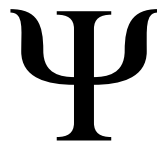**DET PSYKOLOGISKE FAKULTET**

Ψ

The Working Alliance in Individual Psychotherapy:
Factor Structure, Baseline Predictors, and Outcome

HOVEDOPPGAVE

profesjonsstudiet i psykologi

Elisabeth J. Grimsby, Luxsiya Nageswaran og Ann Elisabeth Salvesen

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Acknowledgments

Abstract

Objective: Research indicates that the working alliance is a stable predictor of outcome. The majority of previous research has relied on a one-component model for alliance and failed to cover all theoretical aspects of the alliance, we wish to address some of these aspects. We also wish to control for relevant third-variables. Method: Patients were recruited to an open-ended, naturalistic study of individual psychotherapy in Norwegian outpatient clinics. Those who completed at least 20 hours of therapy were included in the present study (N = 240, M_{age} = 40, SD_{age} = 9.5, 73.8 % female). Results: The first research question addressed the factor-structure of the Working Alliance Inventory as rated by the patient in the third session. An exploratory factor analysis gave two factors; named W-Task and W-Bond. Further analyses indicated that different therapist and patient characteristics at baseline explained about 20 % of the variance in these two components. Background-variables were related to better quality of the W-Task component, and interpersonal variables to the W-Bond, with two variables related to both components. W-Task and W-Bond assessed in Session 3 had significant correlations to outcome in Session 12 and 20 as measured by three outcome-indexes from Symptom Check-List-90-Revised. However, when controlling for symptom level and patient and therapist characteristics at baseline, W-Task and W-Bond were unrelated to later symptom outcome. Conclusion: The relationship between working alliance and outcome in individual psychotherapy is better explained by patient baseline characteristics and baseline symptoms.

Keywords: alliance, baseline characteristics, baseline symptoms, therapy process, outcome.

Sammendrag

Allianse har vist seg som en stabil prediktor av utfall av terapi, med effektstørrelser på

rundt .22, men med ulike modeller for alliansens struktur, og alliansens betydning for

utfall, er det fortsatt mange ubesvarte forskningsspørsmål. Denne studien ser på tre

forskningsspørsmål. Vi undersøker faktorstrukturen til WAI, og finner to faktorer som

vi kaller W-mål/middel og W-bånd. Disse er forskjellig predikert av pasient og

terapeutegenskaper. For mål/middel var disse signifikante: pasientens sivil-status,

oppvekststed, og evne til å inngå vennskap (psykodynamiske skalaer).

Relasjonskomponenten hang sammen med pasienters vurdering av fars omsorg,

uavhengig bedømmers vurdering av pasients evne til å inngå vennskap

(psykodynamiske skalaer), pasients oppvekstssted, terapeuts kjønn og selvrapportert

kald-unnvikende stil. terapeutens oppvekstssted, og likhet mellom pasient og terapeut i

verdisyn. Deretter undersøket vi sammenhengen mellom allianse, målt i time tre av

pasientene, og bedring i symptomer, målt ved selvrapporterte Symptom Check-List-90-

Revised skårer, inndelt i tre indekser, ved time 12 og time 20. Allianse viste seg å

predikere utfall etter å ha kontrollert for symptomvariasjon før terapi i forhold til

kronisk og karakterologisk-, men ikke akutt utfalls-indekser. Ved tilleggskontroll for

pasient og terapuetegenskaper, var ikke alliansen lenger en signifikant prediktor i

forhold til bedring i time 12 eller 20, med symptomvariasjon før terapi og kvalitet av

vennskapsrelasjoner, som de eneste prediktorerene med signifikant forklaringsverdi.

The Working Alliance

Historical Context

The relationship between therapist and client has occupied a dominant role in many theories regarding the healing aspects of the psychotherapeutic process. Freud's initial emphasis was on the role the relationships had in keeping the patient in therapy, overcome doubts about the possibility of improvement, and facilitate cooperativeness with the therapist (Freud, 1912/1958a p. 99, as cited in Hatcher, 2010, p. 9). The psychoanalytic understanding of this relationship was elaborated by Greenson (1965, 1973), who defined the "working alliance" as the relatively rational, non-neurotic aspects of the relationship between patient and therapist, facilitating the patient's ability to work within the analytical situation. He was among the first to separate the working alliance from those aspects of the therapeutic relationship related to transference and attachment (Greenson, 1965, 1973).

Another important source in the development of a concept that looks at the relationship between therapist and client was Rogers' (1957) theoretical model for the qualities and effects of the therapeutic relationship. Rogers' (1957) model states that the quality of the relationship; empathy, unconditional love/regard, and congruence; as offered by the therapist and experienced by the client constituted the necessary and sufficient conditions for therapeutic change (Rogers, 1957).

The majority of research on the effects of psychotherapy from the 1960s and onwards, focused on the possible specific ingredients responsible for positive therapeutic gains. The research paradigm stating that specific therapeutic models and mechanisms should result in different outcomes was not supported by the first

systematic reviews of research on psychotherapeutic outcomes (Luborsky, Singer, & Luborsky, 1975; M. L. Smith & Glass, 1977). These first systematic reviews and meta-analyses of therapeutic outcome yielded strong evidence that quite different therapeutic models and practices had similar effects, supporting the notion that elements common to the broad section of psychotherapeutic models were responsible for a large portion of the healing effects – commonly referred to as the Dodo-bird verdict (Rosenzweig, 1936). These findings instigated the search for factors common among different forms of psychotherapy. This strongly renewed researchers' interest in the quality of the relationship between therapist and client as one important common factor in different psychological treatment models. Important contributions to this were the work of Luborsky (1976) and Bordin (1979, 1994) on the conceptual and empirical basis of the therapeutic relationship.

The Therapeutic Relationship

Like Greenson, Bordin (1979, 1994), argued that both transference-powered relationships and real relationships exist in therapy. Bordin (1979) however, went further and argued that the effectiveness of any given therapy is partly, or even entirely, "a function of the strength of the alliance" (p.253). In his alliance model, Bordin focused on how patients and therapists collaborate in therapy to achieve change. He divided the alliance into three components; task, goal and bond, and gave examples on how they could differ in accordance with the therapeutic allegiance of the therapist. Agreement on goals for therapy refers to what should be accomplished during treatment, while tasks specifies what the patient and the therapist are required to do to

reach these goals. The bond component is the quality of the relationship between the therapist and patient in terms of mutual trust and liking (Bordin, 1979).

Hougaard (1994) has elaborated on the theory of the alliance based on, among others, Bordin's (1979) theory. Hougaard (1994) suggests a two-structure alliance concept, consisting of the personal relationship and the collaborate relationship, roughly corresponding to Bordin's bond and task aspects of the alliance, respectively.

Luborsky (1976) also argued that the therapeutic alliance comprises two components. According to Luborsky, these two components have somewhat different roles depending on the phase of therapy. Type 1 alliance is the patient's experiencing the therapist as helpful and supportive, and is more important in the beginning of the therapy. Type 2 alliance is about working together against factors getting in the way of improvement, a shared agreement on the goals of treatment, and is assumed to be important later in the therapy.

Even though the conceptual basis of the alliance usually involves two or three components, most researchers in this field have investigated the alliance using a one-factor model (Constantino, Arnow, Blasey, & Agras, 2005; Hersoug, Høglend, Monsen, & Havik, 2001; Klein et al., 2003; Puschner, Wolf, & Kraft, 2008). Several studies suggest a reliable statistical relationship between the quality of the working alliance in the early phases of therapy and outcome (Horvath & Greenberg, 1989; Kivlighan Jr & Shaughnessy, 2000; Stiles et al., 2004). A recent meta-analysis by Horvath, Del Re, Fluckiger, and Symonds (2011) reported an effect-size of .275, which means that the alliance explains 7.6 % of the variance, consistent with earlier meta-analyses showing effect-sizes from .21 to .26 (Horvath & Bedi, 2002; Horvath & Symonds, 1991; Martin,

Garske, & Davis, 2000). However, none of these meta-analyses have distinguished between the different components of the alliance.

In the present study we wish to explore the implication of using a multi-component model for understanding the correlates of the quality of the alliance, and for the understanding of the relationship between alliance and outcome.

The Structure of the Working Alliance - One, Two or Three Components?

Some single studies have reported a two-component structure of the alliance on the basis of factor analysis (Andrusyna, Tang, DeRubeis, & Luborsky, 2001; Guédeney, Fermanian, Curt, & Bifulco, 2005; Hatcher & Barends, 1996; Hersoug et al., 2001; Webb et al., 2011). Most researchers have decided to use a one-factor model, which is surprisingly considering the strong theoretical emphasis that the alliance comprises of more than one factor. Webb et al. (2011) argued that if we do not differentiate between the components of the alliance, we risk missing out on important information about how the different components of the alliance may operate in psychotherapy. They found that the quality of the task component (called "agreement") was associated with outcome in cognitive therapy for depressive symptoms, whereas the factor assessing bond (called "relationship"), was not associated with improvement (Webb et al., 2011). This notion was also supported by a study showing that the goal and task aspects of the alliance was related to reduction in depressive symptoms, while the bond aspect was mostly related to reduction in interpersonal problems (Weerasekera, Linder, Greenberg, & Watson, 2001). Thus, one important aspect of the multi-component model for the working alliance, both theoretically and empirically, is to get a more nuanced picture of how

patients' and therapists' characteristics is related to the quality of the different alliance components.

Predictors of the Working Alliance

   Baseline characteristics of patients.

   There has been an increasing interest in how pre-therapy characteristics of patients and therapists are related to the quality of the in-therapy alliance, but still more research is needed, especially on the possible sub- components of the alliance. There are at least two major reasons for this. Firstly, to understand how pre-therapy characteristics of the patient and the therapist are related to the quality of the different components of the working alliance (Dunkle & Friedlander, 1996; Satterfield & Lyddon, 1998), secondly, many of the studies investigating the relationship between alliance and outcome have not controlled for possible effects of baseline characteristics on outcome, and the causal direction of the association between alliance and outcome has therefore not been established (Castonguay, Constantino, & Holtforth, 2006; Crits-Christoph, Gibbons, & Hearon, 2006; Elvins & Green, 2008; Klein et al., 2003). Controlling for baseline characteristics can help clarify whether the quality of the alliance is mainly a reflection of the resources and qualities the patient and/or therapist brings into the therapy, and furthermore that this may explain the association between the alliance and the course and outcome of therapies. To investigate whether the relationship between alliance and outcome can be explained by factors existing before therapy, researchers have controlled for aspects of the clients personality and functioning prior to therapy that are assumed to be related both to the alliance and to outcome. To illustrate, Klein et al. (2003) and De Bolle, Johnson, and De Fruyt (2010) controlled for comorbidity and

still found the alliance to have predictive value in terms of symptom reduction of depressed patients.

In this study we want to explore a wide range of patient and therapist characteristics in relation to the quality of the alliance, as this has been an understudied area. In line with previous research and theoretical models, we included; socio-demographic factors, patient's evaluation of their early parental bonds to their mother and father, attitudes toward own self, that is introjects; interpersonal problems, ego functioning, and comorbidity. Socio-demographic factors are included as research indicates that the patient's marital, that is being married or not; occupational status (De Bolle et al., 2010), and education (Marmar, Weiss, & Gaston, 1989) are related to the quality of the alliance. Other researchers have often included a control for demographic factors, such as age and gender, and found them not to be related to the alliance (Constantino et al., 2005; Dunkle & Friedlander, 1996), however, all but one of these studies have used a one-component structure of the alliance (Constantino et al., 2005). Guédeney et al. (2005) looked at a two-factor structure of the alliance, and found no relation to socio-demographic variables, except for a higher level of education, which they found to be related to the factor they called "absence of suspicion about the negative effects of help".

Identity and personality can be assumed to be affected by the socio-cultural context of a person's childhood and adolescence. Epidemiological research on mental-health indicates a lower prevalence of psychological disorders in rural than more urban and inner city areas (Crowell, George, Blazer, & Landerman, 1986; Kringlen, Torgersen, & Cramer, 2006; Paykel, Abbot, Jenkins, Brugha, & Meltzer, 2003). Rural

and urban populations may vary in several ways, and prior research indicate factors like community attachment, social support, physical health (Romans, Cohen, & Forte, 2011) and other socio demographic variables as contributing to the differences in prevalence of mental disorders (Judd et al., 2002). More research on the factors contributing to the apparently buffering effects of rural residence/rural background is needed (Crowell et al., 1986; Judd et al., 2002). In our study we wish to explore whether patients' rural background affect the working alliance.

The quality of the early parental bonds is assumed to be one important factor contributing to the development of attachment. Bowlby (1977a) argued that both parents need to care for their children, and let their children explore their surroundings to develop a secure attachment. Research has shown that the patients' view of the quality of early parental bonds is related to the alliance (Mallinckrodt, Coble, & Gantt, 1995), as is attachment (Daniel, 2006; Kivlighan, Patton, & Foote, 1998; Mallinckrodt, Coble, & Gantt, 1995; Satterfield & Lyddon, 1998; A. E. Smith, Msetfi, & Golding, 2010). In terms of attachment, a patient's experience with caregivers may affect how he or she relates to the therapist, how easy it is to trust the therapist, and to feel secure in therapy (Bowlby, 1977b).

It is assumed that the way caregivers act towards the child becomes internalized, and can be activated later in life. According to Benjamin (1974), the consistent and dominant aspects of the caregivers way of acting toward the child will be internalized and transformed into introjects that later are experienced as one's own attitudes directed towards one's self. Benjamin (1974) has described introjects according to the two dimensions of a) affiliation and care, and b) autonomy and control. Less research has

addressed introjects' association with the alliance, but one study found that the affiliation dimension of introjects was positively associated with the bond aspect of the alliance early in therapy (Paivio & Bahr, 1998). Based on Bowlby's (1977a) theory of attachment, stating that experiences with caregivers early in life will affect how one relates to others as adults, we assume that early parental bonds and introjects should be related to the bond aspect of the alliance rather than the task and goal aspects.

Psychodynamic theorists who distinguish the working alliance from transference reactions also view the degree of maturity and integration of the patients' ego-functions as essential for their capacity to form an alliance with the therapist (Greenson, 1973; Zetsel, 1956). Ego-functioning includes aspects of individual functioning such as tolerance for affects, insight, adaptive capacity, problem solving and interpersonal functioning. Several studies indicate that patients' interpersonal functioning and problems are associated with the alliance (Muran, Segal, Samstag, & Crawford, 1994; Paivio & Bahr, 1998; Piper , Azim, McCallum, & Joyce, 1991; Puschner, Bauer, Horowitz, & Kordy, 2005). We also expect to find qualities of ego-functioning and interpersonal problems to be related to the development of the alliance. We further assume ego-functions reflecting interpersonal functioning to be related to the bond aspect of the alliance, on the argument that relationship-related factors will be more important for the relationship/bond aspect of the alliance.

