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George Y. Ankuta

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Initial and Later Therapeutic Alliance and Psychotherapy Outcome

By

George Y. Ankuta

A DISSERTATION

Submitted to
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ABSTRACT

Initial and Later Therapeutic Alliance and Psychotherapy Outcome

BY

George Y. Ankuta

Forty-four clients seen for psychotherapy as part of the MSU Psychotherapy Research Project were rated on the California Psychotherapy Alliance Scales (CALPAS) and the Therapist Action Scale (TASR). Four 20 minute segments were sampled from the session audiotapes of each case. These samples represented segments from the third session, a session from the second and the third quartiles of therapy, and one session toward the end of treatment. All clients also completed the Symptom Checklist 90 (SCL90-R), a symptom inventory. Presenting problems included moderate to severe depression and anxiety as well as other psychological dysfunctions. All clients completed at least 10 sessions, and some completed as many as 50 sessions. Clients were predominantly female (76%) and ranged in age from 20-59 years. Therapists were graduate students in clinical

psychology with 2-7 years of prior therapy experience. The primary theoretical orientation of the therapists was psychodynamic although other treatment modalities were present. Therapists and clients were blind to the hypotheses and purposes of the study.

In this study a relationship was hypothesized between the level of initial and later alliance, and symptom reduction. This hypothesis was not supported. Additionally, it was hypothesized that the quality of the therapeutic alliance would be affected by therapist actions related to interpretations. This hypothesis was also not supported.

Most patients reported fewer symptoms after therapy. It was found that patients who had a strong initial alliance were more likely to manifest a strong alliance later in therapy. Therapists who were more active early in therapy were more likely to be active later in therapy. Therapeutic alliance and therapist actions were correlated within session, and that correlation increased over time.

Overall, findings imply that the importance of the initial alliance in predicting outcome in psychotherapy may need to be questioned. Evaluation of the California Psychotherapy Alliance Scales and the Therapist Action Scales suggested problems concerning reliability of the measures. Further work with the Alliance and Action Scales is also suggested to improve their reliability.

To my parents

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History of Therapeutic Alliance Construct

The relationship between the client and therapist has a primary and central role in the process of psychotherapy. This relationship has an affective component and a rational, cognitive, ego function component. It is a necessary condition for the operation of the therapeutic process. Freud (1958/1913) wrote on the affective component of the client therapist relationship,

> It remains the first aim of the treatment to attach him to it and to the person of the doctor. To ensure this, nothing need be done but to give him time. If one exhibits a serious interest in him, carefully clears away resistances that crop up at the beginning and avoids making certain mistakes, he will of himself form such an attachment and link the doctor up with one of the imagos of the people by whom he was accustomed to be treated with affection. (pp. 139-140)

This often quoted, primary statement about the development of the relationship between client and therapist in therapy speaks to the stance of the therapist toward the patient. It addresses aspects of the therapist's behaviors in the therapy as well as the transference of positive feelings from past nurturing, loving relationships onto the therapist. Vestiges of these lines of thinking are found in virtually all subsequent theories concerning the

relationship between the client and the therapist.

Sterba (1934) discussed the role of the ego in the analytic relationship in therapy. From a technical perspective the analyst strives "to affect an alliance with the ego against the powerful forces of instinct and repression..." (p. 120). The analyst enlists a portion of the patient's ego to collaborate with the analyst in the project of the analysis. Sterba commented on the affective component of the relationship that "positive transference is needed so transitory strengthening of the ego is possible through identification with the analyst." (p. 121). Sterba (1934) went on to summarize,

> From the onset the patient is called upon to cooperate with the analyst against something in himself. Each separate session gives that analyst various opportunities of employing the term 'we', in referring to himself and to the part of the patient's ego which is consonant with reality. (p. 121).

The therapeutic relationship is built in therapy by the analyst and the patient. The supportive function and the collaboration in rational evaluation are elemental to the relationship between the analyst and the patient's ego in psychotherapy.

Zetzel (1956) emphasized the role of the ego in analysis. She stated that "mature" ego functions are necessary for a sound alliance and therefore traditional psychoanalytic treatment. She referred to "existing and continued functioning of adequate ego strength to maintain

therapeutic alliance at an adult level." (p. 372). She believed as Sterba did that positive transference would help strengthen the ego during therapy. She recommended variations in technique, such as using greater support to foster positive transference and strengthen defenses, when working with borderline and psychotic patients because their ego weaknesses and negative transference preclude the spontaneous development of a genuine therapeutic alliance.

Rogers (1959) considered the relationship between the client and therapist to be of primary importance in the process of psychotherapy. He discussed six necessary and sufficient conditions for personality change in psychotherapy. All six directly involve aspects of the relationship between the client and therapist without using the term alliance. For therapeutic change to occur the client and therapist must be in contact and have impact on each other. The client in a state of "incongruence"- a discrepancy between his experiences and self-image, relates to the therapist who is in a state of "congruence". The therapist is honest and genuine about his actual feelings and awareness of himself in the relationship with the client. The therapist offers the client unconditional positive regard or acceptance of the client as he or she is. The therapist experiences an empathic understanding of the client's inner world which he or she communicates to the

client. The client must be able to receive the therapist's unconditional positive regard and empathy to some degree. When these six conditions are met the client becomes more and more free to express feelings within the context of the therapy. Eventually the client will become more congruent, less defensive, and more open to experience.

Stone (1961) also placed a high importance on the relationship between the client and the therapist in psychotherapy. Stone viewed the primary unconscious significance of the analyst to be the "mother of separation" which makes the analytic relationship a recreation of the mother-child relationship. The analytic situation is, "separation and deprivation of primitive gratification, in the context of verbal intimacy." (p. 107). Physical dependence is replaced by speech. The structure of the situation maximizes transference and the potential for understanding. A central role of the analyst is to provide a human context in which to convey understanding. Given the enduring rigors of the situation, Stone believed that certain legitimate transference gratifications should be granted in the interest of maintaining a human context for the analysis.

Greenson (1965) developed a most elaborate description of the relationship between the client and therapist. He adopted the terms "working alliance" and "real

relationship". By "working alliance" he meant,

> the relatively non-neurotic, rational rapport which the patient has with his analyst....it centers on the patient's ability to work in the analytic situation.... It can be seen at its clearest when a patient is in the throes of an intense transference neurosis and yet can still maintain an effective working relationship with the analyst....his conscious and rational willingness to cooperate (p. 192).

This definition focuses on the ability of the patient and the analyst to work together constructively on the task of analysis, based on rational ego functions.

Greenson (1965) differentiated "working alliance" from the "real relationship" between the patient and analyst.

> The term 'real' in the phrase 'real relationship' may mean realistic, reality oriented, or undistorted as contrasted to the term 'transference' which connotes unrealistic, distorted, and inappropriate. (p. 217)... There is no transference reaction, no matter how fantastic, without a germ of truth, and there is no realistic relationship without some trace of transference fantasy. All patients in psychoanalytic treatment have realistic and objective perceptions and reactions to their analyst alongside of their transference reactions and their working alliance. (p. 219).

This 'real' relationship includes transferential and current emotional reactions of the patient to the analyst as opposed to the ability to work together in the analysis.

Luborsky (1976; Luborsky, Crits-Christoph, Mintz & Auerbach, 1988) defined the therapeutic relationship as the "helping alliance" - the patient's experience or belief that the treatment or the relationship with the therapist is

helpful or potentially helpful. The helping alliance is composed of a "Type 1" alliance and a "Type 2" alliance (Luborsky, 1976). Type 1 alliance is based on the patient's experience of the therapist as supportive and helpful. Type 2 alliance is based on a sense of patient and therapist working together in a joint struggle against things troubling the patient. The helping alliance is viewed as arising from positive transference, linking the therapist with positive past imagos. The helping alliance is fostered by a warm, friendly, and sympathetic stance on the part of the therapist, and by the therapist's emphasis on the "we" bond.

The necessity of a new construct called alliance has been questioned. Brenner (1979), after reviewing Zetzel (1956) and Greenson (1965), asserted that the concept of the therapeutic alliance is based on nothing more the patient's positive transference with the therapist. The special name of therapeutic alliance and special treatment are not necessary. Brenner (1979, p.146) commented, "when a patient's ability to cooperate in the work of analysis is compromised, it is often a consequence or manifestation of transference and that it is best dealt with by correct understanding and consistent interpretation."

Frieswyk, Colson, and Allen (1984; Frieswyk, Allen, Colson, Coyne, Gabbard, Horwitz & Newsom, 1986) also

discussed how conceptions of the alliance are confounded. Since the working relationship, and Greenson's "real relationship" or accurate perceptions of the therapist, are influenced by transference, measures of therapeutic alliance based on patient's perceptions (Luborsky, 1976) will be confounded by transference. Measures of alliance that are based on patient and therapist activity will be confounded by the therapist's technique.

Frieswyk et. al. (1984, 1986) calls for a definition of alliance that separates it from transference and technique. He asserted that Greenson did not distinguish between "working relationship" and "working alliance". Frieswyk wanted to differentiate these terms by considering working relationship to be aspects of the relationship that make collaboration possible. He defined the "therapeutic alliance" specifically as "the patient's active collaboration in the work of psychotherapy or psychoanalysis." (1984, p. 460).

Although the concept of the therapeutic alliance began in the psychoanalytic literature it was broadened to encompass all forms of therapy by Bordin (1979). He defined the alliance as including three features: an agreement on goals, an agreement on tasks, and the development of bonds.

Patients come to therapy with things in their lives

that they want to change or goals. Psychodynamic therapies involve increasing understanding of one's inner life and how it contributes to one's difficulties, whereas behavioral therapies focus on changing specific acts or behaviors of the individual. The tasks of therapy vary depending on the patient's needs, degree of psychological mindedness, and the mode of therapy, but usually attempts at accurate self-observation are involved. The task in psychoanalysis is free association while behavior therapies involve behavioral monitoring.

The bonds or the "human" relationship between the patient and the therapist are expected to be more of a factor in long term psychodynamic therapies than in brief behavioral therapies. Greater trust is required for the elaborate revelation of inner experience required in dynamic therapy. All therapies require some level of agreement on goals and tasks, and development of bonds, which make the concept of alliance relevant to all therapies (Bordin, 1979).

Therapist Actions that Affect the Therapeutic Alliance in Psychotherapy

Qualities of "Good" and Effective Therapy

Lafferty, Beutler and Cargo (1989) evaluated

differences between more and less effective psychotherapists. Pretreatment and posttreatment symptom level was measured with the Symptom Check List 90 Revised (SCL90-R) (Derogatis, 1983). Therapist variables within the treatment relationship and extra treatment variables such as demographics were measured by posttherapy inventories completed by the patient and the therapist. A stepwise discriminant function analysis predicting symptomatic improvement revealed that the best predictors of therapist effectiveness were related to in-therapy factors such as empathy rather then therapist attributes such as credibility and theoretical orientation. What the therapist does in the therapy seems to be more important than who the therapist is, re-emphasizing the importance of therapeutic technique.

