may help the individual to cope with stressful life events that in the first place elicits symptomatic reactions and suffering. Little research on PD has so far focused on measuring core pathology (Leichsenring & Leibing, 2003). Another reason for exploring improvement in personality pathology is that although psychodynamic psychotherapies have traditionally targeted maladaptive personality traits, the introduction of time-limited psychotherapies has partly shifted this focus. Reduction in symptoms is now more emphasized, even though it is hypothesized to take place through resolving internal psychological conflicts which still is a major target. In the case of SEP the reduction of symptom would take place through successfully resolving maladaptive CCRTs. Luborsky formulated the goal of SEP as achieving symptom reduction and limited but also significant change in character (Luborsky, 1984), consequently it is of interest to examine if significant but limited improvement of personality pathology is actually achieved with a shorter treatment duration than psychodynamic treatment usually has.

We found, however, small to moderate improvement in quality of object relations and ego functions, psychological mindedness, interpersonal problems and personality traits neuroticism and introversion (impulsiveness aspect). Furthermore,

we found that few patients returned to a healthy range of function using Reliable Change Index (RCI). But perhaps the measure of RCI is too strict of a criteria to assess improvement for such a pathological condition as PD. Perhaps smaller improvement is sufficient to enhance quality of life, and decrease symptomatic suffering to a more reasonable if not healthy level.

Perry et al. (1999) have estimated that for 75% of a PD sample to recover from the disorder would take 2.2 years (or 216 sessions) (Perry, Banon, & Ianni, 1999). Our sample had a mean treatment length of 24 sessions so perhaps these limited improvements of core pathologies are not surprising. Our findings are also consistent with research reporting that personality pathology is expected to improve at a much slower rate than symptoms (Kopta, Howard, Lowry, & Beutler, 1994). Consequently, one can perhaps safely speculate that clinical trials with PD patients would require a certain amount of time before substantial change in personality pathologies can occur. It is noteworthy that ending treatment did not result in deterioration as indicated by our follow up results. Thus the small to moderate improvements seem to have been stable.

Of the different measures for pathology in personality that we use quality of object relations and ego-functions showed the largest improvement in terms of effect size. When we used an adjusted RCI (improved and not recovered) 48.31% of the patients were found to be improved. A somewhat speculative interpretation of this finding is that it could be an indication of a psychodynamic structural process of change that was initiated by therapy. For neuroticism there was an equally large effect size, but only for CDPT. Interestingly the correlation between psychiatric symptoms (SCL-90) and neuroticism were high at intake ( $r = .663$ ,  $p < .000$ ) indicating the both measure high levels of emotional instability. It is possible that the tendency for significant improvement on SCL-90, the significant improvement on WBP and neuroticism all reflect the same process; that CDPT seemed to more successful in improving emotional instability.

Improvement in interpersonal problems, a core feature of PD, was small. This could imply that either these problems do not change, that these therapies are not effective at changing them or that longer treatment is needed for this condition. It is also a validation of the fact that interpersonal traits are really stable and only change slowly.

An alternative conclusion to the minor improvement in interpersonal problems may concern the difference in how the patients themselves perceive their interpersonal functioning after having explored it in psychotherapy. Patients with PD may to a large extent deny a particular kind of interpersonal problem, mostly the cold, vindictive, and dominant ones, since they are ego-syntonic and not experienced as a problem. After treatment they may be conceived of as more ego-dystonic and problematic and hence the self-rating of the interpersonal problems increase due to an increased awareness on part of the patient. Perhaps a useful addition to the battery of outcome instruments would be an observer-rated measure of interpersonal problems following the circumplex model.

