From DEPARTMENT OF CLINICAL NEUROSCIENCE
Karolinska Institutet, Stockholm, Sweden

THERAPEUTIC ALLIANCE; EXPLORATION OF THE CONSTRUCT VALIDITY OF THE CONCEPT

Annika Lindgren

Karolinska
Institutet

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To Hedda and Anders

ABSTRACT

Background: Repeated meta-analyses have established that there exists a robust association between therapeutic alliance and outcome at end of treatment; still, there is a lack of coherent theory regarding the concept and lack of agreement on how to interpret and understand research results. Further support of the construct validity of the concept is needed.

Aim: The aim of the present thesis was to explore the construct validity of the concept therapeutic alliance. Paper I aimed at studying the adaptation of an established alliance measure to a group psychotherapy setting. Paper II aimed at exploring the association between alliance and outcome in treatment for young adults. Paper III aimed at testing prediction and moderation of early alliance in psychodynamic psychotherapy (ORP) and dialectical behavior therapy (DBT). Paper IV aimed at predicting growth of alliance from relational personality variables.

Methods: Paper I is based on data from a randomized controlled study on patients on sick leave diagnosed with work related depression and/or stress reactions participating in psychodynamic group psychotherapy (n = 18). Paper II and IV are based on data from a prospective, naturalistic outcome study on young adults receiving long-term psychoanalytic psychotherapy (n = 115, n = 79). Paper III is based on data from a randomized controlled study on female, suicidal patients diagnosed with borderline personality disorder (n = 59). Analyses were performed on data for patients for whom patients and/or therapists had filled out relevant questionnaires.

Results: Study I: Reliability for the alliance questionnaire was acceptable. Average alliance was associated with outcome, while dismissing attachment, level of interpersonal problems, problems being exploitable, and problems being overly nurturant were associated with growth of alliance. Dismissing attachment was also predictive of early alliance. Paper II: Therapist-rated alliance was negatively associated with symptom change in patients with high levels of initial suffering. Paper III: Patients and therapists in DBT rated early alliance higher than their counterparts in ORP. Somatic anxiety moderated discrepancy in therapist/patient-rated alliance between the two treatments. Study IV: Two measures of object and self-representations predicted growth of patient-rated alliance, while interpersonal problems within the friendly-submissive domain predicted fluctuations in therapist-rated alliance.

Conclusion: The present thesis found some support for the construct validity of the concept therapeutic alliance. However, the lack of coherent theory of the concept makes it difficult to interpret diverging results other than from a clinical perspective.

Keywords: *alliance, construct validity, prediction, growth*

LIST OF SCIENTIFIC PAPERS

I. Lindgren, A., Barber, J. B., & Sandahl, C. (2008). Alliance to the group-as-a-whole as a predictor of outcome in psychodynamic group psychotherapy. International Journal of Group Psychotherapy (58), 163-184.

II. Lindgren, A., Werbart, A., & Philips, B. (2010). Long-term outcome and post-treatment effects of psychoanalytic psychotherapy with young adults. Psychology and Psychotherapy: Theory, Research and Practice, (83), 27-43.

III. Lindgren, A., Wilczek, A., Nilsonne, Å., Kåver, A., Åsberg, M., & Barber, J. P. Early alliance in dialectical behavior and psychodynamic psychotherapies for suicidal women with borderline personality disorder. (Submitted).

IV. Lindgren, A., & Werbart, A. Object representations predict growth of alliance in psychoanalytic psychotherapy with young adults. (Submitted).

CONTENTS

LIST OF ABBREVIATIONS

BPD	Borderline Personality Disorder
CALPAS	California Psychotherapy Alliance Scales
CPRS-S-A	Comprehensive Psychopathological Rating Scale-Self-Affective
CTT	Classical Test Theory
DBT	Dialectical Behavior Therapy
DIP-I	DSM IV and ICD-10 personality disorders interview
DRS	Differentiation-Relatedness of Self and Object Representations Scale
DSM	Diagnostic Statistical Manual
EBP	Evidense Based Treatments
GAF	Global Assessment of Functioning scale
GSI	Global Severity Index
HAQ	Helping Alliance Questionnaire
IIP	Inventory of Interpersonal Problems
IRT	Item Respons Theory
KAPP	Karolinska Psychodynamic Profile
KSP	Karolinska Scales of Personality
ORI	Object Relation Inventory
ORP	Object Relations Psychotherapy
RSQ	Relationship Scales Questionnaire
SASB	Structural Analysis of Social Behavior Intrex Questionnaire
SCID	The Structured Clinical Interviews
SCL-90	Symptom Checklist-90
SRH	Self-Rated Health
TFP	Transference Focused Psychotherapy
VPPS	Vanderbilt Psychotherapy Process Scale
VTAS	Vanderbilt Therapeutic Alliance Scale
WAI	Working Alliance Questionnaire

1 BACKGROUND

There is an on-going discussion on how to understand and theoretically conceptualize the construct *therapeutic alliance* (i.e. DeRubeis, Brotman & Gibbons, 2005; Hatcher & Barends, 2006; Horvath, 2006; Strunk, Cooper, Ryan, DeRubeis & Hollon, 2012), as well as a methodological debate on how to best measure the construct and interpret research findings (Crits-Christoph, Connolly Gibbons & Mukherjee, 2013). Despite the magnitude of research and findings reported on alliance and outcome in psychotherapy, disagreement on these issues is still vivid. One reason for the disagreement, often mentioned by Horvath, is the original lack of authoritative definition of the concept and the identification of alliance as a common factor (e.g. Horvath, 2011).

The disagreement among scholars on therapeutic alliance, on theory as well as methodology, indicates that there is still work to be done on the basic psychometric properties of the concept. The present thesis was conducted and written with the intention to make a contribution to this knowledgebase by exploring psychometrical properties of the concept *therapeutic alliance* within a Swedish context.

The name of the present thesis adopts the phrasing "therapeutic alliance". Even though some researchers and theoreticians have tried to distinguish between alliance, working alliance and therapeutic alliance, these concepts will be used interchangeably in the present text. They are here used as synonyms.

1.1 PSYCHOMETRIC CONCEPTS

Psychometrics is the science and technique how to objectively measure mental phenomena (Pawlik, 2003). Mental phenomena should here be understood as theoretical constructs, often complex, and hardly ever directly observable. Based on data from observations, an assessment should lead to the possibility to make inferences about the presence, amount/weight or quality of the construct.

A central aspect of psychometrics is the theoretical foundation and conceptualization of a phenomenon intended to be measured (Sireci, 2003). This does not mean that definition of constructs does not develop. Even though a construct is well predefined, research can result in incongruent findings or outcomes that are difficult to understand within the present theoretical framework. New or initially non-intended perspectives might come to the forefront in the interpretation of outcome and be used to develop the theory that initially informed the research done. Thus, theory and definitions might change over time, but theoretical definitions with subsequent clear operationalization are always pivotal in research based on psychometric methodology.

Psychometrics is about objective measurement, but the subject matter to be measured might be epistemologically subjective, as is the case when the psychological phenomenon of interest is in the realm of individual experiences or opinions. Referring to Kant, one could say

that we are striving to measure "das ding für uns", either in its own merit or as an approach to separate idiosyncratic perceptions from "das ding an sich", depending of research aims (Bech, 2012).

There are two common approaches to the definition of measurement in psychology. Smith Stevens (1946) proposed that measurement in context of psychology is "the assignment of numerals to objects or events according to some rule.", while others state that psychologists should adhere to the same principle as physicists do (Mitchell, 1997). The first approach is the one adopted in classical test theory (CTT), while the second is part of the founding base of Rasch analysis (item-response theory, IRT). Frequently, questionnaires applied in clinical settings tend to be based on CTT. CTT will therefore be the psychometric theoretical framework for the present dissertation even though the adoption of either generalizability theory or IRT might be a possible way to further develop research on therapeutic alliance.

1.1.1 Validity

The psychometric concept of validity is applicable to the inferences or interpretations that are based on scores from tests or questionnaires. Messick (1989) described this as "validity is an integrated evaluative judgment of the degree to which empirical evidence and theoretical rationales support the adequacy and appropriateness of inferences and actions based on test scores or other modes of assessment" (p. 13). As such, validity must be understood as an overarching judgment based on different types of evidence, of which construct validity is a sub-category.

1.1.2 Construct validity

Construct validity is the empirical support for the theoretically founded pattern of associations between measures of different behaviors or mental phenomena (Camara, 2003). Cronbach and Meehl (1955) stated that every researcher should formulate the "nomological net" to which a specific construct belonged. Within the correlation matrix a pattern of stronger associations with theoretically related concepts (convergent validity) and weaker associations with theoretical unrelated concepts (divergent validity) should follow the theoretical logic that the construct of interest is based on. Divergent validity evidence has been identified as the more important part of construct validity (Angoff, 1988).

1.1.3 Reliability

Reliability, or accuracy, is an important quality indicator of an instrument according to CTT. It gives information on how much noise or measurement error is confounded with an individual's "true" score on the construct being measured. Lack of reliability limits the possibility of drawing valid conclusions from that instrument score (De Gruijter, 2003).

1.2 ALLIANCE

1.2.1 Definition of the concept of alliance

Possibly the most commonly mentioned definition of alliance comes from Bordin's article (1979) about the generalizability of the concept of working alliance. There, alliance is declared as "an agreement on goals, an assignment of task or a series of tasks, and the development of bonds" (Bordin, 1979). Bordin stressed the concept's psychodynamic origin but his intention with the definition was to transform it to a pan-theoretical construct.

Bordin (1979) based his definition on earlier writings on psychodynamic psychotherapy and psychotherapeutic processes. Often mentioned theorists of alliance are Freud, Sterba, Zetzel, Greenson and Luborsky (see for example Horvath, Del Re, Flückiger, & Symonds, 2011b). Others have definitively contributed with theory and clinical expertise (Elvins & Green, 2008), but the above mentioned theorists are among the most commonly mentioned names contributing with ideas leading to a definition.

Even though Freud did not introduce the term alliance, he early identified the emotional rapport or friendliness between the therapist and patient as the basis for collaboration (1912/1959). This notion was picked up both by Zetzel (1956) and Greenson (1967). Freud argued that relational aspects of psychoanalysis should be understood within the transference. Greenson developed this by dividing the idea of the relationship into three aspects: transference, alliance and what he called the real relationship (1967). The alliance, according to Greenson, is influenced by the patient's motivation to change.