Luborsky, McLellan, Woody, O'Brien and Auerbach (1985) conducted a study of therapist success in reducing clients' symptoms and its determinants. Potential factors influencing success explored were: patient factors, therapist factors, patient-therapist relationship factors, and therapy factors. Three therapists using cognitive-behavioral methods, three therapists using supportive-expressive methods, and three therapists using drug counseling methods, each treating about ten patients were studied. A breakdown of patient background demographic

characteristics revealed no significant differences. Therapist factors such as the therapist's level of interest in helping patients, and the therapist's level of psychological health did not account for differences in patient outcome. Level of helping alliance was found to be correlated with outcome, but did not account for all of the outcome variance.

Luborsky et. al. (1985) also discussed results related to therapist technical activity. A measure of purity of the therapist's technique was developed which indicated the extent to which the therapist, if cognitive-behavioral, used cognitive-behavioral techniques proportional to techniques associated with the other two forms of therapy in this study. For cognitive-behavioral and supportive-expressive therapy greater purity ratings were associated with better seven month posttherapy outcome. From these findings, and the fact that no particular form of therapy has generally been proven to be more effective than another, Luborsky et. al. (1985) concluded that the effectiveness of a particular therapy may vary depending on how effectively the therapist executes the intended technique, and to an even greater extent the degree to which a helping alliance is formed. Skillfully conducted therapy may lead to a better alliance and thus a better outcome.

In another study of therapeutic technique O'Malley, Foley, Rounsaville, Watkins, Sotsky, Imber, and Elkin (1988) evaluated whether therapist technical competence in conducting interpersonal psychotherapy of depression is related to outcome. Skill in conducting interpersonal psychotherapy was found to be associated with better outcome.

In addition to the demonstrated effectiveness of particular therapeutic techniques, there are particular techniques of dynamic therapy which dynamic therapists are likely to rate as part of 'good' therapy sessions. Hoyt (1980) asked psychoanalytically trained therapists to rate psychotherapy sessions as 'good' or 'bad'. The sessions were also rated on the Therapist Action Scale (Hoyt, Marmar, Horowitz, and Alvarez, 1981). The therapist activities measured by the scale were correlated with the good and bad ratings. Therapist activities correlated with good ratings were: therapist emphasizing patient's expression of thoughts and feelings, therapist discussing patient's reactions to the therapist, and therapist discussing the meaning of the patient's reactions. Other therapist activities correlated with good ratings were: discussing patterns or links between the patient's past and present life, and exploring the patient's self-concept. A subsequent replication study (Hoyt, Xenakis, Marmar &

Horowitz, 1983) demonstrated comparable results except that the therapist activity "reactions to therapist discussed" was not correlated with a good rating.

The Effect of Transference Interpretation on The Alliance

In his discussion of the helping alliance Luborsky 1976, p. 96) commented, "The strength of the helping (alliance varies from time to time, especially in relation to surges in transference which may then be diminished by the therapist's interventions." Weakening in the helping alliance caused by negative transference is expected to be repaired by interpretation of the negative transference.

Foreman and Marmar (1985) conducted a pilot study concerning therapist actions that might improve the therapeutic alliance which was demonstrated to be poor in the beginning phase of therapy. Six female patients suffering from post traumatic stress disorder or adjustment disorder after the death of a parent or husband and who had demonstrated initially poor therapeutic alliances, were studied. Three had improved alliances at the end of time-limited psychotherapy, and three did not. The alliance was measured with the California Therapeutic Alliance Rating Scale (CALTARS) (Marmar, Horowitz, Weiss & Marziali, 1986), which was an earlier version of the

(CALPAS) California Psychotherapy Alliance Scale used in this study. The CALTARS was rated by blind raters whose reliability was monitored. Therapist technical activities were measured on a brief scale of Therapist Actions created by Foreman and Marmar (1985), rated by one person, not blind to process and outcome ratings.

Therapist activities were evaluated according to standard analytic technique of interpreting: defenses, anxiety, and the underlying feeling or impulse (Malan, 1979). The activities measured involving the patient-therapist relationship were the extent to which the therapist addressed: defenses, problematic feelings in relation to the therapist, problematic relationship patterns, problematic powerful images, problematic vulnerable images, and the "triangle of punishment." The "triangle of punishment" is a term constructed by Foreman and Marmar (1985) which is defined as a manifestation of "the patient's need for self-punishment to assuage the guilt over feelings of anger or responsibility for another person's suffering." (p. 925). The activities measured involving the patient-other relationships were the extent to which the therapist addressed the following: defenses, problematic feelings in relation to the therapist, problematic relationship patterns, problematic powerful images, problematic vulnerable images, and the triangle of

punishment.

The therapist actions that were found to differentiate best the group with improved alliance from the unimproved alliance group were: addressing the patient's defenses in handling feelings in relation to the therapist and others, addressing the triangle of punishment, addressing problematic feelings in relation to the therapist, linking problematic feelings in relation to the therapist with defenses in handling these feelings.

Therapist actions that failed to distinguish improved and unimproved alliance groups were: addressing problematic feelings in patient-other relationships, addressing problematic powerful images or problematic vulnerable images. Interpretations linking the patient's reactions to parents in the past with reactions to the therapist in the present were found to be infrequent therapist actions.

These results lead Foreman and Marmar to conclude that specific therapeutic approaches can improve a poor therapeutic alliance. In unimproved therapeutic alliance cases the therapists deviated from standard technique by working with reality problems rather then exploring feelings about the treatment situation. These findings were considered consistent with current standard psychoanalytic theory and technique.

Lansford (1986) evaluated the effects of "weakenings"

and repairs of the therapeutic alliance on outcome in short-term psychotherapy. Weakenings were defined as a negative response to therapy and the therapist, problems with talking in therapy, or problems with termination. Repairs were defined as the extent to which identified weakenings were worked with and resolved by patient and therapist. Following Bordin (1979) Lansford commented, that the process of building an alliance and working out weakenings in the alliance is the therapy. She found a positive correlation between level of working alliance and outcome (r = .81 p < .05). Healthier patients were found to be more able to repair weakenings in the alliance, and patient factors were found to be more important then therapist activity. Interventions addressing transference allusions did not lead to superior outcome in this study, in contrast with Malan (1976) and Marziali (1984a). However, it is clear that the alliance changes throughout therapy and that changes in the alliance are integrally part of the therapy experience.

Gaston, Marmar, Gallagher, and Thompson (1990) studied variations in the alliance over time and the relationship between symptom change and the alliance. A sample of depressed older adults, 16 men and 44 women, mean age 67 years, was randomly assigned to a behavior therapy condition, a cognitive therapy condition, a

dynamic therapy condition, or a delayed treatment control group. Therapy was from 16 to 20 sessions with Ph.D. level therapists with at least one year of post doctoral experience in the modality of therapy they were providing. The Beck depression inventory and the California psychotherapy alliance scales were completed after the 5th, 10th, 15th and final session.

Gaston et al. (1990) found that in a multiple regression analysis the alliance was a more powerful predictor of outcome the later in the therapy it was measured. However, repeated measures analysis of variance within treatment conditions revealed no statistically significant changes in the level of alliance over time. These findings suggest that different individuals have different courses to their alliances in psychotherapy. Some may improve; some may worsen, and some may stay constant. It is suggested that future studies attempt to identify specific therapist interventions associated with alliance improvement and deterioration.

A second finding of this study was that for each of the three types of therapies the alliance scores explain large amounts of outcome variance over and above initial symptom level and amount of symptom change. This finding suggests that the alliance is an active ingredient in psychotherapy that contributes to outcome. Replication of this study

using independent clinical judge raters of the alliance and patient populations other then older adults is recommended.

Gabbard, Horowitz, Frieswyk, Allen, Colson, Newsom, and Coyne (1988) investigated the effect of therapist actions on the therapeutic alliance with borderline patients. In this single case experimental design six sessions in one therapy with a borderline patent were evaluated. The results clearly suggested that the therapist's interpretation of the transference increased this patient's collaboration in the treatment. The authors speculated that transference interpretations were helpful in this treatment due to the patient's punitive superego, evidenced in the testing findings, which was likely projected onto the therapist. Transference interpretations are expected to enable the patient to see that his fears arise from internal irrational sources rather then from real threats from the therapist. This realization makes greater collaboration and openness possible.

Therapist Actions that Negatively Affect the Therapeutic Alliance

Langs (1975, p. 80) coined the term "therapeutic misalliances" which "arise primarily out of unresolved

intrapsychic conflicts-- inappropriate instinctual drive needs, and superego and ego disturbances--". Patients frequently act in response to transference in ways that are incongruent with a productive therapeutic alliance, and interfere with the progress of the treatment. When the patient's image of the therapist is negative, potential benefits of positive identification with him/her, and insights from interpretations are less likely. In some cases the patient's actions play into the therapist's countertransference reactions, and the misalliance is perpetuated throughout the treatment, never resolved, and treatment fails.

Langs commented that when countertransference locks the therapist into misalliance he/she must work that out in his/her personal therapy. The patient's contribution to misalliance is handled through analysis of the negative transference to permit the therapeutic work to continue. The patient's needs to lessen conflict and anxiety and repeat and master past traumatic relationships must be countered with drive toward health. Repetition must be replaced with insight. Langs (1975, p. 103) commented, "in pathological interactions lie the seeds of growth and constructive change."

Finell (1987) reviewed work on the negative therapeutic reaction in psychoanalysis. This resistance to recovery

often involves "a character defense rooted in negativism, and as a chronic and deeply embedded negative transference." (p. 487). Recovery is further threatened by the countertransference problems these defenses promote.

She further reviewed Freud's writing on this issue, citing a fear of recovery and negative attitudes toward the physician as significant factors in the development of the negative therapeutic reaction. Underlying negative transference and fear of recovery was guilt and the need for punishment. Later in his work Freud discussed the need for punishment as identification with a guilt-inducing parent. Freud ultimately recommended working with these masochistic tendencies using interpretations aimed at addressing the need for punishment.

Finell commented on Freud's and Klein's shared view of early aggression as a manifestation of the death instinct. Any childhood deprivations confirming the aggression projected onto the parent increases the likelihood of the formation of an excessively punitive superego and strong negative transference with the therapist.

Finell commented on Olinick's (1964) interpersonal explanation of the negative therapeutic reaction. The intense negative transference is viewed as covering positive feelings which are feared in cases where they promote regression to helpless symbiotic attachment to a destructive

mother. Promoting greater understanding of transference reactions, and defenses against feelings toward their therapist, is expected to lead to strengthening of the therapeutic alliance.

Alliance and Psychotherapy Outcome

Many studies of therapy process and outcome have shown that high levels of therapeutic alliance are correlated with favorable outcome in psychotherapy. Luborsky (1976; Luborsky et al. 1985) found evidence of a helping alliance in early sessions of individuals who demonstrated a high level of improvement in psychotherapy, but not in those who showed a low level of improvement. Gomes-Schwartz (1978) found that therapy outcome was most effectively predicted by the client's willingness and ability to become actively involved in the therapeutic interaction with the therapist. Marziali, Marmar, and Krupnick (1981; Marziali, 1984b) found that clients who maintained high levels of alliance achieved the greatest benefits from psychotherapy. Morgan, Luborsky, Crits-Cristoph, Curtis, and Solomon (1982) found that the level of helping alliance is as good or better a predictor of successful therapy outcome than most

of the pretreatment measures examined in the Penn Psychotherapy Project.