## **7.4 PREDICTION AND MODERATION OF OUTCOME**

In paper II both predictive and moderating effects were found. That increasing severity of the PD disorder is related to poorer outcome is no surprise and poorer outcome has often been attributed to severe co-occurrence of PD diagnoses (Dimaggio & Norcross, 2008) as reflected by number of PD diagnoses. However, number of PD diagnoses did not predict outcome in this study unlike the results of Ogrodniczuk et al. (Ogrodniczuk, Piper, Joyce, & McCallum, 2001), only the PD

severity index, although these two measures were highly correlated at intake. It is likely that the specific constellations of PD comorbidity play a more important role than just the number of PD diagnoses and perhaps the number of positive axis II criterion is a proxy of that comorbidity.

Perhaps even more interesting is the predictive and moderating role played by interpersonal variables. Vindictiveness predicted higher rate of improvement across treatments, and dominance moderated higher rate of improvement for CDPT. Similar results has been found only in two other studies, also for psychodynamic psychotherapy (Comminos & Grenyer, 2007; Puschner, Kraft, & Bauer, 2004). The opposite result that dominance and dominance related IIP subscales are either unrelated to outcome or related to poor outcome is more usual. Dominance may reflect issues of autonomy and control both in treatment and in relationships in general. Research regarding the role of complementarity in interpersonal relationships (Pincus, 2005) usually presumes that in unstructured situations dominance elicits submission in others. But psychotherapy is not an unstructured situation and the role of the SEP therapist is to explore and question mal-adaptive relating (CCRT) and provide new opportunities for learning. This explorative attitude on part of the therapists may provoke a struggle for control from a dominant patient. The CDPT was not guided by a manual and it is possible that the CDPT therapists avoided issues of control and dominance if they felt that these issues raised too much resistance in the high dominant patients, and instead chose more supportive interventions. These hypothetical scenarios should be explored in further qualitative research, perhaps by identifying dominant patients with poor outcome in SEP and better outcome in CDPT and study the processes taking place.

## **7.5 EXTREME NON-RESPONSE TO TREATMENT**

Paper IV differed from the other three studies. In the first 3 studies we focused on dimensional variables and change over time. In the fourth study we wanted to offer the clinician treating patients with PD and using the same assessment instruments an ENR prediction model that is immediately exportable for clinical use.

The most interesting finding was that prediction of ENR status seemed to be domain specific. For reducing the level of psychiatric symptoms which can also be conceptualized as a general level of distress, it looked like CDPT did not sufficiently address a passive-aggressive attitude in combination with being socially avoidant. The manualized SEP on the other hand was not able to handle patients with high levels of pre-treatment neuroticism, which is a trait-like proneness for being anxious. Neuroticism is sometimes conceptualized as a proxy for high PD pathology levels and as a vulnerability factor (Mulder, 2004). Neuroticism also implies a high risk for developing both depression and anxiety disorders and is related with poor self-esteem (Kendler, Gardner, & Prescott, 2002).

A possible way to understand this difference is that CDPT was not active enough to confront trait-like stable avoidant behaviour, and that high neuroticism patients in SEP were not able to handle the anxiety being provoked by the therapists' attempt to actively explore their maladaptive CCRTs.

When we explored reduction in PD severity different measures indicating detachment and social withdrawal also discriminated ENR for both treatments. In addition CDPT also failed with patients lacking affect differentiation and SEP with patients that did not trust in their own social capacity. All these variables involve in different ways either a lack of "tools" or self-confidence in one's capacity to relate to others. These findings further emphasises the need for follow-up qualitative research in order to formulate hypothesis why certain subgroups of PD

patients are resistant to treatment.

Our findings may be more consistent with dimensional models of personality than with the categorical model espoused by the DSM. Such dimensional models to classify personality disorders have been suggested to overcome the deficiencies of the DSM (Widiger, 2007). Livesly (2008) has described four empirically based dimensions to help diagnose personality disorders and to contribute to treatment planning. The first is an anxious-dependent or emotional dysregulation constellation of traits (includes many features from BPD) and the second is a dissocial cluster of traits that resembles psychopathy. The third and fourth dimensions are less pervasive: social withdrawal and compulsiveness. It is noteworthy that both anxiousness and social withdrawal dimensions discriminated whether patients were ENR or not in this trial. Keeping in mind that IIP dominance moderated treatment outcome in this trial, one could speculate that IIP dominance maybe related to the dissocial dimension. Examples would involve trying to have control over other people or having a sense of entitlement, which are aspects of antisocial and narcissistic PD that have been found to be related to the dominant hostile quadrant of the interpersonal circumplex (Soldz, Budman, Demby, & Merry, 1993).