The therapist's contribution to the alliance was identified already by Freud when he wrote that the therapist should show a positive interest in the patient (Freud, 1912/1959). Sterba (1934) stressed the collaborative aspects of alliance by identifying alliance as the encounter between the patient's and therapist's rational selves, based on the patient's capacity for both self-observation and experiencing in psychotherapy. Luborsky (1976, as cited in Horvath & Luborsky, 1993) developed this by stressing the importance of therapist and patient developing a common framework in order to understand each other. Luborsky also separated two types of alliance: 1) the patient trusting the therapist as a source for help, and 2) the patient's experience of the psychotherapy as a process of collaboration towards a goal (Luborsky, Crits-Christoph, Alexander, Margolis, & Cohen, 1983).

Another way to try to understand the definition of a concept is by looking at it from a psychometric perspective, i.e. to examine how researchers have chosen to operationalize the concept. Even though there are a multitude of instruments aiming to measure the therapeutic alliance (see Elvins & Green, 2008, for an overview), four main instruments are most often implemented in individual psychotherapy (Krause, Altimir & Horvath, 2011). Three of these four instruments can be used from more than one perspective (i.e patient rated, therapist rated or observer rated). All four instruments allude to Bordin's definition of the construct of alliance, but the operationalization of the construct differs slightly, often by reference to earlier clinical discussions.

California Psychotherapy Alliance Scales (CALPAS, Marmar, Weiss & Gaston, 1989; Gaston, 1991) comprises four sub-scales that capture the patients' commitment to the treatment, the patient's capacity to work in treatment, the therapist's understanding and involvement, and the consensus between therapist and patient on working strategy. The last sub-scale is related to the goal and task component of Bordin's definition. The other tree sub-scales are more influenced by the writings of Freud, Sterba and Greenson. An example of items from the client form is: "When your therapist commented about one situation, did it bring to mind other related situations in your life?" (Hatcher, 2010).

Helping Alliance Questionnaire (HaQ) was developed to measure to what extent the therapy and the therapist is experienced as helpful by the patient. The first version of the questionnaire comprised two sub-scales: Perceived Helpfulness, and Collaboration and Bond (Alexander & Luborsky, 1986). When revising the HaQ into *Helping Alliance Questionnaire-II* (HaQ-II, Luborsky et al., 1996) a number of questions confounding alliance with outcome were removed, while new items were developed. The new questionnaire was purposely related to Bordin's definition of alliance, but a few items drawing on the theoretical writings of Luborsky as well as Greenson's ideas are included in HaQ-II. Examples of items from the client form are: "I believe we have similar ideas about the nature of my problems"; "In most sessions, the therapist and I find a way to work on my problems together " (Luborsky et al., 1996).

Vanderbilt Therapeutic Alliance Scale (VTAS, Hartley & Strupp, 1983) based on *Vanderbilt Psychotherapy Process Scale* (VPPS, O'Malley, Suh, & Strupp, 1983) is an observational instrument based on a broad theoretical framework. It comprises three theoretical sub-scales: Therapist contribution, Patient contribution, and Therapist-Patient interaction. A theoretically driven revision of the instrument excluded items related to therapist actions intended to strengthen the alliance, thus only keeping the items from the sub-scales Patient contribution and Therapist-Patient interaction. Examples of items from these two sub-scales are: "To what extent did the patient indicate that she experienced the therapist as understanding and supporting her"; "To what extent did the therapist and patient together share a common viewpoint about the definition, possible causes, and potential alleviation of the patient's problems" (Shelef & Diamond, 2008).

Working Alliance Questionnaire (WAI, Horvath & Greenberg, 1986) is the only of the four most implemented alliance instruments that was developed specifically to measure the concept in agreement with Bordin's definition of alliance. It consists of items classified as measuring agreement on goals, agreement on tasks and the emotional bond between patient and therapist. Examples of items from the client form are: "(Name of the therapist) and I agree about the things that I will need to do in therapy to improve my situation"; "I believe (Name of the therapist) is genuinely concerned for my welfare" (Horvath & Greenberg, 1986).

Horvath and colleagues (2011b) have summarized that when alliance was generalized from psychodynamic theory to become a pan-theoretical concept it was deprived of a solid

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theoretical base, and that the definition today is depending on operationalization of the concept rather than vice versa.

1.2.1.1 *Definition of alliance in group psychotherapy*

Alliance is a concept originating from individual psychotherapy, but as research findings were published, researchers on group psychotherapy asked if it would be possible to measure the construct also in groups (Bednar & Kaul, 1994). Adapting the concept of therapeutic alliance to the group context leads to uncertainties about the definition of the construct and about definitions of other concepts that describe relationships in groups, such as cohesion. An authoritative definition of alliance in groups is that it should be regarded as interpersonal work factors measurable at different relational levels within the group, that is, member–to– member, to subgroups, to the group–as–a–whole, and to the psychotherapist(s) (Burlingame, MacKenzie & Strauss, 2004). Cohesion is then recognized to connote belonging and acceptance at the group level. However, as in individual psychotherapy, many earlier attempts to define the concepts have been made. Budman, et al. (1989) have suggested that alliance and cohesion are equivalent. Marziali, Munroe–Blum, and McCleary (1997) have argued that the concepts share approximately the same content, but alliance is related to the therapist, and cohesion is associated with the group members and the group–as–a–whole. Other investigators have proposed that the two concepts have different but overlapping content (Gillaspy, Wright, Campell, Stokes, & Adinoff, 2002; Piper, Ogrodniczuk, Lamarche, Hilscher, & Joyce, 2005).

1.2.2 Historic background

The background of the concept of alliance is twofold; one line of origin is the clinical question why patients choose to stay in treatment even though it might be anxiety provoking, burdensome and in periods not very rewarding; the other line of origin is researchers trying to explain lack of differential outcome between treatment modalities. The clinical background is reflected in the struggle to define the concept described above.

The idea of the Dodo-bird verdict, i.e. that diverse treatment modalities tend to be equally efficient was introduced in 1936 by Rosenzweig. In the same article he also offered the explanation that so called common factors could account for this inability to refute the null-hypothesis (Rosenzweig, 1936). The inability to find robust, statistically significant differential effects between treatment modalities was stressed again when meta-analyses of psychotherapy began to be published in the mid-70ies (e.g. Smith and Glass, 1977, and Luborsky, 1975). Luborsky alluded to Rosenzweig by referring to the Dodo-bird verdict in the title of his meta-analysis. When Strupp and Hadley (1979) reported the outcome of a randomized trial comparing experienced psychotherapists performing psychodynamic psychotherapy to experienced tutors befriending patients as another non-significant finding, therapeutic alliance and common factors, named non-specific factors, were made the main explanation.

Common factors are defined as factors shared by all treatments regardless of meta-theories informing the specific treatments, and alliance is presumed to be one element of this group of treatment factors. Common factors, as an explanation of non-significant outcome in randomized controlled trials, should thus account for such a large overlap between different brands of psychotherapy that other technical differences are obscured. Already Rosenzweig (1936) did mention that even if common factors are part of all psychotherapy modalities, it does not mean that they have the same weight or function in all treatments. The conclusion that equal level of change does not necessary imply that change has come about in the same way has been stressed by later researchers (Kazdin, 2005; DeRubeis et al., 2005).

Common factors have sometimes been named non-specific factors, which is a different concept with a different definition. Rosenthal and Frank (1956) used the term in discussing the consequence of placebo for psychotherapy research. Here they used the concept in order to put forward recommendations on how to design future projects in order to control for unsystematic but positive psychological effects. The term non-specific was further developed when Frank and Frank (1991) reframed psychotherapy as a healing process equal to other healing processes by naming psychotherapeutic theory as "myth" and interventions as "rituals". These are expressions easily assimilated in post-modernistic philosophy. Depending on ontological and epistemological views of the world, knowledge and truth, researchers and theoreticians will diverge on what is seen as possible or even worthwhile to explore and draw any conclusions about (e.g. Wampold, 2001). Therapeutic alliance is a construct that causes these differences to be exposed. The idea that all treatment modalities share some common features is today often accepted, while the idea that change mechanisms in psychotherapy is best understood as non-specific factors is controversial.

1.2.3 Statistical and content agreement between alliance measures

All four instruments most commonly adopted in outcome studies (CALPAS; HAQ-II, VTAS and WAI) were developed to measure different subscales of the concept of alliance. However, since the subscales within all measures tend to be highly inter-correlated (range of r: CALPAS 0.37 – 0.62 [Gaston, 1991]; HaQ-II 0.48 – 0.64 [Luborsky et al., 1996]; VTAS-S item total correlations 0.72 – 0-91 [Shelef & Diamond, 2008]; WAI 0.70 – 0.88 [Hatcher & Gillaspy, 2006]) researchers tend to use the mean score of all items instead of subscale scores (Krause et al., 2011). The high correlations between subscales are also displayed by the high internal consistency of the total scores on all four instruments (range of Cronbach α: min 0.83 max 0.95). Studies examining the association between any of the four instruments report high correlations (range of r: 0.34 to r = 0.87), supporting the conclusion that there is a convergent validity between these instruments (Luborsky et al., 1996; Safran & Wallner, 1991; Tichenor & Hill, 1989). This is further supported by factor analytic studies comprising more than one instrument (e.g. Hatcher & Barends, 1996; Hatcher, Barnds, Hansell, & Gutfreund, 1995) that have shown great overlap between the instruments, thus indicating a common underlying concept.

A qualitative study of the different instruments on patient versus therapist versions reveals both great overlap and a slightly different emphasis, thus confirming results from quantitative studies, i.e. finding the basis for the high but not perfect correlations (Krause et al., 2011).

Not surprising, the high overlap between measures of alliance found in research on individual psychotherapy seems to be replicated in research on group psychotherapy. There appears to be extensive overlap between cohesion, alliance, group climate, and empathy when patients and group therapists are asked to rate their experience of a group setting (Johnson, Burlingame, Olsen, Davies, & Gleave, 2005; Lorentzen, Sexton, & Hoglend, 2004). Johnson and colleagues (2005) reported that the correlation between cohesion and the three alliance aspects of goals, tasks, and bonds measured at the group level ranged from .68 to .88.

1.3 THE NOMOLOGICAL NET CONSTITUTING THE THEORETICAL BASIS OF ALLIANCE

As described above, there is today no coherent theory underpinning the concept of therapeutic alliance, even though effort is done to formulate theories (e.g. Hatcher, 2010; Horvath, 2000). Based on earlier writings it is possible to make some rather abstract conclusions about the nomological net of alliance presently, but more specific assumptions are more difficult to make.

From a theoretical point of view three areas of variables have been supposed to be associated with therapeutic alliance. It is variables that either exists pre-treatment among patients and therapists, or variables related to the process when patients and therapists meet (DeRubeis et al., 2005). The empirically identified association between therapeutic alliance and treatment outcome was originally not part of the theory on alliance, and the association is still not theoretically well explained (Kazdin, 2005).