Strupp (1980), and Hartley and Strupp (1983) also found that the therapeutic alliance- particularly the early level of alliance, was predictive of favorable outcome. Saltzman, Luetgert, Roth, Creaser, and Howard (1976), Eaton, Abeles, and Gutfreund (1988), and Klee, Abeles and Muller (1990) also found relationships between early levels of the therapeutic alliance and outcome of therapy. The relationship of alliance to outcome is a well established result in the psychotherapy research literature.

The Effect of Transference Interpretation on Outcome

In one of the most major studies of the effectiveness of transference interpretations in psychodynamic psychotherapy outcome, Malan (1976) developed a content analysis method that enabled him to count interpretations about parents, the therapist, and others, as well as interpretations linking reactions to therapist with reactions to a parent. He demonstrated that more frequent transference interpretations linking reactions to past relationships to present relationships are related to more

positive outcome.

Kernberg (1976) discussed the findings of the Menninger Foundation's psychotherapy research project. He reported that patients with initially low ego strength, who were treated by therapists rated to be more skillful, and focusing more on interpretation of the transference, demonstrated greater improvement in therapy. It was concluded that the lower the initial ego strength of the patients the more important it is to focus on transference interpretation to achieve a favorable outcome. For patients with low ego strength and borderline personality structure, focusing on the transference, particularly negative transference, is indicated to prevent blocks in the therapeutic relationship, transference acting out, and poor outcome.

Marziali (1984a) replicated Malan's finding and corrected a major methodological flaw by rating tape recordings of sessions rather then subjective process notes. More favorable outcome as measured on psychodynamic scales was associated with more frequent therapist offered interpretations linking reactions to the therapist with the patient's reactions to parents in the past.

Horowitz, Marmar, Weiss, Dewitt, and Rosenbaum (1984) studied the effects of dispositional and process variables on outcome in a sample of bereaved patients in

time limited dynamic psychotherapy. The dispositional variables were motivation for dynamic psychotherapy, and developmental level of the self-concept. The process variables studied were therapeutic alliance and therapist action. Neither alliance nor therapist action were related to outcome as measured by symptom relief. There was an interaction effect between motivation for treatment and the therapist-parent linking transference interpretations. Extensive transference interpretations were related to symptomatic improvement on the SCL-90 for highly motivated clients, but less motivated clients showed poorer outcomes.

Piper, Debbane, Bienvenu, Carufel, and Garant (1986) studied the effects of the object focus of transference interpretations on outcome of psychotherapy. The transference interpretations were rated based on who was addressed by the interpretation, mother, father, sibling, non-specific family member, therapist-parent, other-therapist, other-parent, etc. Multiple outcome measures indicated a sporadic correlation with percentages of each particular type of transference interpretation. Nine of one hundred and seventy correlations performed were significant, which is about what would be expected due to chance. It may be that when the transference interpretations are broken down into this many categories the effects are not strong enough to demonstrate

significance.

Crits-Christoph, Cooper and Luborsky (1988) evaluated the effect on outcome of the accuracy of the therapist's interpretations based on Luborsky's core conflictual relationship theme method. The major expectation of the research was confirmed. A moderately strong association was found between the accuracy of interpretations linking the main wishes of the client with the anticipated responses from others, and treatment outcome. The result held even when the quality of the alliance and general errors in technique were controlled. Contrary to expectation, interpretations were not found to be more effective in the context of a positive alliance. These findings indicate that specific technique factors impact on outcome.

Summary

Up to now we have reviewed the history of thetherapeutic alliance construct. The strengthening and weakening of the alliance over the course of therapy, and its relationship to outcome have been discussed.

The qualities of good and effective therapy have been shown to lie in the quality with which the particular therapeutic technique is executed by the therapist. The effect of transference interpretation on the therapeutic

alliance, and therapy outcome were discussed. Therapist as well as patient negative factors in the alliance were explored.

In this study the effects of therapist technical activities such as transference interpretations on the therapeutic alliance were evaluated, because a strong alliance is indicative of a favorable outcome. A series of hypotheses follow.

Hypotheses

Hypothesis 1: A high level of therapeutic alliance in the first session as measured by the California Psychotherapy Alliance Scale (CALPAS) (Marmar & Gaston, 1989) will predict symptom reduction at the end of treatment as measured by the Symptom Check List 90 Revised (SCL90-R) (Derogatis, 1983).

Hypothesis 2: An initially poor therapeutic alliance as measured by the California Psychotherapy Alliance Scale can be improved by the end of treatment as a result of these therapist technical activates measured by the Therapist Action Scale Revised (TASR) (Hoyt, et al, 1981):

a) addressing the patient's defenses.

b) addressing the patient's guilt and expectation of

punishment.

c) addressing the patient's problematic feelings in relation to the therapist.

d) linking the problematic feelings in relation to the therapist with the patient's defenses.

Hypothesis 3: An initially good therapeutic alliance as measured by the California Psychotherapy Alliance Scale can be damaged by therapist technical activity measured by the Therapist Action Scale Revised. The alliance can be weakened by the therapist failing to:

a) address the patent's defenses.

b) address the patient's guilt and expectation of punishment.

c) address the patient's problematic feelings in relation to the therapist

d) link the problematic feelings in relation to the therapist with the patient's defenses.

Hypothesis 4:

a) After the initial level of alliance is accounted for as measured by the California Psychotherapy Alliance Scale (CALPAS), the final level of alliance as measured by the CALPAS will predict more outcome variance in symptom reduction as measured by the Symptom Check List 90 Revised

(SCL90-R).

b) The level of the therapeutic alliance as measured by the CALPAS during the final session of therapy is a better predictor of symptom reduction during therapy as measured by the SCL90-R than the level of alliance during the first session of therapy as measured by the CALPAS.

METHOD

Participants:

Clients: The participants for this study were clients of the Michigan State University Psychological Clinic. The clinic is a training and research arm of the Psychology Department. It is a nonprofit, fee for service (income adjusted), setting serving an outpatient, nonstudent population in the Mid-Michigan area. The clients presenting problems included moderate to severe depression and anxiety as well as other psychological dysfunctions. The clients were predominantly working and middle class. Of all clients receiving therapy at the clinic 96% agreed to participate in the Michigan State University (MSU) Psychotherapy Research Project.

During an eight year period from 1976 to 1986 data were collected on 121 adult therapy cases. One hundred cases had pre-and-post-therapy data and session tapes needed for this study, and had completed at least 10 sessions of therapy. Cases with fewer then 10 sessions were not included in this study. Fifty client-therapist dyads were randomly selected from these 100 cases for inclusion in the study. In 30% of the cases included the same therapist treated two cases,

and thus in those cases the same therapist was rated twice. They ranged in age from 20 to 57 years with a mean of 29.8 and SD = 8.69; 76% were female.

Therapists: The therapists were clinical psychology graduate students at Michigan State University working at the Psychological Clinic. The therapists included 2nd to 4th year clinic trainees as well as advanced trainees with several years post-masters degree experience. All therapists had completed graduate courses addressing theories of psychotherapy and assessment courses, and all had prior mental health experience. Overall their experience ranged from 2-7 years. The predominant theoretical orientation of the therapists was psychodynamic, although other orientations to treatment were represented. Since the study was conducted after therapy had been completed, the therapists and clients were blind to the hypotheses and purposes of the study.

Procedure:

During the initial intake interview at the MSU Psychological Clinic clients were asked to participate in the ongoing MSU Psychotherapy Research Project and informed that their choice to participate or not participate would not affect the services that they would receive. Of all

clients, 96% agreed to participate. Clients were advised that if they chose to participate and complete the pretherapy and posttherapy forms they would be given a stipend equal to 10 percent of their fees paid for therapy up to 50 dollars. Clients who agreed to participate completed a consent form and the SCL90-R before therapy began and after therapy was completed.

The therapists were recruited at the beginning of the school year. All, 100% of the therapists agreed to participate and were aware that these research audiotapes would not be used to evaluate their personal performance and progress as therapists. In the 4% of the cases in which the clients chose not to participate, the therapists could not participate.

Clients and therapists were instructed that copies of the audio recording of their first, third, and every fifth session thereafter would be included in the Psychotherapy Research Tape library. Therapists were instructed to forward these tapes to the research assistant for duplication and filing under anonymous subject identification code numbers. Completed cases were never used until two years after the therapy had been completed to further insure confidentiality.

The fifty cases selected from the MSU Psychotherapy Research Project database were rated on the California

Psychotherapy Alliance Scales (CALPAS) (Marmar & Gaston, 1989) and the Therapist Action Scale (TASR) (Hoyt et al., 1981). From the session tapes of each case four 20 minute segments were sampled. One segment from the first session, one segment from the third session, one segment from the middle of therapy (40 to 60th percentile), and one segment toward the end of treatment (80th percentile or more). At each of these four time points sampled the segments were randomly chosen from the beginning middle or end of the therapy hour. The segments were placed in random order on master data tapes and assigned code numbers. At least one member of a team of two raters listened to each audiotaped session segment and then scored the CALPAS. At least one member of another team of two raters listened to each audiotaped session segment and then rated the TASR.

CALPAS Raters: The raters were one psychodynamically trained clinical psychologist with two years postdoctoral experience and one psychodynamically trained clinical psychology doctoral candidate with two years postmasters experience. The CALPAS raters were trained for a total of 50 hours each in accord with procedures outlined in the CALPAS Manual (Marmar & Gaston, 1989). The training involved the following: reading and understanding the concept of alliance as defined in the CALPAS manual, practicing rating the alliance from excerpts of 10 precalibrated therapy sessions,

and making independent ratings with reliability checks. Raters were considered proficient when their ratings correlated .80 on the training tapes.

TASR Raters: The TASR raters were 2 psychodynamically trained clinical psychology doctoral candidates with 1 and 6 years of postmasters experience. The TASR raters were trained for 20 hours. The training involved: reading and understanding the therapist actions measured by the scale described in Hoyt et al. (1981) and in the manual (Hoyt, 1989), rating practice sessions and discussing ratings, and making independent ratings with reliability checks. Raters were considered proficient when their ratings correlated .80 on the training tapes.

Measures:

CALPAS: California Psychotherapy Alliance Scales

CALPAS (Marmar & Gaston, 1989) (Table 1) consisted of 30 7-point Likert type items which index aspects of the patient therapist relationship and were rated from

Table 1
California Psychotherapy Alliance Scale

Patient Positive Contribution
1) Patient self-discloses thoughts and feelings.
2) Patient self-observes behaviors.
3) Patient explores own contribution to problems.
4) Patient experiences strong emotions.
5) Patient works actively with therapist's comments.
6) Patient deepens exploration of salient themes.
Patient Negative Contribution
7) Patient conveys an expectation of easy cure without work on his/her part.
8) Patient acts in a hostile, attacking and critical manner towards therapist.
9) Patient seems mistrustful and suspicious of therapist.
10) Patient engages in power struggle, attempting to control the session.
11) Patient defies therapist's efforts to promote self-understanding.
12) Patient holds therapist at arms length with flood of words.
Patient Commitment
13) Patient is confident that efforts will lead to change.
14) Patient is willing to make sacrifices, for example time and money.
15) Patient views therapy as important.
16) Patient has confidence in therapy and therapist.
17) Patient participates in therapy despite painful moments.
18) Patient is committed to go through process to completion.