## **7.6 INTERPERSONAL STYLE AND HOW TO MEASURE IT**

Many researchers and master therapists conclude that no therapeutic gains can be achieved without a working relationship between therapist and patient (Livesley, 2008). The particular importance in this trial of the interpersonal variable empirically underscores this statement. The results in papers II and IV concerning the predictive, moderating and treatment failure discrimination by interpersonal variables may be an indication that different interactional processes are taking place in the two treatments. CDPT performed better with high dominant patients than SEP, but poorer with socially avoidant patients. For SEP being socially avoidant did not moderate outcome or predicted treatment failure, indicating that SEP was able to handle this interpersonal trait. On the other hand SEP performed less well with high dominant patients. The two IIP subscales dominant and socially avoidant indicate a very different pattern of relating with others. It was argued in paper II that perhaps the more supportive approach of CDPT, that we found some indications of, was more suitable not to provoke too much control issues with the dominant patients and thus succeeded in reducing their psychiatric level of stress. Hypothesizing that being socially avoidant can be an expression of passive aggressive resistance, as indicated by the Passive-Aggressive PD diagnosis, the CDPT was not able to handle this resistance. The indication is that therapists may need to alter their balance between expressive and supportive techniques depending on the predominant interpersonal patterns of the patient.

The research conducted on the interactive processes between patients' and therapists' interpersonal styles is quite contradictory, and what is most therapeutic appropriate may also vary depending on the clinical setting and on patient's diagnoses. The issue is whether to confront and clarify a dominant interpersonal style, which may be conceived of as non-complementary by the patient and raise resistant (see earlier discussion). Another therapeutic road is for the therapist to act more softly or complementary with supportive interventions not to "loose" the cooperation of the patient. It has been shown that optimal change can be achieved by violating the regular interpersonal pattern and thereby causing the patient to rethink his or her interpersonal behaviour (Dietzel & Abeles, 1975). But the

contrary has also been found that less directiveness or expressiveness on the part of the therapist reduced symptoms of dominant patients which can lend evidence to the use of a complementary supportive approach (Dietzel & Abeles, 1975; Karno & Longabaugh, 2005). In a recent study using the IIP both to evaluate therapists' and patients' interpersonal pre-treatment style and the SCL-90 for measuring outcome patient dominance predicted better outcome like in our study. However, therapists' interpersonal style did not predict outcome (Dinger, Strack, Leichsenring, & Schauenburg, 2007). Clearly this is an area that needs more thorough investigation in order to be able to moderate therapists' interventions according to the interpersonal style of the patient.

An unexpected negative finding is that the clinically rated psychodynamic variable quality of object relations and ego-functions that also measures quality of relating to others, but on a more structural level, did not predict or moderate outcome, nor did it discriminate for outcome. This is in contrast to some other findings that have been made with psychodynamic measures (Hoglund, 1993; Piper & Duncan, 1999). One of the psychodynamic factors, namely the importance of one's social significance however discriminated non-response in personality disorder severity. This specific psychodynamic factor is much closer to the own conscious experience of the patient, which is also the case with the IIP measure of interpersonal relating. Perhaps psychoanalytic measures rely too much on theoretical inferences and not enough on observable behaviors and attitudes to be predictive of treatment outcome. Perhaps the predictive power of psychodynamic assessments could be improved and made more useful by combining them with a manifest description of interpersonal patterns, similar to those obtained from attachment evaluations (e.g., adult attachment styles). Since most of the patients in the trial were in a similar pathological range, the range on the KAPP scores may not have provided enough range to have power to detect a significant difference.