As for the problems and symptoms of the patient, many argue that comorbidity makes the alliance-formation more complex and difficult and a positive outcome therefore harder to obtain. Findings have shown a tendency for poorer alliances (Horvath and Bedi, 2002), and worse outcome (Beutler, Castonguay, & Follette, 2006;

Clarkin & Levy, 2004; De Bolle et al., 2010; Diguer, Barber, & Luborsky, 1993), when patients have comorbid personality disorder. We included indicators of personality disorder as a predictor, hypothesizing that the rigidity in self-other understanding characterizing personality disorders will hamper the establishment of the bond aspect of the alliance.

Baseline characteristics of therapists.

One area with less research is the possible associations between working alliance quality and the personal characteristics that the therapist brings to therapy. In two reviews, Ackerman and Hilsenroth concluded that some therapists' attributes contributed positively to the alliance, like being flexible, warm and honest (2003), while others contributed negatively, like being rigid, uncertain and critical (2001). On a more specific level, studies have for instance shown that therapists' cold interpersonal style, as measured by the IIP-64, had a negative effect on the alliance as rated by the patients (Hersoug, Høglend, Havik, von der Lippe, & Monsen, 2009b; Hersoug et al., 2001). We argue that cold or avoidant interpersonal style is more relevant for the development of the bond-aspect of the alliance, but less for the task and goal-related aspects. Dunkel and Friedlander (1996) found that therapists' ability to develop close relations with others predicted higher quality of the bond aspect of alliance, whereas therapists hostile introjects had a negative impact. For therapists' early recollection of care and control from parental figures, Hersoug et al. (2001) found that recollection of care from both parents was positively associated with alliance at Session 12, but not at Session 3. We hypothesize that if investigating the alliance in terms of a multi-component model, the early parental bonds will affect the relationship-aspect of the quality of the alliance in

Session 3. We further expect therapists' introjects to affect the patients' experience of the alliance, with a greater impact on the bond aspect of the alliance.

Similarity between patient and therapist.

Social comparison theory states that people compare themselves with others, preferably someone similar to themselves (Festinger, 1954). Interpersonal attraction theories also advocate similarity (Myers, 2004). Attraction and similarity has been investigated in many different areas, and the research supports the idea that similarity is associated with liking (Mackinnon, Jordan, & Wilson, 2011; McPherson, Smith-Lovin, & Cook, 2001). The ideas from social psychology and attraction theories have also been investigated in relations to therapy, in terms of similarity of patient and therapist. Luborsky, Crits-Christoph, Mintz, and Auerbach (1988) have addressed the possibility that the similarity – dissimilarity between the patient and the therapist might influence the relationship between the alliance and improvement. They found that greater similarity of patients and therapists across 10 socio-demographic characteristics, for example civil status, education, and ethnicity; was associated with better outcome. Other research has shown mixed results in terms of the role of similarity between patients and therapists. Racial/ethnic matching has been studied, with a recent review suggesting that even though patients prefer the therapist to be similar to them; this has almost no effect on treatment outcomes (Cabral & Smith, 2011).

Similarity of patients and therapists in terms of personality has been shown to be related to the bond aspect of the alliance, but not goals or tasks (Taber, Leibert, & Agaskar, 2011). Value similarity, but not similarity in personal characteristics, has been found to be associated with better alliance as rated by patients (Hersoug et al., 2001).

Furthermore, matching of cognitive-behavioral therapy to the religious values of the patients has been shown to be more effective when the therapists have values similar to the patients' values (Propst, 1980; Propst, Ostrom, Watkins, Dean, & Mashburn, 1992). Based on these theories and findings, we argued that similarity between patient and therapist might contribute positively to the quality of the alliance, both bond and task/goal.

Baseline Level of Symptoms - An Important Third-Factor in Understanding the Relationship between Alliance Quality and Outcome.

When investigating how the relationship between the alliance early in therapy relates to outcome, it is important to consider that baseline symptoms may influence both the alliance and the outcome, and that variation in baseline symptoms therefore may explain the relationship between alliance and outcome. In most studies, researchers have measured the alliance at some point after therapy has started (typically Session 1, 3, 5 or 10), and then correlated it with symptom-change from pre- to post-treatment. This design leaves doubts as to whether baseline variation in symptoms, or change during therapy, may affect the quality of the alliance and outcome (Castonguay, et al., 2006; Crits-Christoph, et al., 2006; Elvins & Green, 2008; Klein et al., 2003).

Some studies have reported that early alliance predicted subsequent improvement after controlling for prior symptom change (Anker, Owen, Duncan, & Sparks, 2010; Barber, Connolly, Crits-Cristoph, Gladis, & Siqueland, 2000; De Bolle et al., 2010; Klein et al., 2003), while others found controlling for prior improvement reduced or eliminated the influence of alliance on outcome (Barber et al., 1999; DeRubeis & Feeley, 1990; Feeley, DeRubeis, & Gelfand, 1999; Gaston, Marmar,

Gallagher, & Thompson, 1991; Puschner et al., 2008). This inconsistency may be due to

small sample sizes, for instance a mean sample size of 37 in four of the studies

(DeRubeis & Feeley, 1990; Feeley et al., 1999; Gaston et al., 1991; Hartmann,

Orlinsky, Weber, Sandholz, & Zeeck, 2010), or type of problems in the study sample, as

alliance may be more important for depression than substance abuse (Barber et al.,

2000; Barber et al., 1999; Horvath & Bedi, 2002). This needs more research to be

resolved. In our study we expect to find that the alliance is predictive of outcome even

after controlling for variation in baseline symptom level.

Type/Domain of Outcome

       Many studies investigating the effect of the therapeutic alliance on outcome in

psychotherapy have used some composite symptom-index or global indicators of

distress. A typical example is the Global Severity Index (GSI) from the Symptom

Check List-90-Revised; SCL-90-R (Derogatis, 1994), the average score of the 90 items

in SCL-90-R (Martin et al., 2000; Puschner et al., 2008). GSI and other global scales

can be criticized as being too general and less sensitive for change. This may result in

missing important information on outcome, and thus attenuate the observed relationship

between alliance and outcome. Weerasekera et al. (2001) investigated the relationship

between alliance and outcome, and found that the alliance had different predictive value

depending on whether the outcome measure was general; GSI from the SCL-90-R,

compared to specific to depression, as measured by the Beck Depression Inventory

(Beck, Ward, Mendelsen, Mock, & Erbaugh, 1961). Another study indicate that there

may be a difference between depression and anxiety with regards to the role of the

alliance, and reported that the quality of the alliance was associated with a reduction in

depressive symptoms, but not anxiety symptoms (Ryum, Stiles, & Vogell, 2009), supporting the importance of specific outcome-measures. Horvath (1994) also suggested that the working alliance may be more predictive of outcome as measured by individualized instruments, than more global symptom-change measures, such as the SCL-90.

The stronger association between alliance and depression can also be understood with reference to Frank's (1973) model for help-seeking behavior and improvement. He proposed that most patients with mental-health problems seek help because they are in a state where they do not understand what happens, do not know what to do, feel confused, helpless and estranged from other people, a state he called demoralization. Frank also argued that the relationship between patient and therapist is characterized by the degree to which the patients see the therapist as qualified and someone who desires to help them. The bond aspect of the alliance (Bordin, 1979) may seem most appropriate to deal with this aspect of the relationship, and may be associated with symptoms recovering early in therapy, once the patient experiences that help is available. This is also in line with Luborsky's Type 1 alliance being involved in early improvement.

To investigate the possibility that the components of the alliance may be related to different aspects of outcome, we used the three-component model of outcome defined by Kopta, Howard, Lowry and Beutler (1994). They divided the 90 items of the SCL-90-R into three groups: Acute, chronic and characterological symptoms. Their research showed that characterological symptoms where the least likely to recover, needing at least 18 sessions. The acute and chronic distress symptoms recovered faster than the

characterological, with acute distress symptoms needing the least amount of sessions and was the most likely to recover. In this study we wish to investigate the relationship between the different components of the alliance and these three measures of improvement, hereafter called outcome indexes. Our data is based on intermediate outcome; meaning symptom level at Sessions 12 and 20, not at termination of therapy. Based on the models by Luborsky (1976) and Frank (1973) we assume that the bond-aspect of the alliance will be more related to improvement in the acute distress index, while task and goal may be more important for chronic distress and characterological symptoms.

Research Questions

The aim of this study was threefold. First we investigated the factor structure of the working alliance. Second, if the findings supported a multi-factor model, we investigated how baseline characteristics of patients and therapists were related to the different components of the alliance. Third, if baseline characteristics and baseline symptom-intensity could explain the association between alliance and outcome.

We expected to find, in line with other researchers (Andrusyna et al., 2001; Webb et al., 2011), that the alliance consists of two components. We further hypothesized that relationally-related characteristics (introjects, early parental relations, interpersonal relations and ego-functioning) for both patient and therapist would be associated with the bond component of the alliance. We also wanted to explore how socio-demographic characteristics of patients and therapists, comorbidity, and how similarities between patient and therapist were related to the alliance, but we had no

specific hypotheses regarding these characteristics and the sub-components of the alliance.

We wished to investigate whether the two components of the alliance predicted symptom improvement, and whether the associations are dependent on type of outcome divided into acute distress, chronic distress and characterological indexes, as defined by Kopta et al. (1994). We assumed a relationship between early alliance and later symptom-outcome, and that the bond aspect of the alliance would be associated with early improvement in acute distress, while the task/goal aspect would be closest associated with later improvement in chronic and characterological symptoms. Next we hypothesized that early alliance still would have an effect on subsequent symptom outcome after controlling for baseline variation in symptoms. Finally, we expected that the alliance would continue to predict symptom-outcome after controlling for baseline characteristics of the patient and therapist, and similarity between therapist and patient.

Method

Participant Characteristics

This study is based on data from the Norwegian Multisite Study of Process and Outcome in Psychotherapy (NMSPOP) (Havik et al., 1995). The NMSPOP is a naturalistic study of psychotherapy in mental-health out-patient clinics within the public-health system in Norway. The data-base comprises 371 patients from 8 sites, with a total of 15 out-patient public health centers and 89 therapists (Forskningsråd, 2007). The over-all aim of the NMSPOP was to establish a large data-base that could be used, after application, in PhD- and Master-theses for the study of process and outcome in psychotherapy.

Procedure

The inclusion criteria in the NMSPOP were liberal, with the only exclusion criteria: Age under 18 years old, serious drug abuse problem, mental retardation, serious psychoses (like schizophrenia), or need for emergency treatment or hospitalization. In addition, half of the patients should fulfill the criteria for a personality disorder (PD) according to the Diagnostic and Statistical Manual of Mental Disorders ed. 4 (DSM-IV) (American Psychiatric Association, 1994). At each site, a trained clinical coordinator, a psychologist or psychiatrist, invited patients to participate in the study, and made a diagnostic assessment based on a semi-structured interview for DSM-IV Axis I diagnoses (SCID I) (Elliott et al., 2006) and semi-structured interview for making DSM-IV Axis II diagnoses (SCID-II) (First, Spitzer, Gibbon, Williams, & Benjamin, 1994). The clinical coordinator also did a semi-structured clinical interview to assess psychodynamic functioning – see Measurements.

At baseline, the patients completed a battery of questionnaires. The same questionnaires were administered at the end of treatment and in the follow-up phase (at 6, 12, and 24 months). The questionnaires comprised, among others not included in the present study; socio-demographic information, illness history, interpersonal functioning, symptom distress, early parental relations, and introjects. During treatment, therapeutic alliance and intermediate symptom level were assessed at the 3rd, 12th and 20th session, and then after every 20th session. After the first baseline assessments, the patients were assigned to different therapists based on availability (Forskningsråd, 2007). Treatment was conducted as usual (Hersoug et al., 2001). The mean age of the therapists was 48.8 years ($SD = 7.1$, range: 35 to 60) and 55.8 % were female. The majority of therapists

were Psychodynamic oriented, followed by eclectic and Cognitive

Behavioral/Humanistic-Existential. Therapists in the NMSPOP study had a mean

experience of 10 years (SD = 6.57, range from 0 to 28 years). Treatment was open-

ended but with an emphasis on long-term therapy. Mean number of sessions was 60.3

(SD = 60.9, range 20 to 360), except at one site who used time-limited psychodynamic

therapy with a maximum of 40 hours. As this study focused on the effect of alliance on

improvement, and research has shown that characterological symptoms, as defined by

the SCL-90 index, need at least 18 sessions to improve (Kopta, et al., 1994), we

included only those treatments that lasted 20 sessions or more, giving a study sample of

N = 240 treatments.

Ethics

All the patients in the sample gave an informed and signed consent. This study

was approved by the Regional Committee for Medical Research Ethics in Eastern

Norway.

Measurements

Baseline characteristics.

Socio-demographic variables. In this study we included for both patients and

therapists: Age, gender, civil status (married/cohabitant, single/divorced), and rural

background (whether they grew up in the countryside, a village, a small city or a big

city), and for patients only: Occupational status and education level.

Early Parental Figures. The Parental Bonding Instrument (PBI) was used to

measure patients' and therapists' recollection of early parental figures up to the age of

16 years. PBI assess the perceived quality of two parental dimensions: Care and control

(Parker, Tupling, & Brown, 1979). The Care subscale (12 items) assesses parental

warmth, affection, empathy, and closeness; whereas the Control subscale (13 items)

assesses control, intrusion, infantilization and the encouragement of dependence. The

items are rated on a 4-point Likert scale. In this study we used all four subscales for

both patients and therapists. For patients: Father Care (M = 16.6, SD = 9.1, α = 0.94),

Mother Care (M = 21.0, SD = 8.6, α = 0.93), Father Control (M = 14.7, SD = 7.9, α =

0.88) and Mother Control (M = 15.6, SD = 7.5, α = 0.87). For therapists: Father Care M

= 19.0, SD = 8.2, α = 0.90, Mother Care M = 21.4, SD = 5.8, α = 90, Father Control M =

11.8, SD = 6.7, α = 0.89, Mother Control M = 15.7, SD = 7.9, α = 0.92.