Table 1 (cont'd.)."

Working Strategy Consensus
19) Therapy proceeds in accord with patient's ideas of helpful change process.
20) Patient and therapist work together in a joint struggle.
21) Patient and therapist agree about the kind of changes to make.
22) Patient and therapist share same sense about how to proceed.
23) Patient and therapist agree on salient themes.
24) Therapist rigidly applies technique.
Therapist Involvement
25) Therapist is understanding of patient's suffering and subjective world.
26) Therapist demonstrates non-judgemental acceptance and positive regard.
27) Therapist demonstrates commitment to help and confidence in treatment.
28) Therapist does not misuse treatment to serve own needs.
29) Therapist demonstrates tact and timing of interventions.
30) Therapist facilitates work on salient themes.

1 (not at all) to 7 (very much so). The items were rated by outside judges on audiotaped segments of actual therapy hours.

In the most recent version CALPAS items were broken into five subscales. The Patient Working Capacity- Positive Contribution scale contained items such as "Patient deepened exploration of salient themes" and was thought to measure the patient's ability to work actively and purposefully in treatment. The Patient Working Capacity - Negative Contribution Scale contained items such as "Patient acts in hostile, attacking and critical manner towards therapist" and was thought to index hostile and mistrustful attitudes towards the therapist. The Patient Commitment scale contained items such as "Patient views therapy as important" and was thought to measure positive transference. Working Strategy Consensus scale contained items such as "Patient and therapist share the same sense about how to proceed" and was thought to measure patient-therapist agreement on therapeutic strategy (Bordin, 1979). The Therapist Understanding and Involvement Scale consisted of items such as "Therapist facilitates work on salient themes" and was thought to measure therapist's empathic understanding of the patient's problems and active participation in the treatment.

Marziali et al. (1981) developed the initial version

of this scale. That version contained 42 items designed to assess patient and therapist positive and negative contributions to the alliance. Marmar et al. (1986) did further validation work on the CALPAS, then called the California Therapeutic Alliance Rating System (CALTARS). CALTARS was designed to stress "the affective and attitudinal aspects of the therapeutic climate while excluding specific classes of therapist actions, such as interpretation of the transference, encouraging the expression of affect, or working on termination in order not to confound technique with the status of the alliance" (Marmar et al. 1986).

Marmar, Weiss, and Gaston (1989) performed an exploratory principal components factor analysis on the intercorrelation matrix of the items which was generated from the rating of 208 segments from four sessions sampled from each of 52 client-therapist dyads. Although four components were hypothesized, an eight component solution emerged. Additional solutions were forced with four, five, six, and seven components. The four component solution did not yield conceptually clear dimensions. The five component solution was retained due to the interpretability of the components, the pattern of the item loadings, and the fact that these components accounted for 63.3% of the total variance. These factors were: Therapist Understanding and

Involvement (TUI), Patient Hostile Resistance (PHR), Patient Commitment (PC), Therapist Negative Contribution (TNC), and Patient Working Capacity (PWC). CALPAS was subsequently reduced to a total of 32 items after deletion of items that did not load highly on one of the five factors or which loaded highly on more than one factor.

Reliability: Marmar et al. (1989) evaluated the internal consistency and interrater reliability of the CALTARS on a sample of 208 psychotherapy sessions from 52 predominantly female outpatients, mean age 39, who had experienced the death of a husband or parent. The therapists were 5 male and 4 female faculty level therapists with an average of 9 years postdoctoral clinical experience. The treatment was 12-session brief psychodynamic psychotherapy. The raters of the CALTARS were advanced clinical trainees in psychology and psychiatry.

The coefficient alphas for Therapist Understanding and Involvement (TUI), Patient Hostile Resistance (PHR), Patient Commitment (PC), Therapist Negative Contribution (TNC), and Patient Working Capacity (PWC) were .94, .84, .94, .90, and .88. The respective interrater reliabilities of those scales (measured by pearson's r) were .78, .79, .81, .81, and .76.

Validity: Marmar et al. (1989) supported the construct validity of the CALTARS by findings that other measures correlated with the CALTARS in a hypothesized fashion. Higher pretreatment patient motivation scores were associated with higher Patient Working Capacity scores. Higher pretreatment relationship composite scores on the Patterns of Individual Change Scale, which indicate better pretreatment interpersonal relations, were associated with higher scores on Patient Working Capacity. Two other confirmed predictions were that more highly educated patients were more able to form an alliance, and that the absence of stressful life events was associated with higher alliance scores.

Tichenor and Hill (1989) found support for the convergent validity of CALPAS. CALPAS, the Vanderbilt Therapeutic Alliance Scale (VTAS), the Working Alliance Inventory (WAI), and the Pennsylvania Helping Alliance Rating Scale (Penn) were rated on a sample of eight psychotherapy cases. CALPAS correlated .80 with the VTAS and .82 with the WAI. The VTAS and WAI correlated .84. Penn did not correlate as well with the other measures (.34 with the CALPAS and .51 with the VTAS). Tichenor and Hill concluded that CALPAS, VTAS and WAI were satisfactory measures of the working alliance.

Discriminant validity was demonstrated by Marmar et al.

(1989). Four of the five alliance subscales were uncorrelated with pretreatment symptomatology as measured by the SCL90-R (r's of .09 to .12). However, Patient Working Capacity was negatively correlated with higher levels of pretreatment symptomatology ($r = -.29$, $p<.05$). CALPAS apparently addressed constructs which were different from symptomatology except for the Patient Working Capacity Scale which was associated with pretreatment symptomatology.

Only preliminary reliability data were available on the version of the CALPAS used in this study because at that time it was in an early stage of development. Postdoctoral level clinical judges rated 30 segments after 10 hours of training (Gaston, personal communication). Interclass coefficients for the mean ratings of three judges were .69 for the Patient working Capacity (positive and negative) scale, .80 for the patient commitment scale, .71 for the Working Strategy Consensus scale, and .69 for the Therapist Understanding and Involvement scale.

CALPAS appeared to be a reliable instrument developed with participants similar to the type in this study. Its use in related research such as Foreman and Marmar (1985), left the author with the impression that it was a reasonable approach for measuring the therapeutic alliance in the present study.

TAS: The Therapist Action Scale

Hoyt et al. (1981) reported on a Therapist Action Scale (Table 2) and a Patient Action Scale they developed to assess the degree to which therapists engaged in specific activities in dynamic psychotherapy. Behaviorally specified therapist actions such as "Discussed patient's reactions to therapist" and "Linked reactions toward therapist to other important figures" can be rated on a Likert type scale from 0 (did not occur) to 3 (occurred with major emphasis). Its 27 items addressed many possible therapist actions issues such as: relationships with other people, relationship with the therapist, self-concept, stressful events, expression of affect, goals, and termination. TAS could be applied by the therapist, the patient, or an outside rater. In the present study raters listened to audiotaped segments of actual therapy hours, and then scored the TAS.

Reliability: Hoyt et al. (1981) evaluated the TAS interrater and test-retest reliability on a sample of 25 neurotic outpatients, 20 female and 5 male, mean age 36

Table 2
Therapist Action Scale - Revised

Addressing Transference
1) Discussed patient's reactions to therapist.
2) Linked reactions toward therapist to parental figures.
3) Linked reactions toward therapist to other important figures.
4) Addressed the patient's guilt and expectation of punishment by other people.
5) Addressed the patient's guilt and expectation of punishment by the therapist.
Addressing Defenses
6) Discussed process of patient avoiding material or feelings.
7) Discussed process of patient avoiding material or feelings in relation to the therapist.
8) Discussed content and meaning of material and feelings patient was avoiding.
9) Discussed content and meaning of material and feelings patient was avoiding in relation to the therapist.
Support
10) Conveyed confidence of a favorable therapy outcome to patient.
11) Therapist gives explicit reassurance.
12) Expressed liking or positive regard for the patient.
13) Therapist suggests meanings of others' behavior.
14) Therapist gives explicit advice or guidance.
15) Acts to strengthen defenses (vs. stimulate insight).

"Table 2 (cont'd.)."

Expressive Intervention
16) Encouraged or permitted expression of feelings.
17) Encouraged patient to examine meanings of his/her thoughts, behavior, feelings.
18) Patient's feelings and perceptions are linked to situations and feelings from the past.

years. The psychodynamically-oriented therapists were 15 postdoctoral fellows and psychiatry residents, 12 men and 3 women. Each treatment was brief time-limited dynamic psychotherapy. The raters were five psychodynamically-trained psychiatrists and psychologists. The interrater reliability was assessed with Finn's r (Finn, 1970; Tinsley & Weiss, 1975) which includes between rater variance in the error term. The interrater reliability had a median of .76 and ranged from .44 to .92. The test-retest reliability had a median of .87 and ranged from .68 to .97.

Xenakis, Hoyt, Marmar, and Horowitz (1983) studied the reliability of TAS therapist self-ratings. Two independent judges, a psychodynamically trained psychiatrist and a psychodynamically trained clinical psychologist, made TAS ratings of 27 psychotherapy sessions. The therapists (3 psychiatrists, 4 psychologists and one social worker, all psychodynamically trained) rated their own tapes of these same 27 psychotherapy sessions on the Therapist Action Scale. There was a lack of agreement between the independent judges and therapist self-ratings about the levels of most therapist actions. Therapist self-reports and judge ratings were not equivalent.

Validity: TAS appeared to have face validity. Items were behaviorally specified avoiding clinical inferences by

the rater such as whether "transference" was involved. Transference was measured instead by rating operationally defined actions. Actions such as "relationship with the therapist discussed" were assessed for frequency and degree of emphasis. The skillfulness of the action was not assessed.

Criterion related validity was supported by Windholz, Weiss, and Horowitz (1985). TAS was rated after each of 12 sessions by the therapists of 30 female clients who received time-limited dynamic psychotherapy related to the death of a parent. These ratings were factor analyzed. A seven factor solution contained the following dimensions: transference and termination, reassurance, affect expression, clarification, relationships, meaning of bereavement, and errors.

When graphed by session number, the levels of these action dimensions were consistent with the hypothesized structure of time-limited psychotherapy as outlined by Mann (1973) and Malan (1976). Level of therapist actions addressing affect expression, meaning of the event (bereavement), clarification, and relationships was high across sessions, while level of reassurance and errors were low. The one therapist action that increased in frequency steadily across the 12 sessions was addressing transference and termination, which is consistent with the theory of

time-limited psychotherapy. There was also slight increase in errors and reassurance in the final session. This is consistent with theory and experience of the special significance of the final session, which makes it particularly difficult for the client and the therapist. It was also possible that theoretical expectations might influence and bias their ratings. However, one corroborated prediction supported the construct related validity of the scale, suggesting that it could be used to measure levels of common therapist actions.