Therapeutic alliance is by definition a process variable since it comes to be once therapist and patient meet, and it ends when treatment ends. The function of this process variable is still discussed (Hatcher, 2010) and sometimes disputed (DeRubeis et al., 2005). The question is still out if it is a variable necessary but not enough for change (i.e. being the basis for other interventions to be beneficial) or if it is a variable that is necessary and sufficient for change (i.e. being the actual intervention) (Horvath, 2000). In fact, it is not even clear that therapeutic alliance is a necessary component of treatment. It could be that the association between alliance and outcome is reversed, so that early treatment gains predict alliance rather than the other way around, implying that alliance is a proxy for primary outcome (Barber, Khalsa, & Sharpless, 2010). A possible explanation of the inconsistent interpretations is that therapeutic alliance might be more important in treatment of some patients, while being unrelated to outcome in treatment of others (Lorenzo-Luaces, Derubeis, & Webb, 2014). This explanation would imply that therapeutic alliance has a non-uniform process function over diverse patient populations.

The patient brings to therapy habitual ways of functioning, personality, and situational factors such as level of suffering and motivation for treatment and change. The therapist brings

her/his personality, psychotherapeutic training (which includes a theoretical understanding of the patient's problems), and skills in performing and engaging the patient in the treatment. The interaction between the two constitutes thus both pre-treatment factors interacting in the therapeutic situation, and processes (communication/actions) executed in treatment. Bordin (1979) declared that different therapy formats should be associated with different patterns or levels of alliance which in DeRubeis et al.'s statement (2005) must be understood as part of the therapist factor.

Among patient pre-treatment factors it is reasonable to assume that relational personality variables or measures of habitual quality of interpersonal interactions should be more closely related to alliance than other personality variables. Symptoms should only be secondary related to the alliance through patients' motivation to enter treatment, willingness to change and expectancy to be helped by the specific treatment offered. Socio-demographic variables, such as gender and race should also only be secondary related to alliance, in so far as these factors could affect the patients' attitudes towards the specific treatment (e.g. being perceived as relevant only for middle class, women, Caucasians etc.).

Among therapist pre-treatment factors it is again reasonable to assume that relational personality variables or measures of habitual quality of interpersonal interactions should be more closely related to alliance than other personality variables. Also, psychotherapeutic skills in involving the patient in the treatment as well as communicating warmth, trustworthiness and empathy should be associated with alliance, as should the therapist's competence in delivering a specific treatment and applying specific interventions (Crits-Christoph, Crits-Christoph, & Connolly Gibbons, 2010).

The interaction between patient and therapist as a specific basis for the alliance stresses the collaborative aspect of the concept. This could be reflected through the similarity/dissimilarity between patient's and therapist's personality or through dynamic process variables such as communication or interventions analyzed in the context of interactions.

1.3.1 Research on therapeutic alliance and outcome of psychotherapy

1.3.1.1 Predicting outcome

Therapeutic alliance has been established as a robust predictor of outcome in psychotherapy for adult patients. Repeated meta-analyses have estimated the correlation between alliance and outcome in the range of $r = 0.21$ to $r = 0.28$ (Horvath & Symonds, 1991; Martin, Garske, & Davis, 2000; Horvath & Bedi, 2002; Horvath, Del Re, Flückiger, & Symmonds, 2011a). The concept is also one of the most commonly explored predictors of outcome in psychotherapy research (Barber et al., 2010). The latest meta-analysis comprised 190 unique data sets published since year 2000 (Horvath et al., 2011a). The meta-analyses have explored the association between therapeutic alliance and outcome at end of therapy, rather than amount of change during therapy. Thus, the results of the meta-analyses do not say anything

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about the association between alliance and amount of change in outcome variables during treatment, nor whether alliance is a mediator of outcome or not.

1.3.1.2 A mediator, but not necessarily sufficient for change

The studies that have found that alliance predicts outcome also after controlling for early treatment gains do support that this process variable is a true mediator of change (Barber, Connelly, Crits-Christoph, Gladis & Siqueland, 2000; Falkenstrom, Granstrom, & Holmqvist, 2014; Klein et al., 2003). These results need to be replicated since other studies have found that the association between alliance and outcome disappear when early improvement is controlled for (e.g. DeRubeis & Feeley, 1990; Feeley, DeRubeis, & Gelfand, 1999; Strunck, Brotman, & DeRubeis, 2010). Another support of alliance as a true mediator of outcome is the study by Falkenstrom, Granstrom & Holmqvist (2013) that reported that alliance measured at the end of sessions predicted level of symptoms at start of next session continuously in psychotherapy for patients in primary care.

1.3.1.3 Single measurement or growth/patterns of therapeutic alliance

It have been questioned whether point estimates of therapeutic alliance or growth curves, including patterns such as "ruptures and repairs", should be the more relevant process variable (de Rothen, Fischer, Drapeau, Beretta, Kramer, Favre & Despland, 2004; Gelso & Carter, 1994; Safran, Muran & Eubanks-Carter, 2011). The arguments behind growth curves/patterns are twofold: 1) treatment demands vary over time and this should be reflected by fluctuations in alliance (Gelso & Carter, 1994; Luborsky, 1976, as cited in Horvath & Luborsky, 1993), and 2) alliance is sometimes understood as a curative factor per se, and fluctuations in this factor should thus explain outcome (Safran et al., 2011).

At least four common patterns of alliance across treatment have been identified in more than one study: stable alliance, linear growth, quadratic growth, and a pattern identified as "rupture and repair" (Stiles & Goldsmith, 2010). Even though results are ambiguous, there are some evidence that linear growth is associated with better outcome (Ambresin, de Roten, Drapeau & Despland, 2007; Hartley & Strupp, 1983; Kivlighan & Shaughnessy, 1995; Piper et al., 2005; Stiles, Agnew-Davies, Hardy, Barkman & Shapiro, 1998) as well as the "rupture and repair"-pattern (Stevens, Muran, Safran, Gorman & Winston, 2007; Stiles et al., 2004).

1.3.2 Research findings on sources of therapeutic alliance

Analyses of the hierarchical structure of alliance, i.e. patients being nested within the case-load of therapists, have found that variance related to the therapists account for the correlation between alliance and outcome, while neither variance related to the patients nor the interaction between patients and therapists do (Baldwin, Wampold & Imel, 2007, Crits-Christoph et al., 2009; Zuroff, Kelly, Leybman, Blatt & Wampold, 2010). However, in partitioning variance in this way a substantial incongruence between the two levels of analysis is introduced. The averaged measure for the therapists is a stabilized measure over a multitude of relations, while the patient value is not. It would be hard to obtain a similar

stabilized measure for patients since patients rarely meet with more than one therapist within each research project. Together with the fact that all three above mentioned analyses are performed on data sets containing a large variability in caseloads among therapists, i.e. introducing differential weight to each treatment dyad in relation to outcome, these results need to be replicated in studies with a more stringent data sampling strategy.

1.3.2.1   Patients

Research on patient pre-treatment variables predicting alliance has in large been in agreement with theory. Variables related to the interpersonal domain, such as the quality of object relations (Piper et al., 1991; Piper, Ogrodniczuk, & Joyce, 2004), social support (Mallinckrodt, 1991), memories of childhood relationships with care givers (Mallinckrodt, 1991; Mallinckrodt, Coble, & Gantt, 1995), capability to establish adult attachments (Hietanen & Punamaki, 2006; Kanninen, Salo, & Punamaki, 2000; Kivlighan, Patton, & Foote, 1998; Mallinckrodt et al., 1995), nature of interpersonal problems (Connolly Gibbons et al., 2003; Kokotovic & Tracey, 1990; Constantino & Smith-Hansen, 2008; Dinger, Zilcha-Mano, McCarthy, Barrett, & Barber, 2013; Hersoug, Hoglend, Havik, von der Lippe, & Monsen, 2009; Puschner, Bauer, Horowitz, & Kordy, 2005), and category of social phobia (Woody & Adessky, 2002) have been found to be related to alliance ratings.

Also in agreement with theory of therapeutic alliance, results indicating an association between patients' anticipation of treatment and point estimates of alliance have been found. Variables such as expectations of improvement (Connolly Gibbons et al., 2003; Elkin, Shea, Watkins, Imber, & et al., 1989, Johansson, Hoglend, & Hersoug, 2011), as well as motivation and readiness to change (Ilgen, McKellar, Moos, & Finney, 2006; Principe, Marci, Glick, & Ablon, 2006) have been reported to predict level of alliance.

Research on other patient variables that from a theoretical point of view ought to be only secondary related to alliance have reported mixed results, e.g. on the association between alliance and patient's gender (Conolly Gibbons et al., 2003; Luborsky et al., 1996; Wintersteen, Mensinger & Diamond, 2005), or alliance and symptomatology (Eaton, Abeles & Gutfreund, 1988; Hersoug, Monsen, Havik & Hoglend, 2002; Klein, et al., 2003; Kokotovic & Tracey, 1990; Marmar, Weiss & Gaston, 1989; Marziali, 1984; Raue, Castonguay, Goldfried, 1993).

1.3.2.2   Therapists

Even though therapists seem to account for a large proportion of variance in alliance and outcome associations (e.g. Dinger, Strack, Leichsenring, Wilmers, & Schauenburg, 2008), research on therapist factors influencing therapeutic alliance is scarce. Baldwin and Imel (2013) stated that there was no use in doing a new summary of research on therapist effects for the latest version of *Bergin and Garfield's Handbook of psychotherapy and behavior change* since no new findings were published since the fourth edition of the handbook published in 2004.

Studies reporting findings on therapist personality variables predicting alliance tend to support evidence of the construct validity of the concept. In a review it was found that therapists' attitudes on being honest, flexible, trustworthy, respectful, confident, interested, warm and open was associated with level of alliance (Ackerman & Hilsenroth, 2003). Therapists self-rated secure attachment style have been found to be positively associated with therapist-rated alliance, while an anxious attachment style was associated with negative alliance (Black, Hardy, Turpin, & Parry, 2005). The pattern of therapists' higher attachment security being associated with higher alliance was also found in the sub-sample of more disturbed patients, but not within the total patient sample (Schauenburg et al., 2010) Psychotherapists' reported degree of comfort with closeness, perceived social support and level of self-directed hostility has been reported to be associated with alliance (Dunkel & Friedlander, 1996), as have therapists' quality of interpersonal relations on the warm-cold dimension (Hersoug et al., 2009; Hersoug, Hoglend, Monsen, & Havik, 2001). In addition to this, it has been found that therapists' report of quality of personal life is related to level of alliance (Nissen-Lie, Havik, Hoglend, Monsen & Ronnestad, 2013). Higher level of experienced personal burdens was negatively associated with patient-rated alliance. An earlier study from the same project identified that negative personal reactions rated by the therapists predicted lower levels of alliance, while therapists' self-reported self-doubt was positively predictive of alliance (Nissen-Lie, Monsen, & Ronnestad, 2010). Finally, emotional intelligence, a personality variable theoretically more distant to alliance than interpersonal variables, was not found to be associated with therapeutic alliance in a small pilot study (Kaplowitz, Safran, & Muran, 2011).