   Introjects. Structural Analysis of Social Behavior (SASB; Benjamin, 1974) is a

detailed circumplex model of personality and interpersonal functioning defined

according to the two dimensions of affiliation and autonomy. SASB classifies social

interpersonal and intrapsychic interactions of a person into three surfaces: Transitive,

intransitive and introject. In this study, the Intrex questionnaire, Long form A, was used

to assess the introject surface, which describes behaviors directed toward the self.

Patients and therapist filled in the questionnaire Intrex, long form A, which comprises

36 items rated on a 10 point Likert scale, and grouped into eight cluster subscales in the

circumplex model. The eight clusters had alpha values in the present study ranging from

.29 to .80 (M = .64) for patients, and from .17 to .56 (M = .31) for therapists ratings. The

two dimensions, affiliation (from love to hate) and autonomy (from enmeshment to

differentiation), were used in this study. Questions on the affiliation dimension asked

whether the respondents appreciates themselves, are happy with who they are, and

whether they punish themselves harshly. The autonomy dimension takes into account

how the respondent answers questions regarding, among others, how they try to control themselves, and whether they regard themselves as their own master. The two dimensions were computed with the logarithms recommended by Pincus, Newes, Dickinson, and Ruiz (1998).

Ego resources. Psychodynamic Functioning Scale (PFS; Høglend et al., 2000), comprises scales assessing five aspects of psychodynamic functioning, rated on a GAF-like scale, from 0-100, where scores above 70 is within the normal area. The scales measures psychological resources and capacities that are necessary for an adaptive functioning, both intra-psychic (e.g. insight, tolerance for affect) and interpersonal (e.g. friendship). The ratings were done by the clinical coordinator at each site based on a semi-structured interview conducted at the baseline assessment. Comparing the clinicians' ratings with two independent raters - an independent clinical assessor (0.71) and the therapist (0.79) - gave ICC reliability from good to excellent (Hersoug, Høglend, Havik, von der Lippe, & Monsen, 2009a).

Means and standard deviations in the present sample on the five scales were: Quality of Friendships ($M = 63.8$, $SD = 12.6$), Romantic Relationships ($M = 60.2$, $SD = 14.0$), Tolerance for Affect ($M = 56.4$, $SD = 9.4$), Insight ($M = 60.5$, $SD = 10.0$), and Problem-solving Capacity ($M = 59.6$, $SD = 9.5$).

Interpersonal problems. The Inventory of Interpersonal Problems (IIP) is a questionnaire measuring interpersonal problems (Horowitz, Rosenberg, Baer, Ureño, & Villaseñor, 1988). In the present study we used the short circumplex version of IIP, IIP-64-C (Alden, Wiggins, & Pincus, 1990), comprising 64 items rated on a five-point Likert scale from 0 (*not at all*) to 4 (*extremely*). Both patients and therapists filled out

the IIP-64-C. The scores on the four quadrant scales of the IIP-64-C, each comprising

16 items, were used to indicate type and intensity of self-reported interpersonal

problems The four quadrant scales are: 1) Cold-Vindictive (M = 1.2, SD = 0.7, α =

0.85), 2) Avoidant-Nonassertive (M = 2.0, SD = 0.8, α = 0.90), 3), Exploitable-Overly

nurturant (M = 2.1, SD = 0.8, α = 0.89), and 4) Domineering – Intrusive (M = 1.0, SD =

0.6, α = 0.79). For therapist, the means, standard deviations, and alpha on the quadrant

scales were: Cold-Vindictive: M = 0.6, SD = 0.4, α = 0.88; Avoidant-nonassertive: M =

1.0, SD = 0.5, α = 0.89; Exploitable-Overly nurturant: M = 1.0 SD = 0.5, α = 0.88;

Domineering-Intrusive: M = 0.7, SD = 0.4, α = 0.84.

    Personality disorders. Personality disorders (PD) were assessed with Structured

Clinical Interview DSM-IV (SCID-II; First et al., 1994), a semi-structured interview for

DSM-IV Axis II; Personality Disorder diagnoses (American Psychiatric Association,

1994). In this study, the total number of positive criteria on Axis II – Sum Criteria, was

used as an indicator of clinician rated total personality disorders. The cumulative score

of criteria for personality disorders were used because it represents the degree of

personality disturbances and problems better than the categorical diagnoses (Widiger,

1992). The inter-rater reliability of Sum Criteria estimated by the intra-class correlation

coefficient (ICC) was 0.82 for a single rater, which is regarded as excellent (Hersoug,

2004).

    Illness history. Patient-rated sum of complaints and whether or not the patient

had previous psychological treatment was also included.

    The Rokeach Value Survey (RVS). RVS consists of 18 terminal and 18

instrumental values. Terminal values refers to goals that a person would like to achieve,

these values could be personal, social, self centered or society-centered, for instance, a world at peace or happiness. Meanwhile instrumental values are conduct of achieving the terminal values, for instance by being ambitious and loving. The patients are asked to rank the values in order of importance as guiding principles in life, the most important value first, and the least important one last (Rokeach, 1937).

Similarity patient-therapist. Similarity coefficients, using intraclass correlation coefficient (ICC), were computed for each pair of patient-therapist, based on their answers to the items in the questionnaires that both had filled in. This gave the following ICC-values (1.0 perfect similarity, and 0.0 no similarity): Value-ICC ($M =$ 0.5, $SD = 0.3$), IIP-ICC ($M = 0.2$, $SD = 0.3$), PBI-ICC ($M = 0.8$, $SD = 0.2$) and SASB-ICC ($M = 0.4$, $SD = 0.5$). A similarity index was made by matching and adding therapists and patients on these seven socio-demographic variables: Age, sex, civil status, siblings, rural background, family's economic situation during childhood, and whether or not one defined oneself as belonging to a minority group growing up, in terms of economic situation, religion or ethnicity. The mean was 3.2 ($SD = 1.7$, range 0-7)

Alliance.

Horvath and Greenberg (1989) developed the Working Alliance Inventory (WAI) based on Bordin's (1979) multidimensional conceptualization of the working alliance. Thus, the content of the WAI items sample the three alliance components, Bond, Goal and Task; proposed by Bordin (1979). The short form, WAI – S, comprises 12 items with the same three subscales as the WAI. Two items are reversed (Tracey & Kokotovic, 1989). Each item is rated on a 7-point Likert scale ranging from 1 (*never*),

to 7 (*always*). The WAI is one of the most used rating scales for the quality of the

alliance (Martin et al., 2000). In this study WAI rated at the third session was chosen

based on research indicating that the three components of the working alliance can be

reliably assessed in the third session (Horvath & Greenberg, 1989; Tracey & Kokotovic,

1989). Since earlier studies indicate that patient ratings of the alliance is a better

predictor of outcome than therapists' ratings (Horvath & Greenberg, 1989; Horvath &

Symonds, 1991), only patients' ratings of alliance was included in our study.

Outcome.

Symptom Checklist-90-Revised (SCL-90-R) (Derogatis, 1994) is a self-report

inventory that measures the intensity of 90 symptoms during the last seven days, rated

on a Likert scale from 0 (*not at all*), to 4 (*extremely*). SCL-90-R contains nine primary

dimensions of symptoms: Somatization, Obsessive-Compulsive, Interpersonal

Sensitivity, Depression, Anxiety, Hostility, Phobic Anxiety, Paranoid Ideation and

Psychoticism (Derogatis, Rickels, & Rock, 1976). In this study, SCL-90-R was scored

according to the three-component model of outcome defined by Kopta, et al. (1994);

Acute distress (20 items, $\alpha = 0.88$), Chronic distress (27 items, $\alpha = 0.94$), and

Characterological symptoms (15 items, $\alpha = 0.85$).

Statistical Analyses

Factor analyses, univariate correlational analyses, multiple hierarchical

regression analyses and ANOVA were used to investigate the different hypotheses of

this study. In order to determine the factor structure of the WAI-S, we conducted a

principle-component analysis with oblimin rotation. Initial correlational analyses were

performed to select baseline characteristics for both patient and therapist that were

significantly related to the alliance ($p < .05$, two-tailed) assessed at Session 3. Those

variables that were significantly related to either of the two alliance subscales were

included as predictors in the multiple regression analyses.

Part of this study is explorative and is also the first study, according to our

knowledge, to investigate baseline predictors of both the task and the bond aspect of the

WAI-S, hereafter called W-Task and W-Bond. A strict application of the Bonferroni

adjustment for multiple significance tests would risk a premature elimination of relevant

variables, and we therefore chose to use a less strict approach using the standard

significance level of $p < .05$, two-tailed.

Preliminary correlation analyses showed that the following patient

characteristics were not significantly related ($p > .05$, two-tailed) to neither W-Task nor

W-Bond as rated by the patients in Session 3: Age, education, occupational status, the

Autonomy dimension of SASB introjects, one of the quadrant scales of the IIP-64-C

(Exploitable-Overly nurturant), and previous treatment. These variables were therefore

excluded from the further analyses.

Based on the same procedure, the following therapist characteristics were

excluded, as they had no significant univariate associations with either W-Task or W-

Bond as rated by the patients in Session 3: Civil status, three quadrant scales of IIP-64-

C (Avoidant-Nonassertive, Exploitable-Overly nurturant, and Domineering-Intrusive),

three subscales of PBI (Mother Care, Mother Control and Father Control) and both

dimensions of SASB Introjects. Further, similarity between patients and therapists in

socio-demographic variables, IIP-64-C, SASB Introjects, and PBI were not significantly

correlated to the aspects of the alliance, and also excluded from further analyses.

Hierarchical multiple regression analyses with a forward stepwise entering of predictors (inclusion criterion $p < .05$) were then used to identify a parsimonious model of the significant baseline predictors that had an independent contribution to the explained variance of the WAI-subscales. The significant predictors were grouped into six blocks according to a temporal priority. An example – interpersonal problems, as measured by IIP-64-C, are assumed to precede a diagnosis of personality disorder, and the IIP-64-C-predictors are therefore placed in a block prior to personality disorders. Thus, the sequence of blocks represents an arrangement of the predictors along a crude cause–effect dimension, making it possible to partial out the effect of the predictors in the first blocks before predictors in the later blocks are allowed to enter. Patient variables were entered before therapist variables, this is in line with previous research which has to a greater extent focused on the effect of patient characteristics than therapist characteristics, both when trying to predict the outcome of therapies (Beutler et al., 2004), and to predict the alliance (Horvath & Bedi, 2002). The implicit assumption is that patient variables are more important than therapist variables.

In the final model 23 variables remained for the multiple regression analyses: *Block I*: Background variables: Gender (1 = male, 2 = female), rural background (from 1 = countryside to 4 = big city), and civil status (1 = single, 2 = married/cohabitant); *Block 2*: Early parental figures and introjects: The four PBI subscales and the Affiliation dimension of SASB Introjects; *Block 3*: Ego function and interpersonal problems: the five Psychodynamic Functioning Scales, three of the IIP-64-C quadrant subscales: IIP-64-C Cold-Vindictive, IIP-64-C Avoidant-Nonassertive, and IIP-64-C Domineering-Intrusive; *Block 4*: Personality problems: Sum of criteria on SCID axis II; *Block 5*:

Therapist variables: Therapist age, therapist gender (male = 1, female = 2), therapist rural background (1 = countryside to 4 = big city), therapist IIP-64-C Cold-Vindictive, and therapist PBI Father Care; *Block 6*: Therapist – patient value similarity on Rokeach: Values ICC.

To investigate the associations between alliance at Session 3 and the three outcome indexes from SCL-90-R, a simple correlation analysis was conducted. Then an analysis of variance for repeated measures was conducted to analyze change in mean scores on the three outcome indexes across baseline, at session 3, 12 and 20.

Next hierarchical multiple regression analyses were conducted to test if W-Task and W-Bond, at Session 3 were related to the three outcome indexes at Sessions 12 and 20 after controlling for baseline variation in the indexes. Hierarchical multiple regression analyses were used with outcome indexes at Session 12 and 20 as dependent variables. Baseline values of the outcome-indexes were entered in Block I, and either W-Task or W-Bond in Block 2. This was followed by analyses where we, in addition to controlling for the baseline variation in the outcome indexes, also controlled for the baseline patients and therapists characteristics that were related to W-Task and W-Bond in Session 3. Hierarchical multiple regression analyses (method = enter) were conducted to predict symptom outcome where W-Task and W-Bond still were significantly associated with symptom change after controlling for baseline symptoms. In these analyses only the predictors related to the specific aspect of the alliance components were included. For W-Task these were patient rural background, the Quality of Friendships subscale of the Psychodynamic Functioning Scale, therapist rural background, therapist age, and similarity of values between patient and therapist. For

W-Bond these were rural background, the Father Care subscale of the PBI, the Quality

of Friendship subscale of the Psychodynamic Functioning Scale, therapist gender and

therapist scores on the Cold-Vindictive scale of the IIP-64-C.

The study sample consists of 240 patients, but due to missing data on some of

the variables, actual N varies from $n = 223$ to $n = 240$ in the different analyses.

SPSS version 19 was used in all the analyses.

Results

Study Sample

Patients mean age was 40.0 years ($SD = 9.5$, range 25 – 65 years), and 73.8 %

were female. A total of 70.8 % were married or cohabiting and 40.8 % had at least 3

years of higher education, i.e. college/university. On DSM-IV Axis I, 93.0 % fulfilled at

least one diagnosis. The two main diagnostic categories were anxiety disorders (66.7 %)

and affective disorders (56.7 %) followed by somatization (28.3 %), eating disorders

(10.0 %), drug-abuse problems (2.1 %), and other diagnoses (4.2 %). On Axis II, 50.4

% fulfilled the criteria of a personality disorder, and 14.6 % had a cluster A diagnosis,

10.4 % a cluster B diagnosis, and 41.7 % had a cluster C diagnosis. Mean Sum of

Criteria on Axis II was 10.3 ($SD = 8.1$, range 0 - 36). Comorbidity on Axis I was high;

27.5 % had only one diagnosis, while 65.5 % had two or more diagnoses. On Axis II,

30.0 % had one diagnosis, while 20.4 % had two or more personality disorder

diagnoses.