Construct validity was supported in a general sense by Hoyt et al. (1983). A sample of 30 sessions were randomly selected from a group of 25, 12-session therapies. Independent psychodynamically trained judges rated the sessions on the TAS and also evaluated them as either 'good' or 'bad'. The sessions rated 'good' were higher for therapist actions that encouraged expression of thoughts and feelings and exploration of patient reactions, consistent with theoretically sound short term dynamic therapy.

TAS appeared to be a reliable instrument developed with participants similar to the type in this study. Its use in research such as Windholz et al. (1985) made it a reasonable choice as a measure of therapist activities for this study. Two supplemental items were added by the author for use in the present study (Table 2, items 4 and 5). These items

were added based on Foreman and Marmar's (1985) finding that addressing the patient's guilt and expectation of punishment was associated with improvement in the therapeutic alliance. Similar to other TAS factors, one item addresses guilt and expectation of punishment by others and the other address guilt and expectation of punishment by the therapist. The addition of these two items constitutes the difference between TAS and what is referred to in the present study as TASR.

SCL90-R: The Symptom Check List 90 Revised

Derogatis' (1983) SCL90-R was used to measure the client's symptoms before and after therapy. It is a 90 item self-administered questionnaire composed of nine subscales measuring nine symptom dimensions: somatization, obsessive-compulsive, interpersonal sensitivity, depression, anxiety, hostility, phobic anxiety, paranoid ideation, and psychoticism. Subjects were asked the extent to which they were distressed by: 1) headaches 2) nervousness and shakiness inside, etc. The subjects rated each of the 90 symptom items on a Likert type scale that ranged from 0, (not at all) to 4, (extremely). Means were computed for each of the nine subscales. The Global Severity Index (GSI) was computed as the sum of all item

responses divided by 90. According to Derogatis (1983) the GSI is the best single indicator of the current level of depth of the disorder.

Reliability: Internal consistency for the nine subscales was measured by coefficient alpha for a sample of 219 symptomatic volunteers (Derogatis, Rickels & Rock, 1976). Coefficient alpha treats within form correlations among the items as analogous to correlations between alternate forms, and assumes that the average correlations among existing items would be equivalent to the correlation among items in the hypothetical alternate form. The coefficients obtained for this sample were satisfactory and ranged between a low of .77 for psychoticism to a high of .90 for depression.

The test-retest reliability for the SCL90 was checked on a sample of 94 psychiatric outpatients with one-week elapsed time between testing. The test-retest reliability coefficients ranged from .78 for hostility to .90 for phobic anxiety (Derogatis et al., 1976). Psychopathological symptoms would be expected to be less stable than attributes such as intelligence, but more stable than "mood". Though psychological symptoms can fluctuate over a period of one week, one would not expect much change.

Validity: Construct validity was supported by Prusoff, Weissman, Klerman, and Rounsaville (1980). The SCL90-R was used in a study evaluating the utility of Research Diagnostic Criteria for predicting differential response to amitriptyline and/or short term interpersonal psychotherapy. The SCL90-R was found sensitive to change and differences in the RDC subtypes. The type and severity of symptoms can be assessed using the SCL90-R.

Convergent validity was supported by Derogatis et al. (1976) who compared the dimension scores of the SCL90 with the scale scores from the MMPI. In this study 119 symptomatic volunteers were given the SCL90 and the MMPI. The results of the study were that each dimension of the SCL90 had its highest correlation with similar MMPI scales except for the obsessive compulsive dimension for which there is no directly comparable MMPI scale.

The means for the SCL90-R are available for a sample of 1002 heterogeneous outpatients (Derogatis, 1983). The outpatients came from centers in Johns Hopkins University, the University of Maryland, the University of Pennsylvania and the University of Wisconsin. There were 425 males and 577 females, approximately two thirds white, skewed somewhat towards the lower end of the socioeconomic spectrum. The nonpatient norm group was comprised of 974 individuals, 493 males and 480 females, eight ninths white.

Social class data were not available. It represented a stratified random sample from a diverse community in a large eastern state.

The SCL90-R appears to be a valid and reliable instrument constructed with subjects comparable to the type of subjects in this study. These facts combined with its past use in a related fashion in research such as the Derogatis et al. (1981) study in which symptom changes were evaluated with the SCL90-R made the SCL90-R a reasonable choice as a symptom measure for this study.

RESULTS

Scale evaluation will be discussed first. Exploratory and confirmatory factor analysis and reliability analyses will be presented for the California Psychotherapy Alliance Scale (CALPAS) and the Therapist Action Scale (TASR). The revision of CALPAS and TASR will be discussed. After the scale analyses, the evaluation of the hypotheses via path analysis and related findings will be presented.

California Psychotherapy Alliance Scale (CALPAS)

An exploratory principal-components factor analysis was performed on the intercorrelation matrix of the 30 CALPAS items. The correlations were based on a set of 184 ratings of four sessions for each of 46 subjects. Although ratings of 184 independent subjects would be optimal, 184 independent observations are appropriate for scale evaluation purposes. The ratings were made by two judges who rated 39 sessions in common for reliability analysis. In the case where a session was rated by both judges, their mean rating was used.

The exploratory principal-components analysis followed by a varimax rotation yielded five factors (Table 3). This solution contained each of the five conceptually

Table 3
Exploratory Factor Analysis of the California Psychotherapy Alliance Scale

Item Number	Varimax Factors with Items Reordered and Grouped According to Their Largest Factor Loading				
	1	2	3	4	5
6	83*	27	-2	20	0
1	82*	19	-7	23	2
2	81*	19	-7	17	2
3	78*	22	-10	16	-7
4	72*	19	2	4	-9
17	71*	23	-16	26	-10
5	68*	26	-31	26	1
23	55*	39	-30	41	-9
20	51*	48	-21	40	-17
21	50*	28	-29	47	-7
7	-49*	-1	26	-16	21
29	17	85*	0	11	-3
28	-2	75*	-7	3	8
30	38	74*	-1	9	-10
25	28	70*	-6	21	-22
26	28	68*	-14	32	-2
24	22	65*	-5	-5	-1
27	9	56*	-2	40	-30
8	-3	-3	77*	-20	2
9	0	-3	74*	-7	-5
11	-39	-3	61*	-14	12
22	43	40	-47*	35	-2
15	57	10	-13	60*	-10
14	53	10	-27	59*	-9
16	36	27	-44	56*	5
13	47	22	-40	55*	10
18	47	15	-40	51*	-8
19	42	38	-45	49*	9
12	-6	-12	-6	1	70*
10	-11	-2	49	-10	54*

Eigenvalues				
1	2	3	4	5
13.47	2.63	1.94	1.00	.65

Proportion of Variance				
1	2	3	4	5
.24	.16	.11	.11	.04

interpretable hypothesized dimensions and accounted for 62% of the total variance. This solution was used in scale development. The structure of the CALPAS was generally confirmed.

Five component based scales were constructed by considering hypothesized structure, and conceptual relevance. In confirmatory factor analysis (Table 4), the magnitude of the items correlation with the scale relative to the other scales as well as coefficient alpha were considered.[1]

Reliability California Psychotherapy Alliance Scale

The coefficient alphas for the five scales constructed were: .94 for Patient Positive Contribution, .77 for Patient Negative Contribution, .92 for Patient Commitment, .92 for Working Strategy Consensus, and .90 for Therapist Involvement.

For purposes of checking reliability both judges rated the California Psychotherapy Alliance Scale for a subset of 39 sessions. Reliability of the ratings was checked by computing the Pearson *r* correlation coefficient between the scores of the two judges for the 39 sessions. The

[1]See Appendix A for detailed item analysis.

Table 4

Confirmatory Factor Analysis of the California Psychotherapy Alliance Scale

Scale Number	Scale Name	Items Included	Standard Score Coefficient Alphas
501	Patient Positive Contribution	(6,1,2,3,4,17,5)	94
502	Patient Negative Contribution	(8,9,11,10)	77
503	Patient Commitment	(15,14,16,13,18)	92
504	Working Strategy Consensus	(23,20,21,22,19)	92
505	Therapist Involvement	(29,28,30,25,26, 27,24)	90
506	Residual	(7,12)	23

"Table 4 (cont'd.)."

Items & Scales	Factor Intercorrelations and Loading Matrix Communality in the Diagonal													
	6	1	2	3	4	17	5	8	9	11	10	15	14	16
6	83	79	78	76	67	72	71	-8	-3	-40	-14	65	57	50
1	79	78	78	69	62	72	73	-13	-7	-39	-13	63	62	48
2	78	78	72	79	59	60	64	-11	-12	-37	-14	57	58	48
3	76	69	79	68	58	62	64	-16	-7	-45	-19	58	54	50
4	67	62	59	58	53	69	50	-7	-4	-26	-14	50	43	35
17	72	72	60	62	69	65	65	-23	-14	-41	-24	65	62	52
5	71	73	64	64	50	65	60	-29	-24	-53	-25	60	62	60
8	-8	-13	-11	-16	-7	-23	-29	70	61	53	46	-27	-38	-49
9	-3	-7	-12	-7	-4	-14	-24	61	42	39	34	-15	-26	-40
11	-40	-39	-37	-45	-26	-41	-53	53	39	43	44	-37	-44	-48
10	-14	-13	-14	-19	-14	-24	-25	46	34	44	34	-24	-28	-28
15	65	63	57	58	50	65	60	-27	-15	-37	-24	67	75	66
14	57	62	58	54	43	62	62	-38	-26	-44	-28	75	73	65
16	50	48	48	50	35	52	60	-49	-40	-48	-28	66	65	66
13	59	59	59	58	36	52	62	-40	-37	-48	-28	65	71	74
18	55	52	52	54	34	61	63	-39	-34	-53	-33	66	70	66
23	64	63	56	61	47	65	67	-34	-18	-50	-31	60	65	64
20	61	63	56	56	47	65	72	-24	-19	-42	-27	66	63	62
21	58	56	56	57	45	57	61	-34	-16	-48	-33	57	61	63
22	56	56	49	46	36	58	63	-40	-33	-56	-34	53	55	65
19	57	61	54	52	38	58	67	-46	-35	-54	-30	64	65	72
29	38	30	32	31	31	35	38	-6	-4	-11	-3	29	25	38
28	22	16	13	19	11	19	21	-9	-7	-5	-6	12	10	23
30	56	42	50	52	41	43	46	-7	0	-22	-13	36	36	42
25	48	40	43	46	42	40	43	-14	-10	-19	-20	34	36	45
26	48	51	42	41	34	46	49	-21	-14	-25	-17	44	42	50
27	32	29	25	30	25	35	29	-13	-8	-15	-22	35	37	43
24	33	31	25	28	26	33	33	-3	-6	-13	-4	18	25	24
7	-39	-49	-42	-45	-34	-43	-48	21	20	36	31	-40	-44	-38
12	-9	-8	-8	-12	-9	-10	-5	-8	-9	8	46	-14	-10	2
501	91	89	85	82	72	80	77	-18	-12	-49	-22	72	69	60
502	-24	-27	-27	-32	-18	-38	-48	84	65	66	58	-38	-50	-61
503	69	68	66	66	48	70	74	-47	-37	-56	-34	82	85	81
504	71	71	65	65	51	72	78	-42	-29	-59	-37	71	74	78
505	53	46	44	48	40	48	50	-14	-9	-21	-16	40	40	51
506	-61	-72	-62	-72	-54	-67	-67	17	14	54	97	-68	-69	-46

"Table 4 (cont'd.)."