Findings on prediction of alliance from therapist variables such as psychotherapeutic skills and training are not very conclusive. Level of training and skills have been associated with therapist-rated alliance in individual psychotherapy, but not with patient-rated alliance (Hersoug et al., 2001). Therapists' level of training and clinical experience has been found to be related to alliance in group psychotherapy though (Lorentzen et al., 2012). Level of experience as psychotherapist have not been found to be associated with patient-rated alliance (Dunkel & Friedlander, 1996). In contrast to this, when skills is defined as expert rated competence in delivering a specific treatment rather than year of training or experience, some support of a positive association with alliance have been found (Despland et al. , 2009; Westra, Constantino, Arkowitz, & Dozois, 2011).

When it comes to specific interventions being predictive of alliance, the review by Ackerman and Hilsenroth (2003) found that such interventions as exploration, reflection, facilitation of affective expression, accurate interpretation, attention to past therapy success, and attendance to the patient's experience were associated with positive alliance. Also, there are some indirect support of the idea that psychotherapeutic technique contribute to the therapeutic alliance, such as therapists being trained in promoting positive alliance (Crits-Christoph et al., 2006) and treatment modalities being associated with significantly different levels of alliance (e.g Spinhoven, Giesen-Bloo, van Dyck, Kooiman, & Arntz, 2007).

1.3.2.3 Interaction between patients and therapists

Only modest agreement between patients' and therapists' ratings has consistently been reported in the literature (e.g., Mallinckrodt & Nelson, 1991; Tryon, Blackwell, & Hammel, 2007). Patients and therapists tend to conceptualize alliance differently (Krause et al., 2011) and they tend mutually to place responsibility for low alliance leading to drop out on the other part (Roos & Werbart, 2011). Inconsistent findings have been reported on whether the difference between patient- and therapist-ratings disappears over time or not (Fitzpatrick, Iwakabe & Stalikas, 2005; Kivlighan & Shaugnessy, 1995).

There is a scarcity of research exploring impact of interactional aspects on the therapeutic alliance. A study testing if similarity between therapists and patients interpersonal functioning was associated with therapeutic alliance did not find a significant result (Hersoug et al., 2001). Research on alliance ruptures has identified that when therapists manage to respond in a non-defensive way and attend directly to the rupture, this is beneficial for subsequent alliance (Safran, Muran, Samstag, & Stevens, 2001).

To summarize: therapeutic alliance is a concept that has attracted a lot of research attention over the last thirty years. The theory underpinning the concept is weak and diffuse (Horvath, 2011), and there are conflicting approaches on how to interpret research results (e.g. DeRubeis et al., 2005, Kazdin, 2005). The construct validity of the concept need to be further explored.

2 AIMS

The overall aim of the present thesis was to explore the construct validity of the concept therapeutic alliance. Each of the four included papers has a different focus and specific research questions that together try to shed light over the concept.

2.1 PAPER I

The aims were: a) within the framework of short term group dynamic therapy explore the psychometric properties of an established alliance measure when adapted to measure alliance to the group-as-a-whole, b) to examine whether outcome of treatment was predicted by that measure of the alliance averaged over the entire treatment period, c) to examine whether outcome of treatment was predicted by the slope of the change in the alliance early in treatment (sessions 3 to 5), and d) to investigate the association between aspects of interpersonal functioning and alliance.

2.2 PAPER II

The aims were: a) to assess outcome of psychoanalytic psychotherapy for young adults at end of treatment and one year follow-up, b) to assess stability and further progress of therapy gains from termination to follow-up, and c) to explore whether psychiatric symptoms and level of interpersonal distress is predicted and/or moderated by gender, treatment duration, treatment format (individual- or group psychotherapy), and patient and therapist rated alliance (only in individual psychotherapy) during treatment and/or during the follow-up period. The latter, if alliance is associated with outcome, is the aim related to the overall purpose of the present thesis, and it is these results that will be presented and discussed.

2.3 PAPER III

The aims were: a) to evaluate whether the level of patient- and therapist-rated early alliance differs between two psychotherapies for patients diagnosed with Borderline Personality Disorder (BPD), (b) within the sample of BPD-patients explore whether patient pre-treatment characteristics predict and/or moderate patient-rated and therapist-rated early alliance, and (c) to explore whether patient pre-treatment characteristics predict and/or moderate the discrepancy between patient- and therapist-rated early alliance in these treatments.

2.4 PAPER IV

The aims were: a) to evaluate if patients' interpersonal functioning, quality of object relations and self-concepts predicts growth of alliance during the first nine months of open-ended long-term psychoanalytic psychotherapy for young adults, and b) to assess if the possible predictor variables are associated with fluctuation of alliance during the same time period.

3 METODS

3.1 PAPER I

3.1.1 Participants and recruitment

Eighteen patients drawn from the psychodynamic arm of a larger randomized-clinical trial examining the efficacy of different group interventions for burnout-related depression were included in the present study. The original sample within the psychodynamic treatment condition consisted of 40 patients, but ten patients could not be included in the analyses due to late exclusion or drop-out of treatment, whereas another twelve were excluded due to missing data.

Patients were included in the project if they were between the age of 18 and 65, were living in the greater Stockholm area, and were on sick leave for at least 90 days, working for a maximum of 50 % of full-time work. These patients also had to meet diagnostic criteria for depression (current or in partial remission), dysthymia, or adjustment disorder according to DSM IV. In order to operationalize burnout-related depression, the patients' diagnoses also had to be clearly work related, as judged by the project physicians. Exclusion criteria were acute psychotic state, bipolar affective disorder, ongoing drug abuse, acute suicidal risk, anti-social or schizotypal personality disorder, other ongoing psychotherapy, or insufficient command of Swedish.

All clients on sick leave for at least 90 days with a mental disorder diagnosis covered by a major Swedish health insurance company were eligible for an assessment. The patients who met the inclusion criteria but none of the exclusion criteria at the face-to-face assessment, and gave their informed consent to participate, were randomized to one of three treatment conditions in the main project.

3.1.2 Psychotherapists

Five licensed psychotherapists with training in group–analytical psychotherapy conducted one group each. The therapists were trained to work according to the treatment manual (Sandahl & Lindgren, 2003), and received supervision by the authors of the manual.

3.1.3 Treatment

The treatment comprised eighteen 90–minute sessions, the first eight to ten of which were conducted twice a week and the remaining sessions once a week. The group focus aimed at understanding and exploring experiences of work–induced depression. During the preparatory interviews each patient, helped by the therapist, formulated an individual focus to describe the patient's problematic interpersonal functioning. These foci were introduced to the groups between sessions five and eight.

3.1.4 Measurements

Patients filled out the outcome measures at the time of randomization and again six months later, which coincided with the end of therapy. No intermediate measures of outcome were obtained. The alliance measure was distributed immediately after sessions three, five, eight, twelve, and fifteen. The following measures were implemented in the present paper:

3.1.4.1 Alliance

The California Psychotherapy Alliance Scales (CALPAS; Gaston & Marmar, 1991; Gaston, 1991; Marmar et al., 1989) is a set of self-report questionnaires. A modified version of the 24-item patient's questionnaire (CALPAS-P) to match the group format was used (CALPAS-G). Each item is rated on a seven-point Likert-type scale. CALPAS has shown adequate reliability in an individual setting (e.g., Barber et al., 1999).

3.1.4.2 Symptoms

The Comprehensive Psychopathological Rating Scale-Self-Affective (CPRS-S-A; Svanborg & Åsberg, 1994) is a self-report questionnaire that was used to measure depression and anxiety. The items are rated on four-point scales ranging from "no symptoms" to "extreme symptoms." The subscales for depression and anxiety have demonstrated adequate psychometric properties in terms of reliability and validity (Svanborg & Åsberg, 1994).

The Structured Clinical Interviews I and II (First, Spitzer, Gibbon & Williams, 1994, 1995) were used by two physicians to determine Axis I and Axis II diagnoses according to the Diagnostic Statistical Manual IV, DSM-IV (1994).

Symptom Checklist-90 (SCL-90; Derogatis, 1983) was used to assess psychiatric symptoms experienced in the last seven days. The 90 self-report items are rated on a five-point Likert-type scale anchored at zero ("not at all") and four ("very much"). Only the Global Severity Index (GSI) was used. SCL-90 has been shown to have adequate reliability and validity (Derogatis, Rickels, & Rock, 1976; Fridell, Zvonimir, Johansson, & Malling Thorsen, 2002).

3.1.4.3 Personality

Inventory of Interpersonal Problems (IIP; Horowitz, Rosenberg, Baer, Ureno & Villasenor, 1988) was used to measure level of interpersonal problems. The 64 items circumplex version of IIP was used (Alden, Wiggins, & Pincus, 1990). All items are rated on five-point Likert scales ranging from "not at all" (0) to "very much" (4). The instrument has been found to have adequate psychometric properties in a Swedish sample (Weinryb et al., 1996).

The Relationship Scales Questionnaire (RSQ; Griffin & Bartholomew, 1994) was used to assess the patients' attachment styles. In all, 17 of the five-point Likert-rated items are used to calculate the four subscales (Secure, Dismissing, Fearful, and Preoccupied attachment). The Dismissing and Fearful subscales have in a published study shown acceptable internal consistency given the low number of items in each (α = .64 and .79, respectively), whereas the Secure and Preoccupied subscales have not (α = .32 and .46) (Bäckström & Holmes,

2001). The Secure subscale was not used in the following analyses due to the replicated low internal consistency (.37) in the present study.

3.1.5 Statistical analysis

To examine the psychometrics of the CALPAS-G, we computed Cronbach alpha coefficients for CALPAS total score and for the subscales. Only the total score was used in the following analyses. Two alliance scores were used: 1) Mean alliance over the entire therapy was calculated as an average of CALPAS for patients who had CALPAS data that were complete for sessions three and five, and not missing data for more than one of the subsequent time points. 2) Development of the alliance during the early phase of therapy was calculated as individual slopes between sessions three and five.