Factor Structure of WAI-S at Session 3

The principle component analysis of the 12 WAI-S items resulted in three

factors with Eigenvalue > 1.0. Only the two reversed items (items 4 and 10) of the

WAI-S had loadings > .4 on the third factor. This strongly indicates that this factor

reflected a methodological artifact due to the negative wording of the items, and the two

reversed items were therefore excluded from further analyses. A principle component

analysis with direct oblimin rotation not including the two reversed items yielded a

solution with two factors. According to the Kaiser's criteria and Bartlett's test (Pallant,

2010), the two-factor structure derived from the analysis is within acceptable values,

suggesting a reliable and stable factor-structure. The first factor had an Eigenvalue of

6.00 explaining 60.0 % of the total variance and comprised six items from the goal

(items 6 and 11) and task aspects (items 1, 2, 8 and 12) of WAI-S, and one item from

the bond aspect (item 5), and was termed W-Task. The second factor had an Eigenvalue

of 1.17 and explained 11.7 % of the total variance. This factor comprised the remaining

three items from the bond aspects of WAI-S (items 3, 7 and 9) and was termed W-

Bond. Nine of the 10 WAI-S items had loadings >. 4 on both factors (Table 1), and as

expected the two subscales were inter-correlated, r = .65. Subscales based on the raw

item-scores had good internal consistency (W-Bond α = .86, and W-Task α = .92).

Factor 1 (W-Task) had a mean of 5.1 (SD = 1.3), n = 230. Factor 2 (W-Bond) had a

mean of 4.9 (SD = 1.3), n = 228.

Table 1

Factor Loadings for the 10 WAI items in a Principal Component Factor Analysis

	Factor loadings	
WAI-S items	Factor 1	Factor 2
8. We agree on what is important for me to work on.	**0.869**	0.576
11. We have established a good understanding of the kind of changes that would be good for me.	**0.862**	0.450
1. The therapist and I agree about the things I will need to do in therapy to help improve my situation	**0.826**	0.522
12. I believe the way we are working with my problem is correct.	**0.816**	0.477
6. The therapist and I are working towards mutually agreed upon goals.	**0.808**	0.603
2. What I am doing in therapy gives me new ways of looking at my problem	**0.763**	0.194
5. I am confident in the therapist's ability to help me	**0.744**	0.593
3. I believe the therapist likes me	0.447	**0.910**
7. I feel that the therapist appreciates me.	0.503	**0.907**
9. The therapist and I trust one another.	0.589	**0.796**

Note. Rotation Method: Oblimin with Kaiser Normalization. Extraction Method: Principal Component Analysis. WAI-S = Working Alliance Inventory – Short.

Baseline Patient and Therapist Characteristics as Predictors of the Task- and

Bond-Aspects of the Alliance in Session 3

In the stepwise hierarchical multiple regression analysis with W-Task in Session 3 as the dependent variable, six predictors were including in the final model (Table 2). The findings showed that the W-Task, as rated by the patients in Session 3, was related to three baseline patient characteristics: Rural background, civil status, and Friendship; and two therapist baseline characteristics: Therapist rural background and age; and value similarity patient-therapist. This means that for patients, growing up in a rural place, being married or cohabitant, and having better friendship-relations according to the independent clinicians' ratings, is associated with higher ratings on the task subscale of the WAI. Furthermore, if the therapist grew up in a rural place and was younger, the patient was more likely to rate the task aspect of the alliance as better. Also, the higher the similarity of values between patients and therapists, the higher the patients rated the task aspect in Session 3. The six predictors in the final model explained 19.4 % of the variance in the patients' ratings of W-Task, the adjusted $R^2 = .171$; $F(6, 207) = 8.304$, $p < .001$. The single predictor with the largest increase in R^2 - ΔR^2 – was rural background, that is; patients growing up in a rural place, with 5.0 % added variance.

A similar analysis with W-Bond in Session 3 as the dependent variable, gave a final model with five predictors (Table 2). The findings showed that the W-Bond, as rated by the patients in Session 3, was related to three baseline characteristics of patients: rural background, PBI Father Care, Friendship; and two baseline characteristics of therapists: Gender and IIP-64-C Cold-Vindictive. This means that patients who grew up in a rural place, remembered their fathers as more caring when

growing up, and had better friendship-relations according to the independent clinicians'

ratings, were more likely to rate the W-Bond aspect of the alliance as more favorable in

Session 3. In addition, if the patients' therapist was female, grew up in a rural place, and

rated themselves as less cold and vindictive, the patients were more likely to rate the

bond aspect in Session 3 as more positive.

      The five predictors in the final model explained 19.0 % of the variance in W-

Bond, the adjusted $R^2 = .170$; $F(5, 206) = 9.67$, $p < .001$ (see Table 2 for beta values and

ΔR^2). The patients' experience of their father as a caring person – PBI Father Care -

gave the largest increase in R^2 - ΔR^2 – 7.7%. Summarized, the included baseline

predictors account for around 20 % of the total variance in the two aspects of the

alliance at Session 3.

Table 2

Stepwise hierarchical multiple regression of W-Task and W-Bond: Baseline characteristics of patients and therapists as predictors.

Predictor variables	W – Task			W - Bond		
	β	ΔR^2	p	β	ΔR^2	p
Block 1[a]						
Rural	-.168	.050	.01	-.185	.035	.004
Civil Status	.120	.028	.07	ni[e]		
Block 2[b]						
PBI FCA	ni			.207	.077	.002
Block 3[c]						
Friends	.147	.025	.032	.138	.043	.058
Block 4						
Personality disorder	ni			Ni		
Block 5[d]						
Therapist rural	-.188	.039	.004	Ni		
Therapist age	-.185	.030	.004	Ni		
Therapist IIP Cold	ni			.142	.016	.027
Therapist gender	ni			-.137	.019	.066
Block 6						
Values ICC	.152	.022	.018	Ni		

Note. *n* varies from 223 to 240. Rural = rural background; PBI FCA = Parental Bonding Instrument: Father Care; Friends = Quality of friendships, the Psychodynamic Functioning Scale; Personality Disorder = Sum Criteria of SCID-II; IIP Cold = IIP-64-C, Cold-vindictive; Values ICC = Similarity of Rokeach Values patient-therapist. β = standardized beta values.

[a]variable not included: patients gender. [b]variables not included: SASB Introjects – Affiliation, PBI variables (Father Control, Mother Control, Mother Care). [c]variables not included: IIP-64-C variables (Avoidant-Nonassertive, Cold-Vindictive, Domineering-Intrusive), Psychodynamic Functioning Scale (Romantic relationships, Insight, Tolerance for Affect and Problem-Solving Capacity). [d]variable not included: Therapist PBI Father Care. [e]ni = variable not included

Outcome Indexes: Acute, Chronic, and Characterological - Mean Changes from Baseline up to Session 20

Repeated measures ANOVA was used to analyze change in mean scores for the three outcome indexes across time – Baseline, Session 3, 12 and 20 (Table 3). There was a significant effect of time for two of three indexes: Acute: Wilks Lambda = .90, $F(3, 219) = 8.58$, $p < .0005$, Chronic: Wilks Lambda = .83, $F(3,219) = 15.18$, $p < .0005$, and Characterological: Wilks Lambda = .97, $F(3,219) = 2.59$, $p = .054$, meaning that with increased therapy sessions the acute and chronic distress indexes decreased significantly, while the characterological index bordered on a significant change ($p = .054$). Post-hoc analyses show that for acute symptoms the significant change occurred at Session 20; whereas the change in chronic symptoms happened earlier - at Session 3. For characterological symptoms, the significant change was at Session 20.

Table 3

Outcome indexes for the SCL-90-R: Means and standard deviations at Baseline, Session 3, 12, and 20.

SCL-90	Baseline		Session 3		Session 12		Session 20		Total
	M	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*F*
Acute	1.43_a	0.74	1.41_b	0.74	1.35_c	0.76	$1.25_{a,b,c}$	0.75	21.47
Chronic	$1.76_{d,e,f,g}$	0.81	$1.68_{d,e,f,g}$	0.80	$1.57_{d,e,f,g}$	0.83	$1.46_{d,e,f,g}$	0.85	45.65
Character	1.07_h	0.67	1.05_i	0.65	1.02	0.65	$0.98_{h,i}$	0.70	7.33

Note. Means in a row sharing subscripts are significantly different. Character = characterological index.

Univariate Associations between W-Task and W-Bond and the Outcome Indexes

The univariate associations between the patients' ratings of W-Task and W-Bond in Session 3 and acute, chronic and characterological symptom indexes at Baseline, Sessions 3, 12 and 20 were investigated using Pearson product-moment correlations coefficient (see Table 4). The findings show that W-Bond was negatively correlated with the three indexes at all four assessments, indicating that better quality of the bond was related, not only to better outcome in session 12 and 20, but also to lower symptom levels at Baseline and Session 3. W-Task was unrelated to all three indexes at Baseline and also to the acute index at Session 12, but negatively correlated to the indexes at the other assessments.

The findings indicate that W-Bond had somewhat higher correlations with the three outcome indexes than W-Task, and the differences were significant in 8 of 12 comparisons (Simple Interactive Statistical Analysis, 2012) – see Table 4.

Table 4

Correlations between W-Task and W-Bond and the Outcome indexes.

WAI - S	Outcome indexes - Baseline			Outcome indexes - Session 3			Outcome indexes - Session 12			Outcome indexes - Session 20		
	Acute	Chronic	Character	Acute	Chronic	Character	Acute	chronic	Character	Acute	Chronic	Character
W-Task	-.081	-.079	-.101	-.167*	-.189**	-.175**	-.116	-.167*	-.177**	-.131*	-.168*	-.208**
W-Bond	**-.208****	**-.219****	**-.199****	**-.268****	**-.308****	**-.306****	-.197[**]	**-.261****	**-.270****	-.189**	-.233**	-.263**

Note. Acute = Acute distress index, Chronic = chronic distress index, Character = Characterological index.

Bold print: correlations between outcome index and W-Bond were significantly different from correlations between outcome indexes and W-Task

p < .05. **p* < .001.

W-Task and W-Bond and Outcome: Controlling for Baseline Variations in the Three Outcome Indexes

The next research questions were whether the significant univariate associations between W-Task and W-Bond, as rated by patients in Session 3, and the three outcome indexes at Session 12 and 20 remained significant after controlling for baseline variations in the three indexes. The findings from the hierarchical multiple regression analyses indicate that after controlling for baseline variations in the Acute Distress index (enter in Block 1), W-Bond and W-Task (Block 2) were no longer significantly related to the Acute Distress index at Session 12 and 20 (see Table 5 containing beta values for the final model). However, W-Task in Session 3 was related to the Chronic Distress and Characterological indexes at both Session 12 and Session 20, even after controlling for baseline variation in the relevant outcome index. W-Bond followed the same pattern, except that the significant association between W-Bond and Chronic Distress in Session 20 disappeared after controlling for baseline variation. To summarize, W-Bond and W-Task at Session 3, does not predict acute distress at session 12 or 20 when controlling for baseline variation. Acute distress symptoms at baseline explain nearly half of the variance in acute distress symptoms, from 47.7 % to 49.2 %, at session 12 and 20. For the chronic distress and characterological indexes, alliance was still related to symptom change at session 12 and 20 when controlling for baseline variation of the indexes, with a small difference for task and bond; only W-Task predicted the chronic index at Session 20.

Table 5

Contribution of W-Task and W-Bond to outcome indexes after controlling for baseline outcome indexes.

| | Acute distress index | | Chronic distress index | | Characterological index | |
| | Session 12 | Session 20 | Session 12 | Session 20 | Session 12 | Session 20 |
Predictor	β	β	β	β	β	β
Baseline	.679**	.692**	.658**	.652**	.692**	.711**
W-Bond	-.056	-.045	-.117*	-.090	-.132*	-.121*
Baseline	.686**	.695**	.674**	.662**	.708**	.722**
W-Task	-.061	-.075	-.114*	-.115*	-.105*	-.135*

Note. Baseline = outcome index assessed before treatment. *n* varies from 228 to 239. β = standardized beta values.

* *p* < .05. ** *p* < .001.

The final test – controlling for baseline characteristics of patients and therapists

The last research questions were whether alliance would remain related to outcome after controlling for baseline characteristics of patients and therapists. That is, when W-Task and W-Bond were significantly associated with outcome indexes even after controlling for variation in baseline symptoms, multiple regression analyses were conducted to test if the alliance components remained significantly related to outcome after controlling for the baseline patients' and therapists' characteristics that were related to the specific aspect of the alliance components. In the stepwise multiple regression analysis, the baseline values of the outcome indexes were entered in Block 1. For W-Task (see Table 6), the following patient variables were entered in Block 2: Rural Background, Civil Status, Friendships; together with

the therapist variables Therapist Rural Background and Therapist Age; and Values ICC,

values similarity between patients and therapists.

The findings indicate that after controlling for baseline variation of the outcome index

and patient and therapist variables, W-Task at Session 3 was no longer associated with

outcome at neither Session 12 nor 20. Furthermore, the results show that for the Chronic

outcome index at Session 12, the total variance explained by the model was 50.0 %, $F(8, 205)$

$= 25.60, p < .001$; and at Session 20 the total model explained 48.3 % of the variance, $F(8,$

$205) = 23.95, p < .001$. For the Characterological outcome-index at Session 12, 54.1 % of the

total variance was explained, $F(8, 205) = 30.25, p < .001$, and at Session 20 the total variance

explained by the model was 58.3 %, $F(8, 205) = 35.77, p < .001$. For standardized beta values

and increased explained variance, ΔR^2, see Table 6.

Table 6

Hierarchal multiple regression analyses: Relation of W-Task and outcome at Session 12 and 20 when controlling for baseline characteristics.

Predictor	Chronic index				Characterological index			
	Session 12		Session 20		Session 12		Session 20	
	β	ΔR^2	β	ΔR^2	β	ΔR^2	β	ΔR^2
Block 1: Outcome index	.609**	.467	.602**	.451	.675**	.516	.683**	.541
Block 2:								
Rural	-.010		-.010		-.003		.025	
Civil Status	-.022		-.001		-.037		-.051	
Friends	-.142*		-.135*		-.099		-.126*	
Ther rural	-.019		-.045		.013		-.021	
Ther age	-.045		-.035		-.003		-.008	
Values ICC	-.016		-.064		-.050		-.060	
		.026		.024		.021		.035
Block 3: W-Task	-.095	.007	-.098	.008	-.069	.004	-.092	.007

Note. Block 1 = Baseline symptom variation in the column variable. *Block 2*: characteristics of patients and therapists; Rural = rural background; Friends = Psychodynamic Functioning Scale, subscale Quality of Friendships; Ther rural = Therapist rural background; Ther age =

Therapist age; Values ICC = Similarity of values between therapist and patients. *Block 3 =*

Alliance at Session 3, W-Task. β = standardized beta values.

* $p < .05$. ** $p < .001$.