	13	18	23	20	21	22	19	29	28	30	25	26	27	24
6	59	55	64	61	58	56	57	38	22	56	48	48	32	33
1	59	52	63	63	56	56	61	30	16	42	40	51	29	31
2	59	52	56	56	56	49	54	32	13	50	43	42	25	25
3	58	54	61	56	57	46	52	31	19	52	46	41	30	28
4	36	34	47	47	45	36	38	31	11	41	42	34	25	26
17	52	61	65	65	57	58	58	35	19	43	40	46	35	33
5	62	63	67	72	61	63	67	38	21	46	43	49	29	33
8	-40	-39	-34	-24	-34	-40	-46	-6	-9	-7	-14	-21	-13	-3
9	-37	-34	-18	-19	-16	-33	-35	-4	-7	0	-10	-14	-8	-6
11	-48	-53	-50	-42	-48	-56	-54	-11	-5	-22	-19	-25	-15	-13
10	-28	-33	-31	-27	-33	-34	-30	-3	-6	-13	-20	-17	-22	-4
15	65	66	60	66	57	53	64	29	12	36	34	44	35	18
14	71	70	65	63	61	55	65	25	10	36	36	42	37	25
16	74	66	64	62	63	65	72	38	23	42	45	50	43	24
13	72	70	66	61	66	64	76	34	16	40	44	50	36	27
18	70	66	61	62	58	62	70	26	15	36	38	45	35	20
23	66	61	78	69	81	73	69	46	28	56	55	62	41	37
20	61	62	69	65	64	73	66	57	31	61	61	64	52	48
21	66	58	81	64	68	69	64	34	21	44	49	54	39	26
22	64	62	73	73	69	76	76	45	31	48	50	54	38	36
19	76	70	69	66	64	76	66	46	38	45	48	60	44	29
29	34	26	46	57	34	45	46	75	61	76	62	67	51	61
28	16	15	28	31	21	31	38	61	46	53	48	55	43	48
30	40	36	56	61	44	48	45	76	53	66	71	59	48	51
25	44	38	55	61	49	50	48	62	48	71	65	65	63	47
26	50	45	62	64	54	54	60	67	55	59	65	63	57	48
27	36	35	41	52	39	38	44	51	43	48	63	57	41	32
24	27	20	37	48	26	36	29	61	48	51	47	48	32	39
7	-40	-47	-46	-46	-38	-41	-33	-11	4	-22	-22	-27	-17	-19
12	5	-8	-11	-20	-5	-5	2	-19	-1	-18	-24	-9	-27	-11
501	67	64	73	73	67	63	67	41	21	57	52	54	36	36
502	-57	-58	-49	-41	-48	-60	-61	-9	-10	-16	-23	-28	-21	-9
503	85	81	76	76	74	72	83	37	18	46	47	56	45	28
504	79	74	88	80	83	87	81	54	35	61	63	70	51	42
505	47	41	62	71	51	58	59	87	68	81	81	79	64	63
506	-45	-70	-71	-84	-53	-57	-39	-38	3	-50	-58	-46	-55	-37

"Table 4 (cont'd.)."

	7	12	501	502	503	504	505	506
6	-39	-9	91	-24	69	71	53	-61
1	-49	-8	89	-27	68	71	46	-72
2	-42	-8	85	-27	66	65	44	-62
3	-45	-12	82	-32	66	65	48	-72
4	-34	-9	72	-18	48	51	40	-54
17	-43	-10	80	-38	70	72	48	-67
5	-48	-5	77	-48	74	78	50	-67
8	21	-8	-18	84	-47	-42	-14	17
9	20	-9	-12	65	-37	-29	-9	14
11	36	8	-49	66	-56	-59	-21	54
10	31	46	-22	58	-34	-37	-16	97
15	-40	-14	72	-38	82	71	40	-68
14	-44	-10	69	-50	85	74	40	-69
16	-38	2	60	-61	81	78	51	-46
13	-40	5	67	-57	85	79	47	-45
18	-47	-8	64	-58	81	74	41	-70
23	-46	-11	73	-49	76	88	62	-71
20	-46	-20	73	-41	76	80	71	-84
21	-38	-5	67	-48	74	83	51	-53
22	-41	-5	63	-60	72	87	58	-57
19	-33	2	67	-61	83	81	59	-39
29	-11	-19	41	-9	37	54	87	-38
28	4	-1	21	-10	18	35	68	3
30	-22	-18	57	-16	46	61	81	-50
25	-22	-24	52	-23	47	63	81	-58
26	-27	-9	54	-28	56	70	79	-46
27	-17	-27	36	-21	45	51	64	-55
24	-19	-11	36	-9	28	42	63	-37
7	18	13	-52	40	-51	-48	-22	40
12	13	18	-10	14	-6	-9	-21	40
501	-52	-10	100	-37	80	82	57	-79
502	40	14	-37	100	-64	-61	-22	67
503	-51	-6	80	-64	100	91	53	-72
504	-48	-9	82	-61	91	100	72	-73
505	-22	-21	57	-22	53	72	100	-54
506	40	40	-79	67	-72	-73	-54	100

interrater reliabilities for the California Psychotherapy Alliance Scale scales computed in this way were low (Table 5, between raters correlation matrix). The interrater reliability for Patient Positive Contribution was $\underline{r}$ = .32, for Patient Negative Contribution $\underline{r}$ = .46, for Patient Commitment $\underline{r}$ = .10, for Working Strategy Consensus $\underline{r}$ = .23, and for Therapist Involvement $\underline{r}$ = .30. Comparing the between raters correlation matrix (Table 5) to the within rater correlation matrix, the between-raters correlations are much lower, but the broad pattern of correlations is preserved. Thus, scales 1,3,4,5 correlated positively with each other, whereas Patient Negative Contribution correlated negatively with all other scales. Further, the within-rater correlation matrix indicates that scales 1,3,4, and 5 correlate highly. This pattern suggests a halo effect, with each rater forming an overall impression of the alliance that influenced ratings on all scales. In addition to the halo effect, each rater demonstrated considerable idiosyncratic variability in their ratings (Table 5, idiosyncratic component correlation matrix).

Test-retest stabilities for the same rater were also low (Table 6, between times correlation matrix). The Pearson's correlation test-retest reliability for Patient Positive Contribution was $\underline{r}$ = .32, for Patient Negative

Table 5
California Psychotherapy Alliance Scale Interrater Reliability

		Different Raters at the Same Time Point									
Rater	Scale	1A	2A	3A	4A	5A	1B	2B	3B	4B	5B
	(1)		-.38	.61	.58	.28	.32	-.36	.28	.33	.19
	(2)	-.38		-.66	-.47	.04	.06	.46	-.17	.03	.10
A	(3)	.61	-.66		.78	.23	.01	-.49	.10	.10	-.05
	(4)	.58	-.47	.78		.64	.04	-.39	.09	.23	.02
	(5)	.28	.04	.23	.64		.13	-.09	-.05	.28	.30
	(1)	.32	.06	.01	.04	.13		-.06	.70	.78	.61
	(2)	-.36	.46	-.49	-.39	-.09	-.06		-.10	-.13	.01
B	(3)	.28	-.17	.10	.09	-.05	.70	-.10		.61	.30
	(4)	.33	.03	.10	.23	.28	.78	-.13	.61		.72
	(5)	.19	.10	-.05	.02	.30	.61	.01	.30	.72	

Within-Rater Correlation Matrix

		1	2	3	4	5
Patient Positive Contribution	(1)		-.22	.65	.68	.45
Patient Negative Contribution	(2)	-.22		-.38	-.30	.02
Patient Commitment	(3)	.65	-.38		.70	.27
Working Strategy Consensus	(4)	.68	-.30	.70		.68
Therapist Involvement	(5)	.45	.02	.27	.68	

Between-Raters Correlation Matrix

		1	2	3	4	5
Patient Positive Contribution	(1)	.32	-.15	.15	.18	.16
Patient Negative Contribution	(2)	-.15	.46	-.33	-.18	.00
Patient Commitment	(3)	.15	-.33	.10	.10	-.05
Working Strategy Consensus	(4)	.18	-.18	.10	.23	.15
Therapist Involvement	(5)	.16	.00	-.05	.15	.30

Idiosyncratic Component Correlation Matrix

		1	2	3	4	5
Patient Positive Contribution	(1)	.68	-.07	.51	.50	.28
Patient Negative Contribution	(2)	-.07	.54	-.05	-.12	.02
Patient Commitment	(3)	.51	-.05	.90	.60	.32
Working Strategy Consensus	(4)	.50	-.12	.60	.77	.53
Therapist Involvement	(5)	.28	.02	.32	.53	.70

Table 6
California Psychotherapy Alliance Scale Test-retest Reliability

Same Rater at Different Time Points

		Time I					Time II				
Time	Scale	1	2	3	4	5	1	2	3	4	5
	(1)		-.33	.72	.70	.16	.32	-.20	.33	.27	.12
	(2)	-.33		-.58	-.56	-.18	.01	.20	.04	.06	.06
I	(3)	.72	-.58		.78	.17	.18	-.07	.24	.13	.11
	(4)	.70	-.56	.78		.51	.33	-.05	.19	.24	.32
	(5)	.16	-.18	.17	.51		.26	.32	-.01	.20	.52
	(1)	.32	.01	.18	.33	.26		-.12	.65	.68	.58
	(2)	-.20	.20	-.07	-.05	.32	-.12		-.37	-.44	.17
II	(3)	.33	.04	.24	.19	-.01	.65	-.37		.83	.49
	(4)	.27	.06	.13	.24	.20	.68	-.44	.83		.70
	(5)	.12	.06	.11	.32	.52	.58	.17	.49	.70	

Within-Time Correlation Matrix

		1	2	3	4	5
Patient Positive Contribution	(1)		-.23	.69	.69	.37
Patient Negative Contribution	(2)	-.23		-.48	-.50	-.01
Patient Commitment	(3)	.69	-.48		.80	.33
Working Strategy Consensus	(4)	.69	-.50	.80		.61
Therapist Involvement	(5)	.37	-.01	.33	.61	

Between-Times Correlation Matrix

		1	2	3	4	5
Patient Positive Contribution	(1)	.32	-.10	.26	.30	.19
Patient Negative Contribution	(2)	-.10	.20	-.02	.00	.19
Patient Commitment	(3)	.26	-.02	.24	.16	.05
Working Strategy Consensus	(4)	.30	.00	.16	.24	.26
Therapist Involvement	(5)	.19	.19	.05	.26	.52

Idiosyncratic Component Correlation Matrix

		1	2	3	4	5
Patient Positive Contribution	(1)	.68	-.13	.43	.39	.18
Patient Negative Contribution	(2)	-.13	.80	-.46	-.51	-.19
Patient Commitment	(3)	.43	-.46	.76	.65	.28
Working Strategy Consensus	(4)	.39	-.51	.65	.76	.35
Therapist Involvement	(5)	.18	-.19	.28	.35	.48

Contribution r = .20, for Patient Commitment r = .24, for Working Strategy Consensus r = .24, and for Therapist Involvement r = .52. Again the pattern of the correlations was preserved from the within time correlation matrix to the between time correlation matrix, although the relationships are much stronger within time.