## 7.7 MANUAL VERSUS NO MANUAL

One of the major differences between the two treatments was the use of a psychotherapy manual. Using psychotherapy manuals is an inevitable indispensability when conducting RCT with the aim of finding the most appropriate treatment for different patients. But psychotherapy manuals have frequently been criticised for lack of flexibility. It was for example found in one study that therapists trained in using a psychodynamic psychotherapy manual often addressed the therapeutic relationship pre-maturely before a clear pattern had appeared of the relationships outside therapy and specific events in therapy (Strupp & Anderson, 1997). In connection with this result it has been questioned whether it is possible to train experienced therapists in a way partly contrary to their clinical experience. Similar experiences have been made in another clinical trial using cognitive psychotherapy (Castonguay, Goldfried, Wisner, Raue, & Hayes, 1996) indicating that this is not a technique specific effect.

In contrast the value of using manuals for outcome for PD patients specifically has been addressed in a meta-analysis in which a positive correlation was found for psychodynamic psychotherapy manuals and self-rated outcome ( $r^S = .64$ ,  $N=10$ ,  $p = .05$ ). For observer rated measures no such correlation was found. In this trial the two treatments did not have significantly different results, which may indicate that the use of the SEP manual was not contra-productive to good outcome.

The main effect of the study does not give any indication except for a cost-effectiveness aspect to recommend manualized over non-manualized based psychotherapy. But neither does it invalidate the use of psychotherapy manuals. It is

possible that this lack of main effect between psychotherapy versus no psychotherapy manual is in line with other psychotherapy trials in which the non-specific factors seem to account for more of the variance than the technique specific factors.

Although patients were randomized to treatment with and without time-limited psychotherapy manuals it is possible that this difference was somewhat diminished by the fact that all CCPT clinicians were receiving regular supervision throughout the trial. Possibly the SEP manual and CCRT supervision and extensive clinical experience were both a help for the therapists in handling transference issues.

## **7.8 METHODOLOGICAL LIMITATIONS**

A main question that has to be put is whether our length of the treatment was a threat to external validity because of not being long enough. According to calculations made by Perry (1999) it will take 2.2 years for 75% of a PD sample to recover. Following this recommendation our external validity is questionable. But the mean treatment length being reported in a meta-analysis including only trials for PD patients is actually very close to ours (all PD trials mean=23.17, SD=11.63, our study SEP mean=26.2, SD=15.2, CDPT mean=28.0, SD=23.7) (Leichsenring & Leibing, 2003). An important question is thus whether any significant interaction can be found between treatment length and improvement. Leichsenring reported a positive correlation between treatment length and outcome for the psychodynamic treatments in this meta-analysis ( $r_s = .46$ ,  $N=13$ ,  $p = .16$ ), although it did not reach statistical significance because of the small number of studies. The number of trials using CBT was too small for any meaningful correlation to be calculated. Consequently the answer to the question must possibly be yes, but we need trials with longer treatments to know for sure.

In paper I a cost-effectiveness finding was reported. Normally cost-effectiveness studies would include time on sick-leave, loss in working hours, income etc. Our study only included a limited aspect namely whether SEP patients were able to cope with life without treatment the year after termination compared to the CDPT patients which they did. This finding has an implication for planning treatment resources, and a common clinical dilemma regarding treatment for PD patients is whether they need to be taken care of on a “forever”-supportive psychiatric treatment basis or if treatment can be time-limited. This situation can be very resource-depleting for psychiatric units. Also because of the special conditions in Sweden for insurances during sick-leave loss of income is not very dramatic and may not be a significant outcome measure.

A further issue of limitation is the lack of no-treatment control group. This is however something that is very difficult to justify ethically in moderate to long term clinical trial.