In the analyses of W-Bond (Table 7), the following variables were entered in Block 2:

Patient: Rural Background, PBI Father Care, Friendships; therapist: Therapist Gender and

Therapist IIP-64-C Cold-Vindictive. In Block 3, W-Bond was entered. The findings indicate

that after controlling for baseline variation of the outcome index and patient and therapist

variables, alliance at Session 3, as rated by patients, was no longer associated with outcome at

neither Session 12 nor 20. For the chronic distress index at Session 12 the total variance

explained by the model was 50.7 %, $F(7, 206) = 30.22$, $p < .001$. For the characterological

index 54.5 % of the total variance was explained by the model at Session 12, $F(7, 206) =$

35.22, $p < .001$; and 57.6 % at Session 20, $F(7, 206) = 39.94$, $p < .001$.

Table 7

Hierarchal multiple regression analyses: Relation of W-Bond and outcome at Session 12 and 20 when controlling for baseline characteristics.

| | Chronic index | | Characterological index | | | |
| | Session 12 | | Session 12 | | Session 20 | |
Predictor	β	ΔR^2	β	ΔR^2	β	ΔR^2
Block 1: Outcome index	.580**	.467	.658**	.516	.670**	.541
Block 2:						
Rural	.010		.008		.042	
PBI FCA	-.091		-.042		-.028	
Friends	-.147*		-.098		-.126*	
Ther gender	-.053		-.042		-.051	
Ther IIP-64-C Cold	-.026		-.021		.015	
		.037		.021		.031
Block 3: W-Bond	-.063	.003	-.096	.007	-.069	.004

Note. Rural = rural background; PBI FCA = Parental Bonding Instrument, subscale Father Care; Friends = Psychodynamic Functioning Scale, subscale quality of friendships, IIP-64-C Cold = Cold-Vindictive. β = standardized beta values.

* $p < .05$. ** $p < .001$.

Baseline variation in the outcome indexes before treatment and better friendship relations according to the independent clinicians' ratings before treatment, were related to outcome in Session 12 and 20. Better baseline quality of friendships was related to lower levels of the chronic index at Session 12, and for both chronic and characterological index at

Session 20. Variation in the outcome indexes at baseline were strongly related to outcome at session 12 and 20 for both chronic and characterological indexes, meaning that the higher the symptom level pre-treatment, the higher the symptom level at Sessions 12 and 20. The total model with W-Task explained from 48.3 – 58.3 % of the total variation in the three different outcome indexes, and the total model with W-Bond included explained from 50.7 – 57.6 % of the total variance.

To summarize, after controlling for both variation in symptoms at baseline, and patients and therapists characteristics, the alliance components were no longer related to outcome. The variation in patient-reported symptoms at session 12 and 20 were explained by the level of symptoms at baseline, when the patients entered therapy. Furthermore quality of friendships as assessed by an independent rater had significant contributions to the outcome indexes.

Discussion

The goals of the present study was to investigate the dominant conceptual model of the therapeutic alliance in terms of factor-structure, and to explore the characteristics of patients and therapists related to the two components of the alliance identified in the factor analysis: W-Bond and W-Task. Finally, to investigate the predictive ability of the alliance in relation to outcome both at a univariate level and after controlling for baseline variation in symptoms and patient and therapist characteristics associated with the two components.

Factor Analysis

The theoretical work of Bordin, Luborsky and Hougaard suggest a multi-component structure of the alliance. The present findings supported a two-factor solution of the alliance. There is however a high correlation between W-Task and W-Bond, indicating that the two aspects are inter-correlated, as one would expect. Other research in this area has not produced

unanimous results, possibly due to differences in measurement. Our findings are consistent with previous research on the factor structure of the alliance as measured with the short version of the WAI (Andrusyna et al., 2001; Hersoug et al., 2001), with the exception of a study with a small sample size ($N = 32$; Salvio, Beutler, Wood, & Engle, 1992). Our results indicate that this short version of the WAI does not properly represent the three-component model proposed by Bordin (1979), since the goal and task items were represented as one factor. This indicates that for patients at Session 3, agreement on the tasks and goals of therapy are seen as highly integrated parts of the alliance. One explanation for this may be that at the beginning of therapy, these two aspects of the therapy process are easily agreed upon, but as the therapy progresses a differentiation may ensue, with perhaps a continued agreement between patient and therapist on the goals of therapy, but different ideas about how to reach them.

Research on the original version of the WAI suggested that although the three components of the WAI were inter-correlated, they were distinguishable (Horvath and Greenberg, 1989), something we did not find using the short version of the WAI by Tracey and Kokotovich (1989). This indicates that the WAI-S may not be the best way to shorten the original WAI. A new short version, called the WAI-SR (Hatcher & Gillaspy, 2006), is said to have good psychometric properties (Munder, Wilmers, Leonhart, Linster, & Barth, 2010), including a better differentiation between the goal, task and bond aspects of the WAI (Hatcher & Gillaspy, 2006). Our study may support the notion of using a new short-version of the WAI which may better differentiate between Bordin's (1979) goals, tasks and bonds.

Predictors of the Alliance

This study included a large number of predictors, partly based on previous research findings and partly based on theoretical or clinical arguments; to expand our understanding of

the possible influence of pre-therapy characteristics on the two alliance components. One of our most surprising findings was that several of the variables we expected to be related to the quality of the alliance, were in fact unrelated in the univariate analyses. These patient variables were: Age, education, occupational status, the Autonomy dimension of SASB, and one of the quadrant scales of IIP (Exploitable-Overly Nurturant). Several of the therapist variables were also unrelated to the alliance at Session 3, including those we had assumed were relevant for the therapists' interpersonal skills. These where: Civil status, three of the IIP-64-C scales (Avoidant-Nonassertive, Exploitable-Overly Nurturant, and Domineering-Intrusive), three subscales of the PBI (Mother Care, Mother Control and Father Control) and both dimensions of the SASB Introjects. Further, similarities between patient and therapist in socio-demographic variables, IIP-64-C, SASB Introjects and PBI were not related to the alliance as rated by patients in Session 3.

In our study some pre-therapy characteristics were significant predictors of both W-Task and W-Bond: Growing up in a rural area and having a better capacity for friendship as assessed by the Psychodynamic Functioning Scale. To find some common predictors was not surprising, given the high inter-correlations between the two components of the alliance; it is however interesting to see that despite this, it seems like our hypothesis regarding W-Bond was partly supported. W-Bond appears to be related to factors indicating how patients and therapists generally function in interpersonal relations. The W-Task component seems to be more related to socio-demographic variables of both patients and therapists.

W-Bond and the relationship-related variables.

The baseline predictors of the bond aspect of the alliance were, for patients: PBI Father Care, Quality of Friendships, rural background, the therapist IIP-64-C Cold-Vindictive and therapist age. The two strongest predictors of W-Bond were patients' recollection of their

early parental bond to their fathers, and independent raters' judgment of the patients' ability to form non-sexual friendships. These two, combined with the therapists' self-rated score on the Cold-Avoidant quadrant of the IIP-64-C, explained 13.6 % of the variance in W-Bond as rated by the patients in Session 3. This implies that for patients, their recollection of their father as caring in their childhood and adolescence is associated with experiencing the bond aspect of the alliance more favorably at Session 3. Interestingly we found that therapists self-ratings as cold and vindictive was a predictor of W-Bond. One should note that the therapists mean score on the Cold-Vindictive quadrant was low - only 0.6 (SD = 0.4) - which indicates that even a small tendency for therapists to have a more cold-vindictive style affects the W-Bond as rated by patients in Session 3. It is not so surprising that patients' general ability to form friendships is related to their experience of the W-Bond in Session 3, e.g. trusting the therapist and be more confident that the therapist likes and appreciates them. This underlines the notion that the quality of the therapeutic bond in many ways is a parallel to the quality of important relationships outside the therapy room. We can also see it as a demonstration of the so-called Matthew-effect: to those who have something, more shall be given, but those who have not, even what they have shall be taken away.

Previous research on the bond aspect of the alliance has reported associations to interpersonal, relationship-related variables, such as the therapist's quality of social network, and ability to develop close relations with others (Dunkle & Friedlander, 1996). For patients, Satterfield and Lyddon (1998) found clients' secure attachment to be positively related to the bond and the goal, while clients' fearful attachment was negatively related to only the bond aspect of the working alliance. Personality congruence between patients and therapist also appears to be related to the bond aspect of the alliance, but not the goal nor the task aspects (Taber et al., 2011).

In this study patients who reported having a cold, avoidant and domineering interpersonal style had lower quality of W-Task and W-Bond. Interestingly, a view of oneself as exploitable and overly nurturant in relation to others was not related to the quality of the alliance. When all the IIP-64-C quadrant-scales were added in the final model, only therapists' cold and avoidant interpersonal style was significantly related to W-Bond. Previous research on the relation between IIP-64-C and the sub-components of the alliance has shown divergent results. This may be due to the fact that the different studies have used slightly different subdivisions of the IIP and of the alliance, or assessed the alliance at different times in the therapy. This may have yielded unwarranted variability in results, making comparisons harder. Paivio and Bahr (1998) found that pretreatment total score on the IIP and SASB introjects, were significantly correlated with the early development of the bond aspect of the alliance, but not with goal or task. When using the eight IIP subscales instead of the total score, they found that Overly Cold, and Nonassertive were only related to the bond aspect, while Social Avoidant was related to both bond and goal aspects of the alliance. A study with a small sample ($N = 32$) found interpersonal problems, divided into the eight subscales of IIP, to be related to only goal and task alliance, but not bond (Muran et al., 1994). Our results, based on a larger sample, suggest that the univariate relationship between patients' interpersonal problems and the alliance are better explained by other baseline characteristics, such as quality of friendships.

Hersoug et al. (2001), in a study using the NMSPOP sample ($n = 270$), found that therapist cold interpersonal style was unrelated to patient-rated *total* alliance at Session 3. The difference may be due to the subdivision of the alliance into two factors in our study. This was also the case for therapist PBI Father Care, which we found to be significantly correlated to the bond aspect of the alliance in Session 3, while Hersoug and colleagues, using the total

WAI alliance score, did not find this association. Taken together, this indicates that using a two-component model of the alliance, may give a more differentiated picture of possible correlates.

The four patient-rated PBI subscales all had significant univariate correlations with the W-Bond. However, the only subscale included in the multiple hierarchical regression model, was patients' PBI Father Care. This indicates that patients' relationship with their father in this study was more important for relating to the therapist than patients' relationship with their mother. It may also indicate that the control dimensions in the experience of parents were of less importance. Both patients and therapists rated their fathers as less caring than their mothers: 16.6 ($SD = 9.1$) versus 21.0 ($SD = 8.6$) for patients; and 19.0 ($SD = 8.2$) versus 21.4 ($SD = 5.8$) for therapists. This may be due to a more stereotypical portrayal of the "mother figure", or that mothers are "good enough" while perhaps a larger portion of fathers are below some critical level of care. Using a smaller sample (N = 76) and only female patients, Mallinckrodt, Coble and Gantt (1995) found that the Care aspects of the PBI were not significantly correlated with neither of the WAI subscales. Mother Control (overprotection) was related to the goal aspect, while Father Control (overprotection) was related to the task and bond aspects. They also did a multiple regression analysis with the total alliance score as the dependent variable, and found that father care and overprotection/control from both parents were significant, unique predictors of client-rated alliance. More research is needed to find out how early parental bonds relates to the quality of the alliance, but so far our study may indicate that whether or not patients and therapists remember their father as caring is more important than remembering their mother as caring.

Some previous research has suggested that female therapists are preferred by both male and female patients (Bowman, Scogin, Floyd, & McKendree-Smith, 2001), and have

better outcomes compared to male therapists (Jones, 1987). This was a small effect, and the

majority of research suggests that therapists' gender is not related to outcome (Bowman et al.,

2001). Our result, that female therapists have better agreement on W-Task as rated by patients

in Session 3, is therefore surprising. Nevertheless, gender is something that has mostly been

included in investigations using the total alliance score, and may therefore have been missed

as a predictor of the subcomponents of the alliance. One study by Dunkle and Friedlander

(1996) using WAI-S included therapists' gender in a preliminary regression analysis. They

did not find a significant relation to any of the three components of the alliance, but they used

a theory-derived division of WAI-S, as opposed to using a factor-analysis to divide the

components.

The Friendships subscale of the Psychodynamic Functioning Scales was a significant

predictor of both components of the alliance, but had a stronger independent contribution to

W-Bond than to W-Task. Few studies to date have used the Psychodynamic Functioning

Scales to predict alliance, but one found high interpersonal functioning to be associated with a

stronger total alliance (Hersoug et al., 2009a). Previous research on related concepts like

object-relations have in most, but not all, cases found some association to the therapeutic

alliance (Puschner et al., 2005), usually indicating that high quality of object relations (QOR)

being associated with a stronger general alliance (Goldman & Anderson, 2007; Piper et al.,

1991). Some, but not all, research on QOR also indicates a moderating association to the

relationship between alliance and outcome: Piper, Joyce, & Ogrodniczuk (2004) found that

QOR appear to have moderating effects in interpretive but not supportive psychotherapy. The

relationship between the independent assessment of patients' friendship capacity and the W-

Bond aspect clearly indicate that some of the personal attributes facilitating the ability to form

good relationships in general also are important in the development of a better relationship to

the therapist. Furthermore, an ability to form and maintain friendships can also be an indicator of the ability to contribute to a better and more flexible collaboration, which may explain its association with W-Task.

W-Task and the socio-demographic variables.

The significant predictors of W-Task were patients' rural background, civil status, and quality of friendships; therapists' rural background and age; and value similarity between patient and therapist. Quite surprisingly, the strongest independent predictor was the size and degree of urbanity in the place where the patients and therapists grew up. For both patients and therapists, growing up in the countryside or in a fishing village was related to a higher quality of W-task as rated by patients, and these two variables combined with patients civil status and therapist age, explained 14.7 % of the variance in W-Task. One may speculate that these socio-demographic factors represent more stable aspects of patients' and therapists' view of themselves and were they belong. The subculture a person grew up in can be assumed to shape that person in many ways that may be relevant for the ability to collaborate in therapy. The values one endorses may also be considered as part of one's social and cultural background, reflecting or being shaped by the milieu where a person grew up. Having similar values may enhance cooperation and communication because it contributes to a more common frame of reference for understanding the patients' challenges and opportunities in life, and in therapy. Further, both having friendships and living with a partner/spouse can be indicators of a general ability to cooperate and make relationships work. Another unexpected finding was the association between lower therapist age and better W-Task as rated by the patients at session 3.