After inspection of descriptive statistics, the SCL-90 and CPRS-S-A Depression scores were logarithmically transformed due to a positively skewed distribution pattern at follow-up. Residualized change scores of the three outcome measures were used as dependent variables in a series of multivariate regression analyses. The above-mentioned alliance statistics served as predictor variables in the analyses, after controlling for the initial level of the outcome measures and therapy group membership. Paired samples t-tests and mixed model analysis for repeated measures were used to test the change in outcome measures and alliance scores over time. Post hoc analyses were performed as bivariate correlations between each measurement of alliance and the outcome variables, as well as between patient pretreatment characteristics and alliance at session three, mean alliance and the early development of alliance.

3.1.6 Discussion of method and limitations

The present paper uses data from a randomized clinical trial of two group psychotherapy models developed specifically for the target population of the study. This means that this first time application of CALPAS-G was performed on a treatment never tested before. In addition, the present paper comprises a very small sample (n=18), while both many and complex analyses were adapted. This affects the generalizability negatively and leads to an inflated type-1 error. Thus, all results should be evaluated with caution until they have been replicated. An additional limitation is that the design of the study did not include sampling of outcome data during treatment. This prevented us from analyzing the temporal association between alliance and outcome. Thus, all associations presented should be interpreted without causal attribution.

3.2 PAPER II AND PAPER IV

3.2.1 Participants and recruitment

The main project comprised 134 adults, aged 18 – 25, who applied for psychotherapy. Age, accepting the offered treatment, and providing informed consent to participation in the study were the inclusion criteria. No exclusion criterion was adopted, but the psychotherapists were

free to reject a patient based on assessment of the patient's motivation for treatment and a general idea about suitability for the specific treatment modality.

Paper II comprises all patients who had ended treatment by the time data was analyzed and who had not dropped out of treatment (n = 115). Dropout was defined as a treatment shorter than three months. Sixteen patients dropped out of psychotherapy, all during the first month of treatment, or did not reach a treatment contract with their psychotherapists.

Paper IV comprises seventy-nine patients receiving individual psychotherapy for whom either therapist or patient had filled out an alliance questionnaire at least once during the first nine months of treatment.

3.2.2 Psychotherapists

Thirty-seven therapists were involved in this study, all with a psychoanalytic orientation (26 female and 11 male). They represented various professional backgrounds: physicians (6), psychologists (14), social workers (15), or other (2). Fifteen were psychoanalysts and licensed psychotherapists, 19 were licensed psychotherapists, and 3 had basic training in psychodynamic psychotherapy. Individual therapy was conducted by 34 therapists (between 1 and 7 patients each) and group therapy by 6 therapists.

3.2.3 Treatment

All participants were offered either individual (n = 92) or group psychoanalytic psychotherapy (n = 42). Treatment decision depended on what modality was available when the patient called. If both treatments were available, a clinical decision on what to offer was made.

The psychotherapies were intended to be psychoanalytical psychotherapies and no manuals were used. The general aim for the treatments was to help the young adults to overcome developmental arrests and to be able to handle strains in everyday life. Planned treatment duration varied and was documented in a written renegotiable contract between therapist and patient. One of the five psychotherapy groups conducted within the project was semi-open and open-ended, while the others were closed with a time frame of one or one and a half years. Mean time in treatment was nineteen months (SD = 13.8, range = 1 – 55).

3.2.4 Measurements

All patients completed background and personality questionnaires pre- and post-treatment as well as at the follow-up. Every second patient who was assigned to individual therapy (n = 47 of 92) and all patients assigned to group therapy (n = 42) underwent a research interview pre-therapy. All patients were interviewed at termination and at follow-up 1.5 years after termination. Alliance was measured every third month starting from the second psychotherapy session. Due to internal missing data, that is patients not answering all questions on all questionnaires, the n for the different questionnaires varies slightly with each measurement point.

The measures below were all implemented in paper II, but SCL-90 was the only symptom measure used to analyze association between alliance and outcome. Only the alliance measure and the personality measures were used in paper IV:

3.2.4.1 Alliance

The Helping Alliance Questionnaire (HAq-II, Luborsky et al., 1996) is a self-rated instrument comprising a patient and therapist version. The instrument includes nineteen items rated on six-point Likert-scales ranging from one ("I strongly feel it is not true") to six ("I strongly feel it is true"). The HAq-II demonstrates excellent reliability and good convergent validity with other alliance measures (Luborsky et al., 1996).

3.2.4.2 Symptoms

Global Assessment of Functioning scale (GAF, American Psychiatric Association, 1994) is a clinician rated measure of symptomatic and social functioning. A group of trained raters did all assessments, and consensus ratings were used in order to increase reliability of assessments. The ratings were based on interviews at intake or on case presentations by the therapists.

Self-Rated Health (SRH, Bjorner et al., 1996) is a single-item measuring present subjective mental and somatic health on a seven-point Likert-scale ranging from one ("very bad") to seven ("very good"). SRH has been shown to be a good predictor of mortality and health problems (Heidrich, Liese, Lowel, & Kiel, 2002; Larsson, Hemmingsson, Allebeck, & Lundberg, 2002; Mossey & Shapiro, 1982; Shadbolt, Barresi, & Craft, 2002), and has previously shown good test-retest reliability (Lorig et al., 1996).

Symptom Checklist-90 (SCL-90; Derogatis, 1983) was used to assess psychiatric symptoms experienced in the last seven days. The 90 self-report items are rated on a five-point Likert-type scale anchored at zero ("not at all") and four ("very much"). Only the Global Severity Index (GSI) was used. SCL-90 has been shown to have adequate reliability and validity (Derogatis et al., 1976; Fridell et al., 2002).

3.2.4.3 Personality

Inventory of Interpersonal Problems (IIP; Horowitz et al, 1988) was used to measure level of interpersonal problems. The 64 items circumplex version of IIP was used (Alden et al., 1990). All items are rated on five-point Likert scales ranging from "not at all" (0) to "very much" (4). A later translation than the presently used has been found to have adequate psychometric properties in a Swedish sample (Weinryb et al., 1996).

The Structural Analysis of Social Behavior Intrex Questionnaire (SASB, Benjamin, 1974, 1983) was used to assess levels of positive and negative self-concepts. The instrument comprises 36 items rated on eleven-point Likert-scales ranging from zero ("not true") to 100 ("true"). The reported internal consistency of the Swedish version of the questionnaire is >0.90 for all of the subscales (Armelius, 2001).

The Differentiation-Relatedness of Self and Object Representations Scale (DRS, Blatt & Auerbach, 2001; Diamond, Blatt, Steyner, & Kaslow, 1995) was used to evaluate the degree of complexity and differentiation in cognitive-affective schemas of concepts of self and others. The ratings were based on information obtained through the Object Relation Inventory (ORI, Blatt, Wein, Chevron, & Quinlan, 1979; Diamond et al., 1995; Gruen & Blatt, 1990).

3.2.5 Statistical analysis paper II

Inspection of descriptive statistics of all measures at all time points revealed a positively skewed distribution pattern in GSI at termination and follow-up, and a negatively skewed distribution in DRS at all three time points. DRS was thus reflected and both measures were then log-transformed before any analyses of outcome were performed. In order to explore the outcome reported in the study, analyses of the association between change in the two primary outcome measures (GSI and IIP) and possible predictors of change were performed. The Mixed Model analyses were run with one predictor variable included at a time. The interaction between predictors and time was analyzed through a piecewise model that divided time into two periods, during treatment and during follow-up (Schwartz, 1993), since the analyses of outcome indicated a difference in rate of change during and after psychotherapy. Patient-rated and therapist-rated alliance in individual psychotherapy were among the group of possible predictor variables. The other predictor variables were gender, duration of treatment, and treatment modality (individual or group psychotherapy). The analyses were rerun with intake level of the dependent variable added as a covariate to the analyses whenever a significant predictor was found. This was done in order to check whether intake level explained the significant results. No correction of alpha-level was adapted to these exploratory analyses.

3.2.6 Statistical analysis paper IV

An inspection of descriptive data showed that all three items on DRS was negatively skewed. They were therefore reflected and log-transformed before used in any analyses.

A series of Mixed Model analyses were performed to analyze possible predictors of growth of alliance. The analyses used patient or therapist rated alliance as a repeated dependent variable and one predictor variable, time, and the interaction term between predictor and time entered in each analysis. The variance structure was set to Compound Symmetry Heterogeneous after inspection of the variance matrices of alliance measures.

The second research question, i.e. possible association between predictor variables and fluctuation of alliance, was explored through bivariate correlations between possible predictors and the individual standard deviation for patient or therapist rated alliance.

The choice to aggregate clusters on SASB to two dimensions and sub-scales on IIP to quadrants was decided on in order to keep down the number of analyses. In addition, to keep the family-wise alpha-error on 5 % we performed Bonferroni corrections within each

predictor instrument and outcome variable. Thus, the alpha level needed for significance on IIP as a predictor was set to 0.01, for SASB to 0.025, and for DRS to 0.017.

3.2.7 Discussion of method and limitations

The major limitation of this clinical study is also its main asset, i.e. its naturalistic design. This approach facilitates optimization of external validity, but it also weakens the degree of experimental control. The lack of control is a greater limitation for the possibility to analyze change mechanisms than outcome. At the same time, the naturalistic design allows for unrestricted variability in most variables, thus strengthening the possibility to find associations. The lack of formal diagnoses affects the generalizability of the study, and the data sampling strategy was designed not to interfere with the open-ended format of the treatments. This meant that data could be collected according to a time schedule, but we don't know how to interpret the time points in treatments of differing lengths. Another consequence of choice of method and design of the project is the timing of measurement-points, in this case the decision to measure alliance every third month. The length of time between the measurements has limited our options on what patterns of growth of alliance that was possible to detect and explore. Finally, another weakness with the present study is that the treatments were not documented by audio or video recordings, meaning that we have no information on actual behaviors or interactions that might have contributed to the current findings.

3.3 PAPER III

3.3.1 Participants and recruitment

The present paper comprises data from the two psychotherapeutic treatments included in the main project and for whom we have alliance data (n = 59). Female patients aged 18 – 50, meeting DSM-IV criteria for a borderline personality disorder and reporting at least two past suicide attempts, were randomized to one of three treatments: Dialectical Behavior Therapy (DBT), Object Relations Psychotherapy (ORP), or treatment as usual. Further inclusion criteria were that the most recent suicide attempt should have been committed within six months before referral to the project; patients must live in the greater Stockholm area, and have sufficient command of Swedish to answer questionnaires. Exclusion criteria were current diagnosis of substance dependence, psychotic disorder, major depression with melancholic features, a life-threatening eating disorder, or dementia or other irreversible organic brain syndrome.