## **7.9 IMPLICATIONS FOR FUTURE RESEARCH**

The interview based psychodynamic measure we used (KAPP) failed as a predictor or moderator of patients outcome. The inability of the KAPP to predict outcome is due to restricted range of the KAPP scores or to its high inferential nature. This is disappointing as it would be important to that psychoanalytically inspired measure predict change of psychoanalytic treatment or change during that treatment. Perhaps, other psycho-analytically inspired measures such as the adult attachment interview (AAI) and the reflective functioning or meta-cognition (Bateman & Fonagy, 2008; Fiore, Dimaggio, Nicoló, Semerari, & Carcione, 2008; Fonagy et al., 1996) should be tried in future studies. Maybe these measures are closer to the actual interpersonal and reflective capacity of the patient and can be especially valuable for

PD research in predicting and moderating outcome. In fact, after our study was started, a self-rating version of an attachment measure has been shown to predict outcome (McBride, Atkinson, Quilty, & Bagby, 2006; Reis & Grenyer, 2004; Travis, Bliwise, Binder, & Horne-Moyer, 2001). It has however been more difficult to predict outcome using observer based attachment data (Strauss et al., 2006). Attachment evaluations, at least based on self-report, seem to be worthwhile in clinical trials using psychodynamic therapies.

An especially difficult-to-treat subgroup of PD, are those with a co-occurrence of several PD diagnoses as suggested by the fact that PD severity predicted slower improvement of psychiatric symptoms. We can safely assume that greater index of PD severity often involves co-occurring PDs. For this subgroup of PD patients, there are no diagnostic and clinical guidelines (Dimaggio & Norcross, 2008). The DMS-IV categorical system does not provide any measure of PD severity. Further, DSM does not make explicit what aspects of PD severity should be addressed in treatment. The four dimensions being described by Livesly (2008) and others may be worth using as an alternative to DSM-IV. Future studies may compare the predictive validity of the two diagnostic systems. They could also serve as a basis to prioritize what aspects of the severe PD disorder should be addressed in treatment.

Because longer treatment produce larger patient gains (e.g., Bateman & Fonagy, 2001) and that improvement in pathological personality traits take longer time than symptomatic improvement (Kopta, 2003; Perry et al., 1999), the relation between length of treatment and outcome should receive more attention especially among PD patients. In addition, longer treatment will enable us to explore the extent to which PD patients can change over time, and will give us information about which symptoms and character traits change first, and which do not change at all.