To summarize, our findings imply that background and socio-demographic variables can be important indicators of the patients' and therapists' potential for collaborating on the tasks and goals of therapy.

The association between alliance and rural background is difficult to explain on the basis of the present models and statistical analyses. This aspect of background factors have, as far as we know, not been included in other studies of the alliance. One might argue that it is a chance finding, but the fact that the effect of rural background is found to be quite strong for both the therapist and the patient weakens this argument. Patients' rural background was significantly related to both W-Task and W-Bond, but had a slightly larger independent contribution to W-Task than to W-Bond. Therapists' rural background was only significantly related to W-Task. Together this may indicate that rural background is more relevant for the W-Task aspect of the alliance than W-Bond.

The majority of research on patients' rural background has investigated it in relation to the prevalence of psychological disorders or to outcome of therapy, and has suggested a lower prevalence of mental illnesses in rural areas (Paykel et al., 2003). The factors assumed to be related to the lower prevalence of psychological disorders in rural areas may also affect patients' abilities to work in therapy. The two commonly cited explanatory hypotheses include that people with emotional problems are more attracted to urban areas, perhaps due to the anonymity of living in cities, and that urban life is more stressful and emotionally challenging (Paykel et al., 2003; Torgersen, Kringlen, & Cramer, 2001). The finding of higher prevalence of psychopathology in urban populations has been relatively stable, but the specifics of this effect are less clear–cut (Crowell et al., 1986; Judd et al., 2002; Kringlen et al., 2006). Kringlen, Torgersen and Cramer point to socio-economical and cultural explanations; how a community with lower crime rates, slower rate of social changes, and a

stronger focus on traditional, religious and moral values, may enhance psychological health (2006). Perhaps the social and cultural codes of rural communities are fairly straightforward, while cities are more ambiguous in nature. The association between rural background and mental illness may be of less importance in explaining the beneficial effects of the therapist's rural background. The differences in urban and rural culture and values may have effects on the therapists, which contribute to the difference in the patient-rated quality of the alliance. Perhaps then, therapists from rural areas bring something with them to therapy that therapists from the city are lacking, thus leading them to have a better agreement on the goals and tasks of therapy. To conclude, our findings indicate that rural background of the therapists and patients should be studied more intensively to see if it is related to some third variables that can contribute to the understanding of the observed relationships.

Research on civil status and the alliance is scant; one study using total alliance did not find marital status to be related to the total alliance (Gibbons et al. 2003), another found marital status to moderate the relationship between total alliance and outcome (DeBolle et al., 2010). Marital status has been related to the prevalence of psychological disorders. Married or cohabiting people are less likely to have psychological disorders like anxiety, depression and personality disorders (Rognerud, Strand, & Dalgard, 2002; Torgersen et al., 2001). Being able to live together or be married may indicate interpersonal resources that facilitate the agreement on tasks and goals in therapy. A possible explanation for our findings could therefore be that being able to live and coordinate one's life with another person may be indicative of better ability to cooperate in a therapeutic relationship.

The association between therapist age and better W-Task is difficult to understand. One possibility is that this is a Type I error, due to a high number of significance tests. A more substantial explanation of this finding may be that younger therapists are less

experienced than older therapists, and perhaps are more inclined to follow what the patient sees as goals and tasks in the beginning of therapy. Nissen-Lie, Monsen and Rønnestad (2010) found that therapist professional self-doubt was positively related to patients' experience of alliance early in therapy. They argued that therapists with more self-doubt perhaps were more humble, cautious and sensitive to the patient and more open to accept responsibility for alliance breaches. Younger therapists may experience more self-doubt, and this may facilitate collaboration on the goals and tasks of therapy. Another possibility is that younger, less experienced therapists may use more structured therapy models with explicit goals, e.g. cognitive behavioral therapy, and that these appear more easily agreed upon.

Similarity.

Similarity of values between patient and therapist was only significantly related to the task aspect, not the bond aspect, which indicates that similarity of values makes it easier for therapist and patient to agree upon what the wished end-state should be, and how they best can reach it, but is less important for the establishment of the bond.

We failed to find an association between similarities of interpersonal problems, early parental figures, and introjects on one hand, and the alliance on the other. To our knowledge, similarities of these characteristics have not been studied with the two-factor structure of the alliance before. Our result is not consonant with other research on patient and therapist similarity (Luborsky et al., 1988; Taber et al., 2011), but is consistent with Hersoug et al. (2001) who did not find patient-therapist similarity of IIP-64-C, SASB Introjects, and PBI to be related to the total alliance score. Taber et al. (2011) used the new WAI-SR to investigate the effect of personality congruence between patients and therapists, and found personality congruence to be related to the bond aspect, but not to task or goal. This may imply that similarity of personality is more important for the development of the bond aspect than

similarity of interpersonal problems, how one perceives ones early relation to parents, or how patients or therapists acts towards the self. Further research using the new WAI-SR is needed before firm conclusions can be drawn.

We looked at the similarity of patients and therapists on measures such as the IIP-64-C. Another approach could have been to look at the complementarity of patients and therapist, which could have resulted in a different outcome (see Horvath & Bedi, 2002). Our results on the Luborsky similarity index differed from those of Luborsky et al. (1988). We found no association between similarities in socio-demographic variables and the quality of the alliance. Our results may have changed if had we analyzed similarity on each variable-pair separately. However, studies that have done this on some of the relevant variables have also failed to replicate Luborsky's results (Zlotnick, Elkin, & Shea, 1998). Another important issue when considering similarity in socio-demographic factors is that Norway is generally less diverse than the United States, which may result in less variation in the similarity-dissimilarity between therapist and patient, and therefore no effect on the alliance.

Personality disorder.

In the hierarchical multiple regression analyses baseline sum of criteria on SCID Axis II; personality disorder, did not contribute to the explained variance in neither W-Task nor W-Bond. It can be argued that comorbid personality disorder (PD) makes it more difficult to establish an alliance with the patient, and can contribute to worse outcomes in psychotherapy. In our study personality disorder was correlated with the alliance component W-Bond in the univariate analyses, but failed to reach statistical significance in the hierarchical regression model. This may be due to the fact that PD was entered in the block *after* the block comprising interpersonal functioning, such as IIP-64-C and Psychodynamic Functioning Scales. These were, as explained in the method section, placed before the PD block because

we believe the quality of interpersonal functioning is an important premise for fulfilling the criteria of different PDs, not the other way around. These interpersonal predictors may then have explained the same variance components in the alliance scale that PD could have explained.

Alliance and Intermediate Outcome

The alliance predicted outcome over and above baseline symptoms for chronic and characterological indexes at Sessions 12 and 20. However, the main finding was that when baseline patient and therapist predictors of the alliance were included in the model, the relationship between alliance and outcome was better explained by the patients' baseline quality of friendships.

W-Task was unrelated to all three outcome indexes at Baseline, while the bond aspect of the alliance was correlated at Baseline, Session 3, 12 and 20. The differences between bond and task in relation to the three outcome-indexes seem to disappear at Session 20, indicating that for patients in Session 3, there is a differential relationship for task and bond, where bond is stronger related to outcome-indexes than the task aspect up until Session 20, where W-Task and W-Bond are equally related to the outcome-indexes. This partly supports Luborsky's (1976) assumption of the timelines of the Type I (bond) and Type II (collaboration) alliance, in that collaboration towards, and agreement on goals, is more important later in therapy.

The present results do not support our hypotheses concerning the three different patterns of improvement or symptom reduction. Based on the research by Kopta et al. (1994) we assumed that acute symptoms would be the first to decrease, followed by chronic symptoms, and eventually characterological symptoms. Our results showed that the significant change in acute symptoms occurred later than assumed - at Session 20, while chronic symptoms had a significant reduction at Session 3. This indicates that Kopta et al.'s

division of symptoms does not reflect how symptoms change in our sample. One explanation is that our sample comprised many patients with co-morbid personality disorders – about half the sample, while Kopta and colleagues had patients with primarily depression or anxiety, with only a smaller portion of the sample having personality disorders. Thus, their sample may have been more characterized by acute distress symptoms than our sample, and this can explain why acute distress showed later improvement in our sample. In this study we also included only those patients that had 20 sessions of therapy or more, which may have contributed to the different response-pattern in terms of the acute distress outcome index. Patients who recovered in less than 20 sessions may have been characterized by more acute distress problems, and less of chronic/characterological problems. Thus, using only patients with at least 20 Sessions we may have obscured the early changes of the acute distress index. A last possible explanation may be that the division into acute, chronic and characterological symptoms is inappropriate. As this is only the second study using this division of the SCL-90-R, more research is needed.

We assumed an association between acute symptoms and the bond aspect of the alliance showing that the most important part of the alliance for this state was the bond, in line with Frank's model for demoralization. Due to the surprising results regarding the acute distress index, little can be said about the timeline of Frank's theory regarding demoralization in relation to our results.

Control for baseline variation in the outcome indexes.

We found partly support for our hypothesis that the alliance should predict symptom-outcome even after adjusting for baseline variation in symptoms. For acute distress, baseline variation in the index was the only significant predictor of outcome in Session 12 and 20, with no significant increase in explained variance by adding the alliance components. For the

chronic distress and characterological outcome indexes, alliance was still related to outcome at Session 12 and 20 after controlling for baseline variation of the indexes, however: only W-Task predicted the chronic outcome index at Session 20.

Controlling for baseline symptoms has in some previous studies removed the association between the alliance and outcome. In our study the predictive ability of the alliance components was different depending on the outcome indexes. This may shed some light on the diversity of the reported findings from prior research on the association between alliance and outcome when controlling for initial symptom level. Perhaps some of the studies that previously have failed to find an association between alliance and outcome when controlling for baseline variation in symptoms had patients experiencing acute distress, while studies who found an effect, included patients with more chronic or characterological symptoms. That is, type of symptom outcome may be an important moderator of the relationship between alliance and outcome To investigate this, differentiated outcome measures are needed, but most studies have used global outcome measures, and it is therefore not possible to know whether or not this has been the case (for example Puschner, Wolf and Kraft, 2009).

Webb et al. (2011) found that the task aspect of the WAI predicted subsequent change in depression symptoms, but not the bond aspect. The different results obtained in our study may be due to several differences to Webb et al.'s study. They studied cognitive therapy with depressive patients, and measured change in depressive symptoms. Furthermore, they used the WAI observer version, while we used patient-rated WAI. Our findings may indicate that when patients with a greater diversity of symptoms are treated by primarily psychodynamic therapists, the relationship aspect of the WAI may be more important for outcome than in

cognitive therapy for depression. More research is however needed on the components of the alliance before any conclusions can be drawn.

Alliance-outcome – final test.

Contrary to our hypotheses, we did not find that the alliance predicted outcome when controlling for baseline characteristics of patients and therapists. This may indicate that the association between alliance and outcome was better explained by characteristics of patients and therapists prior to therapy, than by some independent quality of the alliance. The only two significant predictors of chronic symptoms at Sessions 12 and 20, and characterological symptoms at Sessions 20, were baseline variation of symptoms before entering therapy, and the independent raters' assessment of the patients' ability to form friendships. This could mean that there is an important overlap between the two constructs, and that alliance is not different from patients' pre-treatment ability to form friendships. In this way, WAI-S patient-rated in Session 3 can be understood as a proxy-indicator of patients' general ability to form friendships.

As far as we know, no other studies have included these predictors as controls. One study that also controlled for prior improvement and some similar baseline patient characteristics, found that the alliance remained predictive of outcome (Klein et al., 2003). Differences between Klein et al.'s study and ours may explain the discrepancy of findings: Klein et al. also used interviewer-rated social functioning to assess the relationships to significant others, but not the same measure as in our study. Their sample also had a large number of patients ($N = 455$), but included only patients with a depression diagnosis. This may suggest that the difference in results is due to different measurements and different diagnostic groups. The predominant diagnoses in our sample are anxiety-related, followed by depression. Different results may have been obtained had we split into two different groups

based on the predominate symptom-complaints anxiety and depression. Another reason for the different results may be that they used the total alliance score, while we used a factor-derived two-component solution.

Limitations and Strengths

NMSPOP is a naturalistic study, and some general limitations should be addressed. It comprise a heterogeneous sample of patients, where treatment was not manualized, thus there were no control for therapists' interventions in sessions. In this study a large proportion of the patients experienced comorbidity, which, combined with other aspects, contribute to a possibility of increased generalizability of the findings to clinical practice. A naturalistic design can give valuable information, but extra caution should be taken when drawing firm conclusions regarding cause-and-effect relationships (Nissen-Lie et al., 2010). Furthermore we have included several patient and therapist predictors, which meant that we conducted a large amount of univariate analyses with multiple comparisons, which may have increased the risk of making a Type I error; including chance/random findings as real findings. The inclusion of several third variables gives a stronger possibility for closing in on the relevant variables, unlike many previous studies where fewer relevant third-variables have been taken into account.

In line with other research, the present correlations between alliance and outcome were from small to medium: .08 to .31. This can be due to the alliance ratings normally being skewed, that is, ratings of the alliance tend to be in the high end of the scale (Tryon, Blackwell, & Hammel, 2008). This is evident in our sample, were the mean scores on W-Task and W-Bond are 5.1 and 4.9, respectively. With a normal distribution of scores, the mean should be around 3.5. This, combined with the relatively small effect-size, has led some researchers to argue that the alliance should be viewed as a threshold-phenomenon. That is,

there is little point in looking at small differences in alliance-ratings and expect a large impact on the outcome. Clients often have initially high alliance scores; the alliance is not something that develops over time, therefore research may be better off looking at the patients at the low end of the scale (showing resistance to therapy) and try to predict the process and outcome of therapy with these patient-groups (S. Shirk, personal communication, March 8, 2012).

Most methods used in this study had very good psychometric qualities. One should however note that the SASB Introjects subscales had very low alpha levels, and caution should be taken in the evaluation of the findings related to SASB.

This study included only one measure of the alliance, and only from the patients' perspective. All conclusions about the alliance are therefore limited to the WAI-S patient-rated version.

This study has a large sample size, approximately 3-4 times larger than most other studies. When assuming an effect size of r = .20, there is more than a 90 % probability of detecting this effect, if present on the population (Cohen, 1988). According to the main guidelines in research, the study should have 10 to 15 participants per predictor for reliable multivariate analyses (Cohen, 1988). The variables are approximately normally distributed, and according to Cohen and Cohen (1975) this would indicate that with 240 participants we could have from 16 to 24 variables. We included 23 variables in our study, which is within the recommended range.