The between time correlation matrix with different raters (Table 7) again showed modest correlations. The Pearson's correlation for Patient Positive Contribution was r = .50, for Patient Negative Contribution r = .02, for Patient Commitment r = .34, for Working Strategy Consensus r = .33, and for Therapist Involvement r = .43. Again the pattern of the correlations is preserved from the within time correlation matrix to the between time correlation matrix, although the relationships are much stronger within time.

Revision of CALPAS

In light of reliability problems with CALPAS, steps were taken to improve its reliability. There has been considerable improvement in the interrater reliability as a result of combining the scales (Table 8). For the California Psychotherapy Alliance Scale, the Pearson

Table 7
California Psychotherapy Alliance Scale Reliability Across Time and Rater

		Different Raters Across Two Time Points									
		Time I					Time II				
Time	Scale	1	2	3	4	5	1	2	3	4	5
I	(1)		-.38	.77	.80	.45	.50	-.02	.31	.24	.17
	(2)	-.38		-.66	-.57	-.31	-.39	.02	-.34	-.27	-.21
	(3)	.77	-.66		.79	.46	.43	.07	.34	.13	.08
	(4)	.80	-.57	.79		.66	.50	.04	.41	.33	.29
	(5)	.45	-.31	.46	.66		.43	.07	.24	.30	.43
II	(1)	.50	-.39	.43	.50	.43		-.22	.63	.64	.43
	(2)	-.02	.02	.07	.04	.07	-.22		-.36	-.49	.20
	(3)	.31	-.34	.34	.41	.24	.63	-.36		.75	.27
	(4)	.24	-.27	.13	.33	.30	.64	-.49	.75		.57
	(5)	.17	-.21	.08	.29	.43	.43	.20	.27	.57	

Within-Time Correlation Matrix With Different Raters						
		1	2	3	4	5
Patient Positive Contribution	(1)		-.30	.70	.72	.44
Patient Negative Contribution	(2)	-.30		-.51	-.53	-.06
Patient Commitment	(3)	.70	-.51		.77	.37
Working Strategy Consensus	(4)	.72	-.53	.77		.62
Therapist Involvement	(5)	.44	-.06	.37	.62	

Across-Times Correlation Matrix With Different Raters						
		1	2	3	4	5
Patient Positive Contribution	(1)	.50	-.21	.37	.37	.30
Patient Negative Contribution	(2)	-.21	.02	-.14	-.12	-.07
Patient Commitment	(3)	.37	-.14	.34	.27	.16
Working Strategy Consensus	(4)	.37	-.12	.27	.33	.30
Therapist Involvement	(5)	.30	-.07	.16	.30	.43

Idiosyncratic Component Correlation Matrix						
		1	2	3	4	5
Patient Positive Contribution	(1)	.50	-.10	.33	.35	.14
Patient Negative Contribution	(2)	-.10	.98	-.38	-.41	.01
Patient Commitment	(3)	.33	-.38	.66	.50	.21
Working Strategy Consensus	(4)	.35	-.41	.50	.67	.32
Therapist Involvement	(5)	.14	.01	.21	.32	.57

Table 8

California Psychotherapy Alliance Scale Interrater Reliability

Rater	Scale	Different Raters at the Same Time Point Correlation Matrix[1]				
			1A	2A	1B	2B
A	CALPAS[2]	(1)		-0.46	0.26	-0.45
	Patient Negative Contribution	(2)	-0.46		0.03	0.60
B	CALPAS	(1)	0.26	0.03		-0.09
	Patient Negative Contribution	(2)	-0.45	0.60	-0.09	

[1]Corrected for attenuation.

[2]CALPAS variables contain all the CALPAS scales except Patient negative Contribution, which was separated to function as an independent index.

correlation between raters for the patient negative contribution scale was r = .60. The interrater correlation for the combined California Psychotherapy Alliance Scale scale was r = .26, which unsatisfactory.

The five CALPAS scales were averaged into a composite at each of the four time points. A confirmatory factor analysis was performed on these combined variables (Table 9). This factor analysis indicates that the CALPAS Patient Negative Contribution scale does not correlate as well with the other CALPAS scales as they do with each other nor does it correlate well with the combined scale as a whole.

The variables were regrouped again. The California Psychotherapy Alliance Scale scales were combined at each of the four time points, but Patient Negative Contribution was excluded to function as an independent scale at each time point. A confirmatory factor analysis was performed on the new variables (Table 10). Component scale-combined scale correlations were higher, and component scales were more parallel in intercorrelation. The coefficient alphas for the combined scales were improved as well.

Therapist Action Scale Revised (TASR)

An exploratory principal-components factor analysis was performed on the intercorrelation matrix of the 18 item

Table 9

Confirmatory Factor Analysis of the California Psychotherapy Alliance Scale (CALPAS) and the Therapist Action Scale Revised (TASR) at Four Time Points and Pretherapy and Posttherapy Symptom Checklist 90 Global Severity Index Scores (SCL90-R GSI).

Scale Number	Scale Name	Scales Included	Standard Score Coefficient Alpha
501	CALPAS Time 1[1]	(1-5)[4]	88
502	CALPAS Time 2	(6-10)	85
503	CALPAS Time 3	(11-15)	82
504	CALPAS Time 4	(16-20)	85
505	TASR Time 1[2]	(21-24)	30
506	TASR Time 2	(25-28)	36
507	TASR Time 3	(29-32)	39
508	TASR Time 4	(33-36)	60
509	Symptoms[3]	(37-38)	38

[1]The five CALPAS scales have been averaged at each time point to form one scale at each time point.

[2]The four TASR scales have been combined at each time point to form one scale at each time point.

[3]Pretherapy and posttherapy SCL90 GSI scores were aggregated to form one symptoms scale.

[4]The following variables have been reflected: (2,7,12,17,24,28,32,36).

"Table 9 (cont'd.)."

Scales	Factor Intercorrelations and Loading Matrix Communality in the Diagonal						
		1	2	3	4	5	6
Patient Positive Contribution 1	(1)	58	35	75	75	54	28
Patient Negative Contribution 1	(2)	35	31	60	58	34	14
Patient Commitment 1	(3)	75	60	80	79	56	21
Working Strategy Consensus 1	(4)	75	58	79	99	81	32
Therapist Involvement 1	(5)	54	34	56	81	49	45
Patient Positive Contribution 2	(6)	28	14	21	32	45	58
Patient Negative Contribution 2	(7)	10	45	16	16	4	30
Patient Commitment 2	(8)	28	15	18	25	26	77
Working Strategy Consensus 2	(9)	27	25	20	34	38	82
Therapist Involvement 2	(10)	51	37	49	59	42	33
Patient Positive Contribution 3	(11)	42	34	51	49	41	47
Patient Negative Contribution 3	(12)	12	16	13	3	-13	3
Patient Commitment 3	(13)	32	20	42	30	10	24
Working Strategy Consensus 3	(14)	21	14	29	24	16	23
Therapist Involvement 3	(15)	17	9	25	33	41	15
Patient Positive Contribution 4	(16)	4	38	9	28	21	19
Patient Negative Contribution 4	(17)	9	36	19	15	-15	2
Patient Commitment 4	(18)	4	38	24	26	16	14
Working Strategy Consensus 4	(19)	-3	23	10	19	12	3
Therapist Involvement 4	(20)	32	23	29	45	48	8
Addressing Transference 1	(21)	10	-11	-7	17	18	5
Addressing Defenses 1	(22)	4	-34	-15	-6	-2	16
Expressive Intervention 1	(23)	11	-9	21	10	4	15
Support 1	(24)	32	34	40	54	41	19
Addressing Transference 2	(25)	-9	-5	-16	0	9	10
Addressing Defenses 2	(26)	11	-12	-11	10	15	13
Expressive Intervention 2	(27)	35	17	32	40	35	14
Support 2	(28)	-2	22	-5	4	6	10
Addressing Transference 3	(29)	30	21	16	29	31	34
Addressing Defenses 3	(30)	27	-9	24	18	14	-5
Expressive Intervention 3	(31)	-6	10	1	-9	-20	-17
Support 3	(32)	-6	-3	-3	5	-3	-5
Addressing Transference 4	(33)	-29	-28	-25	-21	-12	-10
Addressing Defenses 4	(34)	-21	-22	-26	-16	-6	4
Expressive Intervention 4	(35)	2	-7	1	7	17	8
Support 4	(36)	9	-20	-14	-15	-14	-1
Pretherapy SCL90-R GSI Score	(37)	-25	-2	-33	-37	-30	-7
Posttherapy SCL90-R GSI Score	(38)	-10	7	-21	-7	-6	-16
CALPAS Time 1	(501)	76	56	89	100	70	36
CALPAS Time 2	(502)	39	37	33	45	42	76
CALPAS Time 3	(503)	35	26	46	39	27	32
CALPAS Time 4	(504)	13	43	25	36	23	12
TASR Time 1	(505)	41	-14	28	54	44	40
TASR Time 2	(506)	23	14	0	35	44	31
TASR Time 3	(507)	29	12	24	28	14	5
TASR Time 4	(508)	-18	-35	-29	-21	-7	0
Symptoms	(509)	-34	4	-52	-43	-35	-23

"Table 9 (cont'd.)."