Patients were recruited from 18 Community Mental Health Centers in Stockholm. If accepting participation, the patients were scheduled for clinical interviews and filling out questionnaires. Randomization took place after decisions on inclusion and exclusion criteria were made.

3.3.2 Psychotherapists

Twenty-seven psychotherapists with at least a basic training in some therapy modality treated patients in the project. The initial intention was that the therapists should be representative of the average psychotherapist within community mental health centers in Stockholm, i.e. having basic training in psychotherapy. All applying psychotherapists were offered a two-step training in either of the psychotherapeutic methods. The first step was a theoretical orientation to the treatment modality. The second step was to conduct psychotherapy under supervision in order to practice and show that they could work within each theoretical framework in order to be allowed to be included in the project. In order not to delay the project further, the supervisors decided that they would replace the therapists within the group of 17 DBT trainees that could not adapt to work within a behavioral framework. This led to half of the DBT patients being treated by supervisors, while 8 supervised psychotherapists treated the other half. Fifteen supervised psychotherapists treated all patients in psychodynamic psychotherapy inspired by Transference Focused Psychotherapy (TFP). Senior researchers and the supervisors received training directly by Marsha Linehan or the Cornell TFP group. Senior researchers and supervisors were then responsible for training psychotherapists to be included in the project.

3.3.3 Treatments

The two psychotherapeutic modalities reported in the present report were Dialectical Behavior Therapy (DBT, Linehan 1993) and Object Relations Psychotherapy (ORP). The psychodynamic psychotherapy which was based on the writings of Otto Kernberg and co-workers (Kernberg, Selzer, Koenigsberg, Carr, & Appelbaum 1989; Yeomans, Clarkin, & Kernberg, 2002) was called ORP instead of Transference Focused Psychotherapy because the therapists' were not certified in TFP. The therapists met with their patients for interviews and contract sessions approximately three to six times after randomization. In both conditions, therapy continued if a contract was agreed on. In both treatments, the therapists met with their patients once a week during the interview and contract phase.

3.3.4 Measurements

The following measures are implemented in the present paper:

3.3.4.1 Alliance

The California Psychotherapy Alliance Scales (CALPAS; Gaston & Marmar, 1991; Gaston, 1991; Marmar et al., 1989) is a set of self-report questionnaires. The patient and the therapist forms comprise 24 items rated on 7-point Likert-scales. CALPAS has shown adequate reliability in an individual setting (e.g., Barber et al., 1999).

The mean of the scores from sessions three and five for those participants that provided both ratings, and the value from either session three or session five for those participants that provided only one rating was used as a measure of early alliance. The discrepancy between

patient and therapist ratings was calculated as an ordinary difference score (patient-rating – therapist-rating).

3.3.4.2   Symptoms

The Structured Clinical Interview I (SCID I, First et al., 1994) for DSM-IV Axis I, and DSM IV and ICD-10 personality disorders interview (DIP-I, Ottosson et al., 1998) were used to obtain Axis I and Axis II diagnoses. Interviews to determine Axis I diagnoses were conducted by psychiatrists, while interviews for Axis II diagnoses were conducted by either psychiatrists or psychologists.

Symptom Checklist-90 (SCL-90; Derogatis, 1983) was used to assess psychiatric symptoms experienced in the last seven days. The 90 self-report items are rated on a five-point Likert-type scale anchored at zero ("not at all") and four ("very much"). Only the Global Severity Index (GSI) was used. SCL-90 has been shown to have adequate reliability and validity (Derogatis et al., 1976; Fridell et al., 2002).

3.3.4.3   Personality

Inventory of Interpersonal Problems (IIP; Horowitz et al., 1988) was used to measure level of interpersonal problems. The 64 items circumplex version of IIP was used (Alden et al., 1990). All items are rated on five-point Likert scales ranging from "not at all" (0) to "very much" (4). The instrument has been found to have adequate psychometric properties in a Swedish sample (Weinryb et al., 1996).

Karolinska Scales of Personality (KSP, Schalling, Asberg, Edman, & Oreland, 1987) was used to measure aspects of temperament. The KSP is a 135-item self-report questionnaire that measures fifteen personality traits thought to be markers of vulnerability to psychopathology. The instrument has shown adequate psychometric properties (Gustavsson, Weinryb, Göransson, Pedersen, & Asberg, 1997).

Karolinska Psychodynamic Profile (KAPP, Weinryb & Rossel, 1991) is a clinician-rated instrument used to assess character from clinical interviews. The instrument is based on psychodynamic theory, and it has shown adequate psychometric properties in earlier studies (Weinryb, Gustavsson, & Barber, 2003; Weinryb, Rossel, Gustavsson, Asberg, & Barber, 1997).

3.3.5   Statistical analysis

A preliminary test was conducted to check whether supervisors and regular therapists within the DBT condition differed on the alliance ratings. Independent sample t-tests were used to analyse differences in therapist- and patient-rated alliance between the two treatment conditions.

A series of hierarchical regression analyses were performed to find predictors and/or moderators of patient- and therapist-rated alliance and of the discrepancy between patient-

and therapist-rated alliance. Treatment modality was entered at the first step, the pre-treatment characteristic at the second, and the interaction effect between treatment modality and pre-treatment characteristic (test for moderation) at the third step of the analyses. The dependent variables were the means of patient-rated alliance from sessions three and five, the means of the therapist-rated alliance from the same sessions, or the discrepancy in the means of therapist-rated and patient-rated alliances.

In order to interpret the results from the regression analyses, Pearson correlations between significant predictors and dependent variables from the hierarchical regression analyses were calculated within each treatment format.

Investigating this number of predictor/moderator variables in relation to three dependent variables might lead to an inflated type-1 error. However, because this was an exploratory investigation of predictors/moderators of alliance in a specific difficult to treat patient population, we decided to compromise when adopting Bonferroni-corrections to the analyses, i.e. to regard each prediction instrument in relation to each outcome measure as one family, and thus adjust the alpha-level within each family. This decision allowed us to apply a strategy that was not too conservative to prevent us from capturing any important associations (Kraemer, Wilson, Fairburn, & Agras, 2002), while still minimizing the type-1 error.

3.3.6 Discussion of method and limitations

The present paper is based on data from a large randomized controlled study performed in an effectiveness setting, thus trying to balance internal and external validity. The most important possible confounder of the results of the present study is the lack of adherence and competence checks in TFP. It could thus be that differences between the two treatment groups is better explained by difference in adherence or competence than by dissimilar therapist actions described in the treatment manuals. In line with this it should be stressed that the interpretations of the results are based on the treatment assignment to the two psychotherapy models and not on qualitative and quantitative evaluations of the actual treatments delivered. The validity of these interpretations must therefore be further investigated in future research.

Because an exploratory approach was adopted in the present study, the findings should be interpreted with caution until the results have been replicated. Most of the predictors in the present study were based on patients' self-assessments. It would be valuable if these results could be confirmed using data from some third party - for example, expert assessments or evaluations based on information from the patients' significant others.

3.4 ETHICAL CONSIDERATIONS

All four reports in the present thesis are based on data obtained from patients applying for help or treatment within the public health care sector. All three projects have been approved by ethical committees (KI 00-164, KI 98-238, KI 95-283). The principal investigators of the projects have included ethical considerations when designing the projects. First of all, all

participants have given informed written consent to participate. The patients were informed that they could withdraw their participation whenever they wanted. Declining participation did not affect their possibility to obtain treatment within regular care.

Psychotherapeutic treatment models not previously established within the public health care were tested in the studies of group psychotherapy and individual psychotherapy for borderline personality disorder. This means that patients declining participation in the projects lost the opportunity to receive these specific treatments. However, even though intended to be reasonable treatment options, at the time being, none of the treatment models included in the projects were declared evidence based treatments (EBP). Thus, the patients did not miss the opportunity to receive an EBP. Likewise, no other "gold standard" psychotherapy existed for the present patient groups at the time being, meaning that participation in the project did not compete with delivery of other EBP. Finally, all patients received treatments within the projects since none of the projects included an untreated control group.

4 RESULTS

4.1 PAPER I

4.1.1 Psychometric properties and descriptive data for CALPAS-G

The Cronbach alpha for CALPAS-G calculated for the first measurement of alliance in the original sample (n = 24) was acceptable for the total score (alpha = .84). The subscales showed lower internal consistency (Patient Working Capacity, alpha = .52; Patient Commitment, alpha = .67; Working Strategy Consensus, alpha = .70; Therapist Understanding and Involvement, alpha = .62).

4.1.2 Prediction of outcome from CALPAS-G

After controlling for initial level of outcome measures and group membership, mean alliance during treatment was significantly predictive of decreases in anxiety and global symptoms, but not in depression (see Table 1). Alliance to the group-as-a-whole explained 50–55% of variance in change of global symptoms and anxiety after control of initial symptom level and group membership, and 22% of the variance in change of depression. Change in alliance between sessions three and five, represented by an individual slope coefficient, was not significantly associated with any of the outcome measures.

Alliance at sessions five, eight, and twelve correlated significantly with change in GSI. The same was seen at session eight for change in depression, whereas significant correlations between alliance and change in anxiety were found at sessions eight and twelve.

TABLE 1. Descriptive Statistics for Alliance and Outcome Measures, Paired Samples t-Test of Outcome from Intake to Six months Follow-up, and Pearson Correlations between Alliance and Outcome

Measure (n)	Descriptives			Correlation		
	M	SD		GSI[bf]	Dep[cf]	Anx[df]
CALPAS[a] session 3 (18)	5.40	.54		−.26	−.12	−.31
CALPAS session 5 (18)	5.38	.52		−.47*	−.31	−.25
CALPAS session 8 (16)	5.50	.57		−.56*	−.54*	−.75**
CALPAS session 12 (16)	5.69	.62		−.50*	−.16	−.53**
CALPAS session 15 (17)	5.80	.50		−.46	−.47	−.48
Mean CALPAS all sessions (18)	5.55	.41				
CALPAS slope (18)	-.01	.33				
Change from intake to follow-up			e.s.[e]	t[e]	df[e]	p[e]
GSI[b] intake/6 months (18)	.96/.66	.50/.46	.87	3.677	17	.002**
Depression[c] intake/6 months (18)	8.39/5.56	4.28/4.51	.67	2.826	17	.012*
Anxiety[d] intake/6 months (18)	7.94/5.89	3.00/3.01	.66	2.808	17	.012*

a   CALPAS = *California Psychotherapy Alliance Scales, group version*
b   GSI = *Symptom Check List-90, General Symptom Index*
c   Depression = *Comprehensive Psychopathology Rating Scale-Self-Affective, Depression*
d   Anxiety = *Comprehensive Psychopathology Rating Scale-Self-Affective, Anxiety*
e   Change from intake to 6 months follow-up, e.s. computed as Hedges's g = M_D / s_D, where M_D is the mean difference score, and s_D is the standard deviation for the difference scores corrected for small sample size.
f   Residualized change scores
*p < 0.05, **p < 0.01

4.1.3   Prediction of CALPAS-G from patients' pre-treatment characteristics

The RSQ Dismissing subscale predicted alliance at session three negatively (r = −.47, p = .05) and the early growth of alliance positively (r = .62, p = .01). A positive prediction of early growth of alliance was also found from IIP total score (r = .50, p = .03), IIP Exploitable (r = .52, p = .03), and IIP Overly nurturant (r = .47, p = .05). None of the other variables were significantly predictive of alliance to the group-as-a-whole (see Table 2).