This study included more information about therapists than other studies include. The proportion of missing data was small, strengthening the results obtained. We had independent clinicians' ratings on two measures; the diagnostic evaluation (personality disorders), and the dynamic scales (PFS), giving increased credibility of these two measures' associations with the alliance, and for the association between the independent raters' judgment of the patients

quality of friendships, with patient-rated outcome. We used the subscales of the IIP-64-C, PBI, and PFS, which some researchers have argued is important. For instance when studying phenomenon like interpersonal problems. When researchers use the total score of the instruments they assume that all interpersonal problems have the same effect on the alliance (Muran et al., 1994), different from this, and other studies finding differential influences from the different subscales.

Recommendations for future research

This study, along with the majority of studies on the alliance, has investigated the contribution of the alliance to outcome. We did not find support for the common assumption that the alliance has a direct effect on outcome. The quality of friendship among patients, however, was a significant predictor of the outcome indexes, likely explaining the same variance that the alliance otherwise would have explained. This may indicate that therapists should investigate the patients' ability to form and maintain relationships prior to therapy. Several theoretical models, however, including Bordin's, assumed that the alliance is necessary, but not sufficient in providing a good outcome. Future research should attempt to address the issue of whether the alliance is a prerequisite for other ingredients, for example techniques, that is whether the alliance moderates the relationship between specific ingredients and outcome.

References

Ackerman, S. J., & Hilsenroth, M. J. (2001). A review of therapist characteristics and techniques negatively impacting the therapeutic alliance. *Psychotherapy: Theory, Research, Practice, Training, 38*, 171-185. doi:10.1037/0033-3204.38.2.171

Ackerman, S. J., & Hilsenroth, M. J. (2003). A review of therapist characteristics and techniques positively impacting the therapeutic alliance. *Clinical Psychology Review, 23*, 1-33. doi:10.1016/S0272-7358(02)00146-0

Alden, L., Wiggins, J. S., & Pincus, A. L. (1990). Construction of circumplex scales for the Inventory of Interpersonal Problems. *Journal of Personality Assessment, 55*, 521-536. doi:d10.1080/00223891.1990.9674088

American Psychiatric Association. (1994). *Diagnostic and statistical manual of mental disorders* (4th ed.). Washington, DC: Author.

Andrusyna, T. P., Tang, T. Z., DeRubeis, R. J., & Luborsky, L. (2001). The factor structure of the Working Alliance Inventory in cognitive-behavioral therapy. *Journal of Psychotherapy Practice and Research, 10*, 173-178. Retrieved from http://www.ncbi.nlm.nih.gov/pubmed/11402080

Anker, M. G., Owen, J., Duncan, B. L., & Sparks, J. A. (2010). The alliance in couple therapy: Partner influence, early change, and alliance patterns in a naturalistic sample. *Journal of Consulting and Clinical Psychology, 78*, 635-645. doi:10.1037/a0020051

Barber, J. P., Connolly, M. B., Crits-Cristoph, P., Gladis, L., & Siqueland, L. (2000). Alliance predicts patients outcome beyond in-treatment change in symptoms. *Journal of Consulting and Clinical Psychology, 68*, 1027-1032. doi:10.1037//0022-006X.68.6.1027

Barber, J. P., Luborsky, L., Crits-Christoph, P., Thase, M. E., Weiss, R., Frank, A., . . .

      Gallop, R. (1999). Therapeutic alliance as a predictor of outcome in treatment of

      cocaine dependence. *Psychotherapy Research, 9*, 54-73. doi:10.1093/ptr/9.1.54

Beck, A. T., Ward, C., Mendelsen, M., Mock, J., & Erbaugh, J. (1961). An inventory for

      measuring depression. *Archives of General Psychiatry, 4*, 561-571. Retrieved from

      http://archpsyc.ama-assn.org/cgi/content/summary/4/6/561

Benjamin, L. S. (1974). Structural analysis of social behavior. *Psychological Review, 81*, 392-

      425. doi:10.1037/h0037024

Beutler, L. E., Castonguay, L. G., & Follette, W. C. (2006). Therapeutic factors in dysphoric

      disorders. *Journal of Clinical Psychology, 62*, 639-647. doi:10.1002/jclp.20260

Beutler, L. E., Malik, M., Alimohamed, S., Harwood, T. M., Talebi, H., Noble, S., & Wong,

      E. (2004). Therapist variables. In M. J. Lambert (Ed.), *Bergin and Garfields handbook*

      of psychotherapy and behavior change (pp. 227-307). New York, NY: John Wiley &

      Sons.

Bordin, E. S. (1979). The generalizability of the psychoanalytic concept of the working

      alliance. *Psychotherapy: Theory, Research & Practice, 16*, 252-260.

      doi:10.1037/h0085885

Bordin, E. S. (1994). Theory and research on the therapeutic working alliance: New

      directions. In A. O. Horvath & L. S. Greenberg (Eds.), *The working alliance: Theory,*

      research, and practice (pp. 13-37). New York, NY: Wiley.

Bowlby, J. (1977a). The making and breaking of affectional bonds. I. Aetiology and

      psychopathology in the light of attachment theory. An expanded version of the Fiftieth

      Maudsley Lecture, delivered before the Royal College of Psychiatrists, 19 November

      1976. *The British Journal of Psychiatry, 130*, 201-210. doi:10.1192/bjp.130.3.201

Bowlby, J. (1977b). The making and breaking of affectional bonds. II. Some principles of psychotherapy. The fiftieth Maudsley Lecture. *The British Journal of Psychiatry, 130*, 421-431. doi:10.1192/bjp.130.5.421

Bowman, D., Scogin, F., Floyd, M., & McKendree-Smith, N. (2001). Psychotherapy length of stay and outcome: A meta-analysis of the effect of therapist sex. *Psychotherapy: Theory, Research, Practice, Training, 38*, 142-148. doi:10.1037/0033-3204.38.2.142

Cabral, R. R., & Smith, T. B. (2011). Racial/ethnic matching of clients and therapists in mental health services: A meta-analytic review of preferences, perceptions, and outcomes. *Journal of Counseling Psychology, 58*, 537-554. doi:10.1037/a0025266

Castonguay, L. G., Constantino, M. J., & Holtforth, M. G. (2006). The working alliance: Where are we and where should we go? *Psychotherapy: Theory, Research, Practice, Training, 43*, 271-279. doi:10.1037/0033-3204.43.3.271

Clarkin, J. F., & Levy, K. N. (2004). The influence of client variables on psychotherapy. In M. J. Lambert (Ed.), *Bergin and Garfield's handbook of psychotherapy and behavior change* (pp. 194-226). New York, NY: John Wiley & Sons.

Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd ed.). Hillsdale, NJ: Lawrence Erlbaum Assosiates.

Cohen, J., & Cohen, P. (1975). *Applied multiple regression/correlational analisys for the behavioural sciences*. Hillsdale, NJ: Lawrence Erlbaum Assosiates.

Constantino, M. J., Arnow, B. A., Blasey, C., & Agras, W. S. (2005). The association between patient characteristics and the therapeutic alliance in cognitive-behavioral and interpersonal therapy for bulimia nervosa. *Journal of Consulting and Clinical Psychology, 73*, 203-211. doi:10.1037/0022-006x.73.2.203

Crits-Christoph, P., Gibbons, M. B. C., & Hearon, B. (2006). Does the alliance cause good outcome? Recommendations for future research on the alliance. *Psychotherapy: Theory, Research, Practice, Training, 43*, 280-285. doi:10.1037/0033-3204.43.3.280

Crowell, B. A., George, L. K., Blazer, D., & Landerman, R. (1986). Psychosocial risk-factors and urban rural differences in the prevalence of major depression. *British Journal of Psychiatry, 149*, 307-314. doi:10.1192/bjp.149.3.307

Daniel, S. I. (2006). Adult attachment patterns and individual psychotherapy: A review. *Clinical Psychology Review, 26*, 968-984. doi:10.1016/j.cpr.2006.02.001

De Bolle, M., Johnson, J. G., & De Fruyt, F. (2010). Patient and clinician perceptions of therapeutic alliance as predictors of improvement in depression. *Psychotherapy and Psychosomatics, 79*, 378-385. doi:10.1159/000320895

Derogatis, L. R. (1994). *SCL-90-R Symptom Checklist-90-R: Administration, scoring, and procedures manual*. Minneapolis: Pearson.

Derogatis, L. R., Rickels, K., & Rock, A. F. (1976). The SCL-90 and the MMPI: A step in the validation of a new self-report scale. *The British Journal of Psychiatry, 128*, 280-289. doi:10.1192/bjp.128.3.280

DeRubeis, R. J., & Feeley, M. (1990). Determinants of change in cognitive therapy for depression. *Cognitive Therapy and Research, 14*, 469-482. doi:10.1007/bf01172968

Diguer, L., Barber, J. P., & Luborsky, L. (1993). Three concomitants: Personality disorders, psychiatric severity, and outcome of dynamic psychotherapy of major depression. *The American Journal of Psychiatry, 150*, 1246-1248. Retrieved from http://search.proquest.com.pva.uib.no/docview/220489430?accountid=8579

Dunkle, J. H., & Friedlander, M. L. (1996). Contribution of therapist experience and personal characteristics to the working alliance. *Journal of Counseling Psychology, 43*, 456-460. doi:10.1037/0022-0167.43.4.456

Elliott, R., Fox, C. M., Beltyukova, S. A., Stone, G. E., Gunderson, J., & Zhang, X. (2006). Deconstructing therapy outcome measurement with rasch analysis of a measure of general clinical distress: The Symptom Checklist-90-Revised. *Psychological Assessment, 18*, 359-372. doi:10.1037/1040-3590.18.4.359

Elvins, R., & Green, J. (2008). The conceptualization and measurement of therapeutic alliance: An empirical review. *Clinical Psychology Review, 28*, 1167-1187. doi:10.1016/j.cpr.2008.04.002

Feeley, M., DeRubeis, R. J., & Gelfand, L. A. (1999). The temporal relation of adherence and alliance to symptom change in cognitive therapy for depression. *Journal of Consulting and Clinical Psychology, 67*, 578-582. doi:10.1037/0022-006x.67.4.578

Festinger, L. (1954). A theory of social comparison processes. *Human Relations, 7*, 117-140. doi:10.1177/001872675400700202

First, M. B., Spitzer, R. L., Gibbon, M., Williams, J. B. W., & Benjamin, L. S. (1994). *Structured clinical interview for the DSM-IV axis II personality disorders*. New York, NY: New York State Psychiatric institute.

Forskningsråd, N. (2007). Multisenterprosjekt for studier av prosess og utfall i psykoterapi. *Prosjektarkiv*. Retrieved 25.09, 2011, from http://www.forskningsradet.no/servlet/Satellite?c=Prosjekt&cid=1193731518537&pagename=ForskningsradetNorsk/Hovedsidemal&p=1181730334233

Frank, J. D. (1973). *Persuasion and healing* (Revised ed.). Baltimore, MD: Johns Hopkins University Press.

Gaston, L., Marmar, C., Gallagher, D., & Thompson, L. (1991). Alliance prediction of outcome beyond in-treatment symptomatic change as psychotherapy processes. *Psychotherapy Research, 1*, 104-112. doi:10.1080/10503309112331335531

Goldman, G. A., & Anderson, T. (2007). Quality of object relations and security of attachment as predictors of early therapeutic alliance. *Journal of Counseling Psychology, 54*, 111-117. doi:10.1037/0022-0167.54.2.111

Greenson, R. R. (1990). The working alliance and the transference neurosis. In A. H. Esman (Ed.), *Essential papers on transference* (pp. 150-171). New York, NY: University press.

Greenson, R. R. (1973). *The technique and practice of psychoanalysis* (Vol. I). London: The Hogarth Press.

Guédeney, N., Fermanian, J., Curt, F., & Bifulco, A. (2005). Testing the Working Alliance Inventory (WAI) in a French primary care setting. *Social Psychiatry and Psychiatric Epidemiology, 40*, 844-852. doi:10.1007/s00127-005-0972-4

Hartmann, A., Orlinsky, D., Weber, S., Sandholz, A., & Zeeck, A. (2010). Session and intersession experience related to treatment outcome in bulimia nervosa. *Psychotherapy: Theory, Research, Practice, Training, 47*, 355-370. doi:10.1037/a0021166

Hatcher, R. L. (2010). Alliance theory and measurement. In J. Christopher Muran & J. P. Barber (Eds.), *The therapeutic alliance* (pp. 7-28). New York, NY: The Guildford Press.

Hatcher, R. L., & Barends, A. W. (1996). Patients' view of the alliance in psychotherapy: Exploratory factor analysis of three alliance measures. *Journal of Consulting and Clinical Psychology, 64*, 1326-1336. doi:10.1037/0022-006x.64.6.1326

Hatcher, R. L., & Gillaspy, J. A. (2006). Development and validation of a revised short version of the working alliance inventory. *Psychotherapy Research, 16*, 12-25. doi:10.1080/10503300500352500

Havik, O. E., Monsen, J. T., Høglend, P., Von der Lippe, A. L., Lyngstad, G., Stiles, T., & Svartberg, M. (1995). *Norwegian multicite study of process and outcome in psychotherapy (NMSPOP).*(Research protocol available from Odd E. Havik, Department of Clinical Psychology, University of Bergen, Christiesgt. 12, 5051 Bergen, Norway).

Hersoug, A. G. (2004). Assessment of therapists' and patients' personality: Relationship to therapeutic technique and outcome in brief dynamic psychotherapy. *Journal of Personality Assessment, 83*, 191-200. doi:10.1207/s15327752jpa8303_03

Hersoug, A. G., Høglend, P., Havik, O. E., von der Lippe, A., & Monsen, J. T. (2009a). Pretreatment patient characteristics related to the level and development of working alliance in long-term psychotherapy. *Psychotherapy Research: Journal of the Society for Psychotherapy Research, 19*, 172-180. doi:10.1080/10503300802657374

Hersoug, A. G., Høglend, P., Havik, O. E., von der Lippe, A., & Monsen, J. T. (2009b). Therapist characteristics influencing the quality of alliance in long-term psychotherapy. *Clinical Psychology & Psychotherapy, 16*, 100-110. doi:10.1002/cpp.605

Hersoug, A. G., Høglend, P., Monsen, J. T., & Havik, O. E. (2001). Quality of working alliance in psychotherapy: Therapist variables and patient/therapist similarity as predictors. *Journal of Psychotherapy Practice and Research, 10*, 205-216. Retrieved from http://www.ncbi.nlm.nih.gov/pubmed/11696646

Horowitz, L. M., Rosenberg, S. E., Baer, B. A., Ureño, G., & Villaseñor, V. S. (1988).