## 8 SVENSK SAMMANFATTNING

Denna avhandling består av en randomiserad kontrollerad studie för psykiatriska patienter med en eller flera personlighetsstörnings diagnoser (PD) från DSM-IV. Prevalensen för PD inom både primärvård och psykiatri är hög. Patienter med PD anses svåra att behandla och empiriskt stöd för olika former av psykoterapi betraktas fortfarande som svagt. Studiens målsättning var att utifrån en ”efficacy” standard undersöka hur kliniskt användbar en manualiserad tidsbegränsad psykoterapi, Supportive-Expressive Psychotherapy (SEP) är. Denna metod har ett visst empiriskt stöd för behandling flera olika psykiatriska tillstånd. Av 371 psykiatriska patienter som intervjuades med SCID II för deltagande i studien hade 159 ingen PD och 56 patienter med PD vägrade att delta. Totalt randomiserades 156 patienter till endera SEP (n=80) eller till icke-manualiserad psykodynamisk psykiatrisk behandling (CDPT) (n=76). Medelåldern för patienterna var 35 år (s.a.=10,3), 31,4% var män och 45 % ensamstående. Alla SEP och vissa CDPT sessioner video- eller ljudinspelades och terapeutisk följsamhet/kompetens skattades reliabelt av oberoende skattare. Mellan start och uppföljningsutvärdering var medeltalet terapi sessioner för SEP 26 (s.a.=15.2) och för CDPT 28 (SD=23.7). Data för utvärdering samlades in vid tre tidpunkter; 1) start av studien, 2) avslutning efter ett år, samt 3) uppföljning efter ytterligare ett år. I studie I undersöktes hypoteser beträffande i vilket utsträckning behandlingen 1) förbättrade prevalensen PD diagnoser och svårighetsgraden i tillståndet, 2) förbättrade PD symptom (antalet positiva axel II kriterier), 3) minskade psykiatriska symptom (SCL-90), 4) förbättra den globala funktionsnivån (GAF), och 5) medföra en minskad sjukvårdskonsumtion i form av minskat antal besök på psykiatriska öppenvårdsmottagningar. Resultaten visade att patienterna förbättrades signifikativt i alla avseenden, men vi fann ingen signifikant skillnad i effekt mellan behandlingarna. Den enda skillnaden mellan behandlingarna vara att SEP medförde signifikant minskade besök under uppföljningsperioden. I studie II undersöktes variabler som kunde predicera eller moderera minskning av psykiatriska symptom (SCL-90). Två variabler predicerade utfall oberoende av behandling, totala antalet positiva PD kriterier och IIP variabeln hämndlystnad/självupptagenhet och en variabel modererade utfall, IIP variabelns dominans/kontrollerande. Ju högre PD svårighetsgrad patienter hade ju sämre resultat och ju högre grad av hämndlystnad/självupptagenhet ju bättre resultat. Patienter med högre grad av dominans/kontroll fick signifikant bättre resultat med CDPT. I studie III undersöktes i vilken mån personlighets problem såsom kvalitet på objekt relationer och jag-funktioner, psykologisk medvetenhet, interpersonella problem samt vissa personlighets drag; känslomässig instabilitet, vänlighet och utåtrikning förbättrades. Patienterna förbättrades i de flesta avseenden men beräkning av effekt storlekar och reliabelt förändrings index (RCI) visade att förbättringarna var små till moderata och få patienter förbättrades till en icke-klinisk nivå. Studie IV hade två syften; 1) att utifrån socio-demografiska och kliniska karaktäristiska diskriminera extrem brist på behandlingseffekt och 2) skapa en prediktions ekvation som kan förutsäga om en patient med viss sannolikhet ej kommer att förbättras i behandling. Femtio fyra prediktions variabler användes för att diskriminera extrem brist på behandlings effekt beträffande minskning av psykiatriska symptom och totalt antal positiva axel II kriterier. Resultatet visade på olika prediktions domäner för de två förbättringsmåtten och de två behandlingarna. Alla prediktioner var goda till utmärkta. Regressions ekvationer presenteras som kliniker kan använda för att med hög sannolikhet predicera om en patient kommer att misslyckas i behandling.

Studiens slutsatser är att 1) det är möjligt att behandla PD under ett år med förhållandevis goda resultat, 2) det är möjligt att både predicera och moderera minskning av psykiatriska symptom, 3) det är möjlighet att med hög tillförlitlighet predicera extrem brist på behandlingseffekt, och 4) SEP medför en viss besparing i sjukvårdskonsumtion. Jämfört med resultat från andra PD studier tycks förbättringarna av psykiatriska symptom och psyko-social funktionsnivå ligga inom samma nivå, ett faktum som talar för studiens validitet. Studien kan också anses ha en god extern validitet eftersom den genomfördes i en klinisk miljö i vilken patienter sökte psykiatrisk vård och inte specifikt psykoterapi. Huvudresultaten indikerar emellertid inte att tidsbegränsad manualiserad psykodynamisk psykoterapi kan rekommenderas på bekostnad av icke-manualiserad psykodynamisk psykiatrisk behandling, med undantag för en viss minskning av sjukvårdskonsumtion.

Eftersom resultat från andras studier tyder på att längre behandling kan ge bättre resultat för patienter med PD bör framtida studier för patientgruppen pröva längre behandlingstider. Behandlingslängder på några år kan också vara önskvärda ur perspektivet att kunna undersöka vilken grad av förbättring som är realistisk och möjlig för patienter med PD. Behandlingslängden är förmodligen också relaterad till svårighetsgraden av PD. Komorbiditet av flera PD diagnoser är sannolikt ett uttryck för svårighetsgraden, men det finns fortfarande inte någon accepterad metod att fastställa svårighetsgraden. Denna diagnostiska aspekt behöver också undersökas i framtida forskning.

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