TABLE 2. Multivariate Regression with the Initial Level of the Outcome Variable and Dummy-Coded Group Membership Entered Before the Predictor Variable.

Dependent variable	Predictor variable	Model				Variable			
		R^2	df	F	p	β	partial r	t	p
GSI[a]	mean alliance	.60	5, 12	3.610	.03	−.740	−.71	−3.466	.005**
Dep[b]	mean alliance	.27	5, 12	.875	.53	−.54	−.47	−1.865	.09
Anx[c]	mean alliance	.69	5, 12	5.435	.008**	−.695	−.74	−3.869	.002**
GSI[a]	alliance slope	.22	5, 12	.689	.64	−.161	−.17	−.588	.57
Dep[b]	alliance slope	.08	5, 12	.221	.95	−.181	−.18	−.620	.55
Anx[c]	alliance slope	.31	5, 12	1.086	.42	.002	.00	.007	.99

a GSI = *Symptom Check List-90, General Symptom Index*
b Dep = *Comprehensive Psychopathology Rating Scale-Self Affective, depression*
c Anx = *Comprehensive Psychopathology Rating Scale-SelfAffective, anxiety*

** p < 0.01

4.2   PAPER II

4.2.1   Reliability of the Swedish translation of HaQ-II

The present paper was the first report on psychometric properties of the Swedish translation of HaQ-II. The internal consistency for the total score was acceptable (patient rated: α = 0.91, therapist rated: α = 0.88).

4.2.2   Predictors and moderators of change

Therapist-rated alliance measured after session two was significantly related to change in SCL-90 GSI during treatment (F [1, 122] = 4.76, p = 0.03), whereas a tendency towards a significant association was found for patient-rated alliance in relation to the same measure (F [1, 114] = 3.67, p = 0.06). The association between therapist-rated alliance and change in SCL-90 GSI was negative, that is, lower levels of therapist-rated alliance were related to greater change. The association between patient rated alliance and change in SCL-90 GSI showed a reversed pattern, that is, higher level of patient-rated alliance was related to greater change in SCL-90 GSI. The tendency towards significant association between patient-rated alliance and change in SCL-90 GSI was lost when the intake level of SCL-90 GSI was added as a covariate to the analyses (F [1, 127] = 0.968, p = 0.33). When the same was done with therapist-rated alliance as a moderator, a three-way interaction was found in relation to change in SCL-90 GSI during treatment (F [1, 144] = 4.274, p = 0.04). A median split based on intake level of SCL-90 GSI showed that the negative association between therapist-rated

alliance and change in psychiatric symptoms was significant for patients with higher ratings on SCL-90 GSI at intake (r = -.36), but no association was found in the group of patients with lower ratings (r = .01).

4.3 PAPER III

4.3.1 Description of alliance ratings

On average, both patients and therapists report positive therapeutic alliance (CALPAS scores ≥ 4) for both sessions. Mean therapist ratings were 4.42 (SD = 1.14) and 4.70 (SD = 1.10) for sessions three and five, respectively. Mean patient-ratings were 5.42 (SD = .94) and 5.44 (SD = .95) for the same sessions. The lower end of range indicated that both therapists (Range = 1.79 – 6.38) and patients (Range = 3.00 – 7.00) have reported problematic interactions without patients dropping out of treatment.

No differences were found in either patient-rated or therapist-rated alliance between supervisors and psychotherapists in DBT (Supervisors patient-ratings M = 6.04 (SD = .37), Psychotherapists patient-ratings M = 5.92 (SD = .82) t = -.542, df = 29, ns; Supervisors therapist-ratings M = 5.28 (SD = .57), Psychotherapists therapist-ratings M = 5.07 (SD = .90) t = -.750, df = 29, ns).

4.3.2 Difference in alliance ratings between treatments

Both patient- and therapist-rated early alliances in DBT were significantly higher than in ORP (DBTpatient-ratings M = 5.97 (SD = .64), ORPpatient-ratings M = 4.94 (SD = .86), t = -5.252, df = 57, p < .001; DBTtherapist-ratings M = 5.17 (SD = .75), ORPtherapist-ratings M = 3.72 (SD = .91), t = -6.690, df = 57, p < .001). These differences showed very large effect sizes, that is, 1.38 for the difference in patient ratings and 1.76 for the difference in therapist ratings.

4.3.3 Prediction of level of alliance

No association between predictors/moderators and patient- or therapist-rated alliance was found. Neither were any predictors of the discrepancy between those ratings found. The KSP sub-scale of Somatic Anxiety turned out as the only significant moderator of the discrepancy between patient and therapist-rated alliances (β = 2.11, t = 3.410, p = 0.001). An inspection of correlations within treatments showed that the significant influence of KSP Somatic Anxiety on the discrepancy between patient- and therapist-rated alliances was explained by a) a negative, though non-significant, correlation between self-rated somatic anxiety and the discrepancy in alliance ratings in ORP (r = -0.37, p = 0.06) on one hand, and b) a significant positive correlation in DBT on the other (r = 0.49, p < 0.01). Further exploration of the correlation in DBT showed that the discrepancy was composed of two non-significant correlations pointing in opposite directions, i.e. a negative correlation between patient-rated somatic anxiety and therapist-rated alliance (r = -0.29, n.s.), and a positive correlation between patient-rated somatic anxiety and patient-rated alliance (r = 0.18, n.s.).

4.4 PAPER VI

4.4.1 Description of alliance ratings

On average, both patients and therapists have reported consistent positive values of alliance, i.e. all means are above 4 which is the cut off for reporting satisfactory alliance. The Mixed Model analyses of growth of alliance over the nine months showed a very small but statistically significant positive trend of both patient rated alliance (df = 3/136, F = 4,07, p = 0.008) and therapist rated alliance (df = 3/127, F = 5,75, p = 0.001).

Table 3. Descriptive data on alliance ratings obtained from Mixed Model analyses (n = 78).

Measurment	HaQ[a] patient ratings	HaQ[a] therapist ratings
Grand Mean	4.71 (sd=0.52)	4.35 (sd=0.43)
Session 2	4.66 (sd=0.52)	4.28 (sd=0.48)
3 months	4.65 (sd=0.57)	4.27 (sd=0.48)
6 months	4.71 (sd=0.53)	4.38 (sd=0.45)
9 months	4.83 (sd=0.41)	4.50 (sd=0.47)

[a] Helping Alliance Questionnaire-II

4.4.2 Prediction of growth and fluctuation of alliance

Object representation of mother and self-representation rated according to DRS turned out as significant predictors of patient rated alliance (see Table 4). None of the other variables were significantly related to growth of patient rated alliance. No significant association was found between any possible predictor variables and growth of therapist rated alliance. Nor were any significant main effects found in relation to either patient or therapist rated alliance, i.e. none of the variables explored were significantly associated with mean alliance, patient or therapist rated.

The analyses were re-run without the patients that had missing data on alliance measured at nine months after treatment start due to earlier termination of treatment. DRS-mother and DRS-self remained significant predictors of growth in patient rated alliance (DRS-mother: n = 38, df = 3/66, F = 4.80, p = .004; DRS-self: n = 38, df = 3/68, F = 5.60, p = .002) and no other possible predictor variable was found significant, i.e., the results remained stable.

Finally, there was a significant correlation between problems within the friendly-submissive domain and therapists' experience of alliance fluctuating over the 9 months of treatment (r = 0.29, p = 0.01).

Table 4. Mixed Model analyses of prediction of growth of alliance over nine months.

Predictor	Patient rated alliance				Therapist rated alliance			
	N	df	F	p	N	df	F	p
IIP[a] interpersonal suffering	78	3/138	1.22	ns	78	3/132	0.19	ns
IIP[a] Friendly-Dominant	78	3/135	2.85	ns	78	3/123	0.80	ns
IIP[a] Friendly-Submissive	78	3/137	0.33	ns	78	3/133	0.51	ns
IIP[a] Hostile-Dominant	78	3/132	2.06	ns	78	3/129	0.44	ns
IIP[a] Hostile-Submissive	78	3/137	0.72	ns	78	3/131	0.16	ns
SASB[b] positive	77	3/131	0.63	ns	77	3/122	0.49	ns
SASB[b] negative	77	3/131	0.42	ns	77	3/124	0.67	ns
DRS[c] mother	40	3/67	4.75	***.005***	40	3/76	1.53	ns
DRS[c] father	40	3/70	2.41	ns	40	3/75	0.77	ns
DRS[c] self	40	3/68	5.75	***.001***	40	3/76	0.46	ns

[a] *Inventory of Interpersonal Problems*   Bonferroni-correction to keep the family wise error resulted in a critical p-value of 0.01.

[b] *Structural Analysis of Social Behavior Intrex Questionnaire*   Bonferroni-correction to keep the family wise error resulted in a critical p-value of 0.025.

[c] *Differentiation-Relatedness of Self and Object Representations*   Bonferroni-correction to keep the family wise error resulted in a critical p-value of 0.017.

5 DISCUSSION

The aim of the present thesis was to explore the construct validity of the concept therapeutic alliance based on data from three clinical studies. The four included papers did find associations between alliance and outcome, as well as prediction of level and/or growth of alliance from relational variables; support of construct validity was thus found. Clinical discussions are included in the papers, but the following discussion will focus on psychometric aspects. The outcome of the four papers will be discussed and problematized thematically below.

5.1 RELIABILITY

Reliability, calculated as internal consistency, for the two alliance measures for which such data had not been published before was adequate and in par with the original published psychometric data of the instruments (Gaston, 1991; Luborsky et al., 1996). Paper I reported on initial evidence on reliability for CALPAS-G, a well–established instrument for patient–rated alliance for dyadic relationships adapted for use for the group–as–a–whole in psychodynamic group psychotherapy, while paper II reported reliability data for the Swedish translation of HaQ-II. The similarity of the accuracy of the two instruments occurred even though applied to diverse patient populations, which is in accordance with international research (Elvins & Green, 2008).