    Inventory of interpersonal problems: Psychometric properties and clinical

    applications. *Journal of Consulting and Clinical Psychology, 56*, 885-892.

    doi:10.1037/0022-006x.56.6.885

Horvath, A. O. (1994). Research on the alliance. In A. O. Horvath & L. S. Greenberg (Eds.),

    The working alliance: Theory, research, and practice (pp. 259-286). New York: John

    Wiley & Sons, Inc.

Horvath, A. O., & Bedi, R. P. (2002). The alliance. In J. C. Norcross (Ed.), *Psychotherapy*

    relationships that work: Therapist contributions and responsiveness to patients. (pp.

    37-69). New York, NY: Oxford University Press.

Horvath, A. O., Del Re, A. C., Fluckiger, C., & Symonds, D. (2011). Alliance in individual

    psychotherapy. *Psychotherapy, 48*, 9-16. doi:10.1037/a0022186

Horvath, A. O., & Greenberg, L. S. (1989). Development and validation of the Working

    Alliance Inventory. *Journal of Counseling Psychology, 36*, 223-233.

    doi:10.1037/0022-0167.36.2.223

Horvath, A. O., & Symonds, B. D. (1991). Relation between working alliance and outcome in

    psychotherapy: A meta-analysis. *Journal of Counseling Psychology, 38*, 139-149.

    doi:10.1037/0022-0167.38.2.139

Hougaard, E. (1994). The therapeutic alliance–A conceptual analysis. *Scandinavian Journal*

    of Psychology, 35, 67-85. doi:10.1111/j.1467-9450.1994.tb00934.x

Høglend, P., Bøgwald, K.-P., Amlo, S., Heyerdahl, O., Sørbye, Ø., Marble, A., . . . Bentsen,

    H. (2000). Assessment of change in dynamic psychotherapy. *Journal of*

    Psychotherapy Practice & Research, 9(4), 190-199. Retrieved from

    http://www.ncbi.nlm.nih.gov/pubmed/11069131

Judd, F. K., Jackson, H. J., Komiti, A., Murray, G., Hodgins, G., & Fraser, C. (2002). High prevalence disorders in urban and rural communities. *Australian and New Zealand Journal of Psychiatry, 36*, 104-113. doi:10.1046/j.1440-1614.2002.00986.x

Kivlighan, D. M., Jr., Patton, M. J., & Foote, D. (1998). Moderating effects of client attachment on the counselor experience–working alliance relationship. *Journal of Counseling Psychology, 45*, 274-278. doi:10.1037/0022-0167.45.3.274

Kivlighan Jr, D. M., & Shaughnessy, P. (2000). Patterns of working alliance development: A typology of client's working alliance ratings. *Journal of Counseling Psychology, 47*, 362-371. doi: 10.1037/0022-0167.47.3.362.

Klein, D. N., Schwartz, J. E., Santiago, N. J., Vivian, D., Vocisano, C., Castonguay, L. G., . . . Keller, M. B. (2003). Therapeutic alliance in depression treatment: Controlling for prior change and patient characteristics. *Journal of Consulting and Clinical Psychology, 71*, 997-1006. doi:10.1037/0022-006X.71.6.997

Kopta, S. M., Howard, K. I., Lowry, J. L., & Beutler, L. E. (1994). Patterns of symptomatic recovery in psychotherapy. *Journal of Consulting and Clinical Psychology, 62*, 1009-1016. doi:10.1037/0022-006x.62.5.1009

Kringlen, E., Torgersen, S., & Cramer, V. (2006). Mental illness in a rural area - A Norwegian psychiatric epidemiological study. *Social Psychiatry and Psychiatric Epidemiology, 41*, 713-719. doi:10.1007/S00127-006-0080-0

Luborsky, L. (1976). Helping alliances in psychotherapy. In J. L. Claghorn (Ed.), *Successful psychotherapy* (pp. 92-116). New York, NY: Brunner/Mazel.

Luborsky, L., Crits-Christoph, P., Mintz, J., & Auerbach, A. (1988). *Who will benefit from psychotherapy?: Predicting therapeutic outcomes*. New York: Basic Books.

Luborsky, L., Singer, B., & Luborsky, L. (1975). Comparative Studies of Psychotherapies: Is it true that "Everyone has won and all must have prizes"? *Archives of General Psychiatry, 32*, 995-1008. Retrieved from http://archpsyc.ama-assn.org/cgi/content/abstract/32/8/995

Mackinnon, S. P., Jordan, C. H., & Wilson, A. E. (2011). Birds of a feather sit together: Physical similarity predicts seating choice. *Personality and Social Psychology Bulletin, 37*, 879-892. doi:10.1177/0146167211402094

Mallinckrodt, B., Coble, H. M., & Gantt, D. L. (1995). Working alliance, attachment memories, and social competencies of women in brief therapy. *Journal of Counseling Psychology, 42*, 79-84. doi: 10.1037/0022-0167.42.1.79

Marmar, C. R., Weiss, D. S., & Gaston, L. (1989). Toward the validation of the California Therapeutic Alliance Rating System. *Psychological Assessment: A Journal of Consulting and Clinical Psychology, 1*, 46-52. doi:10.1037/1040-3590.1.1.46

Martin, D. J., Garske, J. P., & Davis, M. K. (2000). Relation of the therapeutic alliance with outcome and other variables: A meta-analytic review. *Journal of Consulting and Clinical Psychology, 68*, 438-450. doi:10.1037/0022-006x.68.3.438

McPherson, M., Smith-Lovin, L., & Cook, J. M. (2001). Birds of a feather: Homophily in social networks. *Annual Review of Sociology, 27*, 415-444. Retrieved from http://www.jstor.org/stable/2678628

Munder, T., Wilmers, F., Leonhart, R., Linster, H. W., & Barth, J. (2010). Working Alliance Inventory-Short Revised (WAI-SR): Psychometric properties in outpatients and inpatients. *Clinical Psychology & Psychotherapy, 17*, 231-239. doi:10.1002/cpp.658

Muran, J. C., Segal, Z. V., Samstag, L. W., & Crawford, C. E. (1994). Patient pretreatment interpersonal problems and therapeutic alliance in short-term cognitive therapy.

Journal of Consulting and Clinical Psychology, 62, 185-190. doi:10.1037/0022-006x.62.1.185

Myers, D. G. (2004). *Exploring Social Psychology* (3rd ed.). New York, NY: Mc Graw Hill.

Nissen-Lie, H. A., Monsen, J. T., & Rønnestad, M. H. (2010). Therapist predictors of early patient-rated working alliance: A multilevel approach. *Psychotherapy Research*, *20*, 627-646. doi**:**10.1080/10503307.2010.497633

Paivio, S., & Bahr, L. (1998). Interpersonal problems, working alliance, and outcome in short-term experiential therapy. *Psychotherapy Research, 8*, 392-407. doi:10.1080/10503309812331332487

Pallant, J. (2010). *SPSS survival manual: A step by step guide to data analysis using the SPSS program 4th edition*. England: McGraw Hill.

Parker, G., Tupling, H., & Brown, L. B. (1979). A parental bonding instrument. *British Journal of Medical Psychology, 52*, 1-10. doi:10.1111/j.2044-8341.1979.tb02487.x

Paykel, E. S., Abbot, R., Jenkins, R., Brugha, T. S., & Meltzer, H. (2003). Urban–rural mental health differences in Great Britain: Findings from the National Morbidity Survey. *International Review of Psychiatry, 15*, 97-107. doi:10.1080/0954026021000046001

Pincus, A. L., Newes, S. L., Dickinson, K. A., & Ruiz, M. A. (1998). A comparison of three indexes to assess the dimensions of Structural Analysis of Social Behavior. *Journal of Personality Assessment, 70*, 145-170. doi:10.1207/s15327752jpa7001_10

Piper , W. E., Azim, H. F. A., McCallum, M., & Joyce, A. S. (1991). The University of Alberta Psychotherapy Reaserch Center. In L. E. Beutler, & M. Crago (Eds.), *Psychotherapy research: An international review of programmatic studies.* (pp. 82-89). doi:10.1037/10092-009

Piper, W. E., Ogrodniczuk, J. S., & Joyce, A., S. (2004). Quality of object relations as moderator of the relationship between patterns of alliance and outcome in short-term individual psychtherapy. *Journal of Personality Assesment, 83*, 345-356. doi:10.1207/s15327752jpa8303_15

Propst, L. R. (1980). The comparative efficacy of religious and nonreligious imagery for the treatment of mild depression in religious individuals. *Cognitive Therapy and Research, 4*, 167-178. doi:10.1007/BF01173648

Propst, L. R., Ostrom, R., Watkins, P., Dean, T., & Mashburn, D. (1992). Comparative efficacy of religious and nonreligious cognitive-behavioral therapy for the treatment of clinical depression in religious individuals. *Journal of Consulting and Clinical Psychology, 60*, 94-103. doi:10.1037/0022-006X.60.1.94

Puschner, B., Bauer, S., Horowitz, L. M., & Kordy, H. (2005). The relationship between interpersonal problems and the helping alliance. *Journal of Clinical Psychology, 61*, 415-429. doi:10.1002/jclp.20050

Puschner, B., Wolf, M., & Kraft, S. (2008). Helping alliance and outcome in psychotherapy: What predicts what in routine outpatient treatment? *Psychotherapy Research, 18*, 167-178. doi:10.1080/10503300701367984

Rogers, C. R. (1957). The necessary and sufficient conditions of therapeutic personality change. *Journal of Consulting Psychology, 21*, 95-103. doi:10.1037/h0045357

Rognerud, M., Strand, B. H., & Dalgard, O. S. (2002). Psykisk helse i Helse- og levekårsundersøkelsen i 1998 I. Sosioøkonomiske forskjeller i psykisk helse og livsstil. *Norsk Epidemologi, 12*, 239-248. Retrieved from http://www.ntnu.no/ojs/index.php/norepid/article/view/372

Rokeach, M. (1973). *The Nature of Human Valeus*. New York, NY: The Free Press.

Romans, S., Cohen, M., & Forte, T. (2010). Rates of depression and anxiety in urban and

    rural Canada. *Social Psychiatry and Psychiatric Epidemiology, 46*, 567-575.

    doi:10.1007/S00127-010-0222-2

Rosenzweig, S. (1936). Some implicit common factors in diverse methods of psychotherapy.

    American Journal of Orthopsychiatry, 6, 412-415. doi:10.1111/j.1939-

    0025.1936.tb05248.x

Ryum, T., Stiles, T. C., & Vogell, P. A. (2009). Kvaliteten på tidlig terapeutisk allianse som

    prediktor for behandlingseffekt ved depresjon og angst. *Tidsskrift for Norsk

    Psykologforening, 46*, 651-657. Retrieved from

    http://www.psykologtidsskriftet.no/index.php?seks_id=83380&a=2

Salvio, M.-A., Beutler, L., Wood, J., & Engle, D. (1992). The Strength of the Therapeutic

    Alliance in Three Treatments for Depression. *Psychotherapy Research, 2*, 31-36.

    doi:10.1080/10503309212331333578

Satterfield, W. A., & Lyddon, W. J. (1998). Client attachment and the working alliance.

    Counselling Psychology Quarterly, 11, 407-415. doi:10.1080/09515079808254071

Simple Interactive Statistical Analysis. (2012). Correlations [computer program]. Retrieved

    from http://www.quantitativeskills.com/sisa/statistics/corrhlp.htm

Smith, A. E., Msetfi, R. M., & Golding, L. (2010). Client self rated adult attachment patterns

    and the therapeutic alliance: A systematic review. *Clinical Psychology Review, 30*,

    326-337. doi:10.1016/j.cpr.2009.12.007

Smith, M. L., & Glass, G. V. (1977). Meta-analysis of psychotherapy outcome studies.

    American Psychologist, 32, 752-760. doi:10.1037/0003-066X.32.9.752

Stiles, W. B., Glick, M. J., Osatuke, K., Hardy, G. E., Shapiro, D. A., Agnew-Davies, R., . . .

    Barkham, M. (2004). Patterns of Alliance Development and the Rupture-Repair

Hypothesis: Are Productive Relationships U-Shaped or V-Shaped? *Journal of Counseling Psychology, 51*, 81-92. doi: 10.1037/0022-0167.51.1.81

Taber, B. J., Leibert, T. W., & Agaskar, V. R. (2011). Relationships among client-therapist personality congruence, working alliance, and therapeutic outcome. *Psychotherapy, 48*, 376-380. doi:10.1037/a0022066

Torgersen, S., Kringlen, E., & Cramer, V. (2001). The prevalence of personality disorders in a community sample. *Arhives of General Psychiatry, 58*, 590-596. doi: 10.1001/archpsyc.58.6.590

Tracey, T. J., & Kokotovic, A. M. (1989). Factor structure of the Working Alliance Inventory. *Psychological Assessment: A Journal of Consulting and Clinical Psychology, 1*, 207-210. doi:10.1037/1040-3590.1.3.207

Tryon, G. S., Blackwell, S. C., & Hammel, E. F. (2008). The magnitude of client and therapist working alliance ratings. *Psychotherapy: Theory, Research, Practice, Training, 45*, 546-551. doi:10.1037/a0014338

Webb, C. A., DeRubeis, R. J., Amsterdam, J. D., Shelton, R. C., Hollon, S. D., & Dimidjian, S. (2011). Two aspects of the therapeutic alliance: Differential relations with depressive symptom change. *Journal of Consulting and Clinical Psychology, 79*, 279-283. doi:10.1037/a0023252

Weerasekera, P., Linder, B., Greenberg, L., & Watson, J. (2001). The working alliance in client-centered and process-experiential therapy of depression. *Psychotherapy Research, 11*, 221-233. doi:10.1093/ptr/11.2.221

Widiger, T. A. (1992). Categorical versus dimensional classification: Implications from and for research. *Journal of Personality Disorders, 6*, 287-300. doi:10.1521/pedi.1992.6.4.287

Zetsel, E. R. (1990). Current consepts of transference. In A. H. Esman (Ed.), *Essential papers on Transference* (pp. 136-149). New York, NY: University Press.

Zlotnick, C., Elkin, I., & Shea, M. T. (1998). Does the gender of a patient or the gender of a therapist affect the treatment of patients with major depression? *Journal of Consulting and Clinical Psychology, 66*, 655-659. doi:10.1037/0022-006x.66.4.655