The proliferation of alliance instruments has been interpreted as a consequence and an evidence of a multitude of conceptualizations of the construct alliance (Horvath, 2011). However, the majority of research on alliance has been reported to apply one of four instruments (Horvath et al, 2011b). The present reports support the conclusion that the accuracy of two of these instruments was preserved when adapted to a Swedish context and divergent treatment contexts.

The presence of adequate reliability supported the possibility to pursue the initial aim of the present thesis, i.e. to empirically explore the nomological net of the theoretical construct therapeutic alliance.

5.2 ASSOCIATION BETWEEN ALLIANCE AND OUTCOME

Association with outcome was not initially part of the theoretical underpinning of therapeutic alliance. The empirically identified robustness of the association between alliance and outcome suggest that this correlation can serve as an indicator if the adaptation of the alliance instruments work as intended.

Paper I reported a significant association between mean level of alliance to the group–as–a–whole across the entire treatment period with reduction in global symptoms and anxiety but not in depression. We found that it was alliance during the mid-phase that was correlated with outcome, rather than alliance measured after session three. This is in contrast to what have been reported in at least one meta-analysis of the association between alliance and outcome

(Martin et al., 2000). The authors of this meta-analysis did not find that time point of measurement of the alliance was related to the association with outcome. It has to be stressed though that paper I is based on a very small sample, which affects the power to identify correlations as significant. The correlation between outcome and alliance to the group–as–a–whole measured at session three was not lower than the estimated correlation in the latest meta-analysis (Horvath et al., 2011a). With a sample-size of n = 18 it is not possible to establish such a low correlation coefficient as a significant finding. The averaged alliance measure on the other hand, can be interpreted as a stabilized measure, an estimate that in an earlier study have been shown to have a higher association with outcome than single measures have (Crits-Christoph, Connolly Gibbons, Hamilton, Ring-Kurtz, & Gallop, 2011).

Paper II reported a significant association between therapist-rated alliance and outcome defined as psychiatric suffering, and a tendency toward significance of the association between patient-rated alliance and the same outcome measure. However, further examination showed that the findings did not fit in smoothly with the positive association between alliance and outcome identified by meta-analyses ((Horvath & Symonds, 1991; Martin et al., 2000; Horvath & Bedi, 2002; Horvath et al., 2011a). It was not possible for us to make any conclusion on why this was the case, due to lack of other data that could help us further understand our findings. We could thus not rule out any of the possible explanations still stirring up controversy around the construct of alliance.

The tendency towards an association between patient-rated alliance and symptom change disappeared when initial level of psychiatric symptoms was introduced in the model, which could be due to early improvement predicting alliance rather than the other way round (Barber et al., 2010). In order to analyze this possibility we would have needed outcome data collected more frequently than what was done.

Regarding therapist-rated alliance it was found that lower levels of alliance predicted greater change in psychiatric symptoms for patients with high levels of psychiatric symptoms at intake. This might be an indication that alliance is not a uniform construct over all patient populations (Lorenzo-Luaces et al., 2014). This three-way interaction could also be an indication of different processes taking place depending on patient suffering, i.e. an indication of therapists' responsiveness to the individual patient. We would have needed both a more frequent collection of outcome data and some data on therapist actions in order to analyze this possibility.

The pattern of the lost tendency toward a positive association between patient-rated alliance and outcome on one hand, and the three-way interaction with a negative association between therapist-rated alliance and outcome for high suffering patients could be interpreted as though alliance and outcome are confounded and alliance is just a secondary outcome (DeRubeis et al., 2005). Again, we would have needed a more frequent collection of outcome data in order to analyze this possibility.

Even though meta-analyses result in an estimate of an association, single studies can and have reported divergent results. As long as we don't have one or more coherent theories on the process of alliance (i.e. being a change mechanism, a quality indicator of work done, or just a confounder) it is impossible to draw any conclusions on divergent validity from lack of significant findings. In addition, we have to accept any association with outcome as indicator of convergent validity. Both paper I and paper II did find associations with outcome, which thus could be interpreted as support for the construct validity of the group application of CALPAS and the Swedish translation of HaQ-II.

5.3 PREDICTION OF INITIAL LEVEL OF ALLIANCE/AVERAGE LEVEL OF ALLIANCE

Paper I and paper III reported results on prediction of early alliance from patient pre-treatment factors. In paper I some evidence for construct validity was found when level of dismissive attachment turned out to be negatively predictive of alliance. This is in accordance with earlier research reporting prediction of early alliance from interpersonal variables (Hietanen & Punamaki, 2006, Kanninen et al., 2000; Kivlighan et al., 1998; Mallinckrodt et al., 1995). In contrast to other studies, no association was found between interpersonal problems and level of early alliance (e.g. Connolly Gibbons et al., 2003). However, since the study was obviously under powered it is not possible to draw any conclusions about null-findings. This is also valid for the lack of association between age and alliance, even though this finding is in accordance with the theoretical foundation of the concept therapeutic alliance (divergent validity).

The main outcome of paper III was that both therapists and patients in DBT rated alliance during the contract setting phase of treatment higher than did their counterparts in psychodynamic psychotherapy. The two treatments diverge drastically in both content and therapeutic stance during the contract phase. Thus, this finding adds to the suggestion that treatment strategy and psychotherapeutic technique do matter in building therapeutic alliance (Ackerman & Hilsenroth, 2003; Bordin, 1979).

Paper III included a wide variety of measures that could have given support to the theoretical construct validity of the concept therapeutic alliance, i.e. interpersonal variables, other personality variables, psychiatric symptoms and age. None of the included predictors was significantly correlated with either patient-rated or therapist-rated alliance, i.e. support for convergent validity was not found; consequently it was not possible to make any inferences about divergent validity from the present results either. Null-findings are always difficult to explain, but this might again raise the question if alliance is a uniform construct over all patient populations (Lorenzo-Luaces et al., 2014). More specifically, it has been proposed that within patients suffering from BPD alliance is probably best understood as an outcome rather than a change mechanism (Barber et al., 2010). This would imply that therapeutic alliance is embedded in a different "nomological net" within this patient population.

The only finding on prediction/moderation of alliance in paper III was that somatic anxiety moderated the discrepancy measure, i.e. there was a different pattern of correlations between the two treatments. The fact that patient-rated somatic anxiety was related to greater discrepancy in perceptions of the therapeutic relationship between therapists and patients in DBT is interesting but a bit difficult to understand. Further research is needed to understand these results.

There was no significant difference in alliance between DBT supervisors and supervisees in either therapist-rated or patient-rated alliance. This contradicts propositions that therapist training may impact the alliance in patient populations that are severely disturbed (Horvath, 2001). This question was not a specific research aim of the present paper and the check for difference was done in order to decide whether we needed control for level of training in DBT before running the main analyses in the report. However, earlier research findings have been inconclusive when analyzing effect of therapist training and experience based on formal data, such as year of clinical work (Dunkel & Friedlander, 1996), while expert-rated level of competence in delivering a method has been predictive of alliance ratings (Despland et al., 2009; Westra et al., 2011). If therapist training or skills would have been a research aim, analyses should have been performed differently, e.g. including adherence or competence ratings in the analysis.

5.4   PREDICTION OF GROWTH OF ALLIANCE

Paper I reported results on prediction of early growth of alliance to the group–as–a–whole, i.e. between session three and five, while paper IV reported results on prediction of growth of alliance during the first nine months of individual psychodynamic psychotherapy.

In group psychotherapy it was found that dismissing attachment as well as level of interpersonal problems, problems within the domain of being exploitable and being overly nurturant was associated with early growth of alliance to the group-as-a-whole. It is in accordance with the theoretical idea of therapeutic alliance that interpersonal variables should be related to the concept (Horvath, 2000), but there is no theory explaining specifically which interpersonal variables should be predictive of alliance neither in this setting nor in any other treatment modality.

Paper IV reported that two out of three object and self-representation measures, i.e. representation of mother and representation of self, were predictive of growth of patient-rated alliance, but unrelated to therapist rated alliance. It was also found that fluctuation of therapist-rated alliance was predicted by patients' interpersonal problems within the friendly-submissive domain. There is a scarcity of earlier findings to compare these results with, but the results adds to a growing body of research (Constantino & Smith-Hansen, 2008; Hersaug et al., 2009; Piper et al. 1995; Piper et al., 2004; Van et al., 2008). Again, the association between relational variables and any measure of alliance is supporting the convergent validity of the concept therapeutic alliance.

5.5 CONCLUSIONS AND LIMITATIONS

The results of the papers included in the present thesis do give additional support for the convergent validity of alliance given the fact that we did find associations between alliance and outcome, as well as between some relational personality variables and alliance, either early or growth. From a clinical point of view it is possible to give explanations for the identified pattern of associations. From the psychometric perspective it is not possible to give any explanation or refute any explanation of either lack of associations (divergent validity) or the idea of alliance as a change mechanism. The lack of a coherent theory or competing coherent theories on therapeutic alliance costs us the possibility to make solid conclusions about divergent validity, the more important aspect of construct validity.

The support for convergent validity obtained in the present papers mirrors the larger field of research of alliance, i.e. there are interesting results seemingly in line with theoretical assumptions about therapeutic alliance, but taken all together it is difficult to form a good gestalt of the results. In the wake of a coherent theory of alliance solid data sampling strategies are coming to the forefront, such as controlling for temporal aspects of prediction (e.g. Barber et al., 2000; Falkenstrom et al., 2014). This is an important development of the field, but we could probably do even better if data also was sampled according to a clinical theory or micro-theory. For example, if we were to investigate cognitive behavioral therapy for social phobia, we could build a micro-theory based on Bandura's ideas about social learning to make predictions on interactions between in-session anxiety-levels, interventions, therapist responsiveness (i.e. alliance strengthening interventions), in-session or session level alliance and outcome. After delineating this micro-theory it would be possible to optimize data sampling.

The three projects supplying data for the present thesis have all the strength of being clinical outcome studies. However, all three were designed with the primary aim to evaluate outcome rather than process. Thus, measurement of process was done in order to strengthen the possibility to understand outcome rather than to understand change mechanisms. To further promote the theoretical and empirical basis of the role of alliance it is necessary that data sampling is implemented specifically for this purpose. For example, if we want to examine therapist effects on alliance it is reasonable that patients should be randomized over therapists rather than treatment modalities, or at least that all therapists should be assigned the same caseload.

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