	7	8	9	10	11	12	13	14	15	16	17	18	19	20
1	10	28	27	51	42	12	32	21	17	4	9	4	-3	32
2	45	15	25	37	34	16	20	14	9	38	36	38	23	23
3	16	18	20	49	51	13	42	29	25	9	19	24	10	29
4	16	25	34	59	49	3	30	24	33	28	15	26	19	45
5	4	26	38	42	41	-13	10	16	41	21	-15	16	12	48
6	30	77	82	33	47	3	24	23	15	19	2	14	3	8
7	30	59	53	29	6	15	0	-4	-9	15	11	19	3	-13
8	59	79	80	33	27	-4	21	6	3	20	2	13	0	3
9	53	80	101	57	38	1	21	18	18	28	7	21	11	20
10	29	33	57	23	25	-29	14	13	33	20	19	21	24	41
11	6	27	38	25	54	28	66	63	48	41	8	43	31	41
12	15	-4	1	-29	28	15	44	58	-8	12	31	16	4	-10
13	0	21	21	14	66	44	77	81	42	29	28	37	28	29
14	-4	6	18	13	63	58	81	110	63	38	28	43	40	40
15	-9	3	18	33	48	-8	42	63	23	44	-7	32	37	66
16	15	20	28	20	41	12	29	38	44	65	24	70	71	64
17	11	2	7	19	8	31	28	28	-7	24	15	53	49	-1
18	19	13	21	21	43	16	37	43	32	70	53	92	91	46
19	3	0	11	24	31	4	28	40	37	71	49	91	98	55
20	-13	3	20	41	41	-10	29	40	66	64	-1	46	55	28
21	2	6	17	22	8	-7	13	7	13	13	-7	0	8	29
22	8	39	10	-1	-3	-10	6	-4	-8	-22	-32	-25	-25	-15
23	15	33	10	-5	2	-4	10	-10	-17	-16	-28	-14	-16	-11
24	13	22	32	32	41	-3	34	15	27	32	19	31	26	32
25	-11	3	16	9	19	-5	2	11	16	24	0	18	25	15
26	-30	9	1	-4	13	3	7	13	4	12	4	12	19	15
27	16	32	18	10	26	0	42	18	23	19	-12	15	8	31
28	40	22	29	-1	12	17	3	4	-7	28	13	29	19	5
29	16	35	38	45	23	-34	-5	-5	23	24	-2	9	0	29
30	-17	4	-5	21	28	-31	14	9	33	2	-7	2	0	27
31	-13	-10	-19	-12	-2	-2	22	8	2	9	23	19	18	-2
32	-13	-5	-3	-17	0	18	10	15	17	21	18	18	14	-2
33	-9	-7	7	0	-5	-7	-6	9	25	21	-29	4	7	24
34	-3	-3	14	-8	6	4	0	12	16	23	-18	10	15	25
35	-6	7	27	19	17	-5	7	15	36	37	-6	25	28	43
36	-9	4	5	-16	-19	0	-7	-19	-15	-20	-6	-41	-36	-2
37	2	-13	-2	-1	-2	-16	-21	-10	6	-1	-16	-10	0	-11
38	6	-1	-2	4	-25	-13	-18	-2	12	18	-2	-1	12	27
501	24	29	37	61	55	8	34	27	32	26	16	27	16	45
502	55	89	101	47	39	-4	22	15	16	28	11	24	11	16
503	2	15	27	16	73	39	88	106	48	47	25	48	40	47
504	10	11	23	34	45	15	41	52	47	80	38	96	99	52
505	27	72	50	35	34	-18	46	6	11	5	-34	-6	-5	25
506	10	43	42	9	47	10	36	30	24	55	3	49	47	44
507	-17	15	7	23	32	-31	26	17	48	36	20	31	21	34
508	-12	0	24	-2	0	-4	-3	8	28	28	-27	-1	7	41
509	8	-14	-3	3	-27	-29	-38	-12	18	17	-18	-11	11	16

"Table 9 (cont'd.)."

	21	22	23	24	25	26	27	28	29	30	31	32	33	34
1	10	4	11	32	-9	11	35	-2	30	27	-6	-6	-29	-21
2	-11	-34	-9	34	-5	-12	17	22	21	-9	10	-3	-28	-22
3	-7	-15	21	40	-16	-11	32	-5	16	24	1	-3	-25	-26
4	17	-6	10	54	0	10	40	4	29	18	-9	5	-21	-16
5	18	-2	4	41	9	15	35	6	31	14	-20	-3	-12	-6
6	5	16	15	19	10	13	14	10	34	-5	-17	-5	-10	4
7	2	8	15	13	-11	-30	16	40	16	-17	-13	-13	-9	-3
8	6	39	33	22	3	9	32	22	35	4	-10	-5	-7	-3
9	17	10	10	32	16	1	18	29	38	-5	-19	-3	7	14
10	22	-1	-5	32	9	-4	10	-1	45	21	-12	-17	0	-8
11	8	-3	2	41	19	13	26	12	23	28	-2	0	-5	6
12	-7	-10	-4	-3	-5	3	0	17	-34	-31	-2	18	-7	4
13	13	6	10	34	2	7	42	3	-5	14	22	10	-6	0
14	7	-4	-10	15	11	13	18	4	-5	9	8	15	9	12
15	13	-8	-17	27	16	4	23	-7	23	33	2	17	25	16
16	13	-22	-16	32	24	12	19	28	24	2	9	21	21	23
17	-7	-32	-28	19	0	4	-12	13	-2	-7	23	18	-29	-18
18	0	-25	-14	31	18	12	15	29	9	2	19	18	4	10
19	8	-25	-16	26	25	19	8	19	0	0	18	14	7	15
20	29	-15	-11	32	15	15	31	5	29	27	-2	-2	24	25
21	11	10	7	16	29	4	23	11	14	12	14	4	7	17
22	10	27	52	-18	-12	24	32	-6	15	26	16	-13	13	-10
23	7	52	38	-10	-2	-4	40	-3	3	11	18	3	12	1
24	16	-18	-10	1	9	1	35	23	-4	0	-10	-4	-7	13
25	29	-12	-2	9	34	45	-9	19	13	-4	-16	8	10	6
26	4	24	-4	1	45	41	9	4	4	9	-9	7	-7	9
27	23	32	40	35	-9	9	0	7	-1	18	28	9	16	8
28	11	-6	-3	23	19	4	7	6	21	-3	-2	16	13	15
29	14	15	3	-4	13	4	-1	21	11	34	2	3	10	-14
30	12	26	11	0	-4	9	18	-3	34	49	27	3	14	12
31	14	16	18	-10	-16	-9	28	-2	2	27	14	13	13	6
32	4	-13	3	-4	8	7	9	16	3	3	13	2	23	21
33	7	13	12	-7	10	-7	16	13	10	14	13	23	67	69
34	17	-10	1	13	6	9	8	15	-14	12	6	21	69	71
35	14	-2	6	2	19	-4	16	28	33	12	19	24	38	22
36	2	-10	0	-3	-11	-15	-1	4	2	11	5	14	6	25
37	-7	-1	-21	-31	23	7	-27	-15	15	-15	5	-12	-1	-11
38	-7	4	-17	-3	1	3	13	7	-1	-17	0	-3	20	9
501	7	-14	9	51	-6	3	41	7	33	19	-7	-2	-29	-23
502	15	20	18	32	7	-3	25	27	46	-1	-19	-12	-5	1
503	9	-5	-6	32	12	12	31	8	0	15	8	17	4	10
504	12	-33	-23	38	23	17	17	25	16	6	18	19	7	15
505	32	51	64	-8	17	18	94	18	20	36	28	-7	19	15
506	45	25	20	45	58	66	4	23	24	13	0	26	21	25
507	29	28	23	-12	0	7	34	21	33	73	36	14	38	16
508	18	-4	9	2	11	-8	18	28	14	22	19	37	82	86
509	-14	3	-37	-33	23	10	-14	-7	14	-31	5	-15	19	-2

"Table 9 (cont'd.)."

	35	36	37	38	501	502	503	504	505	506	507	508	509
1	2	9	-25	-10	76	39	35	13	41	23	29	-18	-34
2	-7	-20	-2	7	56	37	26	43	-14	14	12	-35	4
3	1	-14	-33	-21	89	33	46	25	28	0	24	-29	-52
4	7	-15	-37	-7	100	45	39	36	54	35	28	-21	-43
5	17	-14	-30	-6	70	42	27	23	44	44	14	-7	-35
6	8	-1	-7	-16	36	76	32	12	40	31	5	0	-23
7	-6	-9	2	6	24	55	2	10	27	10	-17	-12	8
8	7	4	-13	-1	29	89	15	11	72	43	15	0	-14
9	27	5	-2	-2	37	101	27	23	50	42	7	24	-3
10	19	-16	-1	4	61	47	16	34	35	9	23	-2	3
11	17	-19	-2	-25	55	39	73	45	34	47	32	0	-27
12	-5	0	-16	-13	8	-4	39	15	-18	10	-31	-4	-29
13	7	-7	-21	-18	34	22	88	41	46	36	26	-3	-38
14	15	-19	-10	-2	27	15	106	52	6	30	17	8	-12
15	36	-15	6	12	32	16	48	47	11	24	48	28	18
16	37	-20	-1	18	26	28	47	80	5	55	36	28	17
17	-6	-6	-16	-2	16	11	25	38	-34	3	20	-27	-18
18	25	-41	-10	-1	27	24	48	96	-6	49	31	-1	-11
19	28	-36	0	12	16	11	40	99	-5	47	21	7	11
20	43	-2	-11	27	45	16	47	52	25	44	34	41	16
21	14	2	-7	-7	7	15	9	12	32	45	29	18	-14
22	-2	-10	-1	4	-14	20	-5	-33	51	25	28	-4	3
23	6	0	-21	-17	9	18	-6	-23	64	20	23	9	-37
24	2	-3	-31	-3	51	32	32	38	-8	45	-12	2	-33
25	19	-11	23	1	-6	7	12	23	17	58	0	11	23
26	-4	-15	7	3	3	-3	12	17	18	66	7	-8	10
27	16	-1	-27	13	41	25	31	17	94	4	34	18	-14
28	28	4	-15	7	7	27	8	25	18	23	21	28	-7
29	33	2	15	-1	33	46	0	16	20	24	33	14	14
30	12	11	-15	-17	19	-1	15	6	36	13	73	22	-31
31	19	5	5	0	-7	-19	8	18	28	0	36	19	5
32	24	14	-12	-3	-2	-12	17	19	-7	26	14	37	-15
33	38	6	-1	20	-29	-5	4	7	19	21	38	82	19
34	22	25	-11	9	-23	1	10	15	15	25	16	86	-2
35	12	2	10	9	5	15	20	35	14	39	56	34	18
36	2	3	-10	5	-14	-5	-17	-29	-8	-15	21	16	-5
37	10	-10	28	24	-32	-6	-12	-10	-43	-8	-4	-5	51
38	9	5	24	28	-10	-2	-13	15	-16	15	-14	20	51
501	5	-14	-32	-10		50	44	36	39	30	28	-28	-41
502	15	-5	-6	-2	50		25	25	61	37	9	3	-8
503	20	-17	-12	-13	44	25		56	22	42	26	8	-25
504	35	-29	-10	15	36	25	56		-4	54	39	13	4
505	14	-8	-43	-16	39	61	22	-4		97	49	18	-58
506	39	-15	-8	15	30	37	42	54	97		41	32	7
507	56	21	-4	-14	28	9	26	39	49	41		60	-18
508	34	16	-5	20	-28	3	8	13	18	32	60		14
509	18	-5	51	51	-41	-8	-25	4	-58	7	-18	14	

Table 10

Confirmatory Factor Analysis of the California Psychotherapy Alliance Scale (CALPAS), the Therapist Action Scale Revised (TASR), Support, and Patient Negative Contribution at Four Time Points and the Symptom Checklist 90 Global Severity Index Scores (SCL90-R GSI).

Scale Number	Scale Name	Scales Included	Coefficient Alpha
501	CALPAS Time 1[1]	(1,3-5)	.90
502	CALPAS Time 2	(6,8-10)	.86
503	CALPAS Time 3	(11,13-15)	.86
504	CALPAS Time 4	(16,18-20)	.89
505	TASR Time 1[2]	(21-23)	.48
506	TASR Time 2	(25-27)	.35
507	TASR Time 3	(29-31)	.44
508	TASR Time 4	(33-35)	.70
509	Pretherapy SCL90-R GSI Score	(37)[3]	*
510	Posttherapy SCL90-R GSI Score	(38)	*
511	Patient Negative Contribution 1	(2)[4]	*
512	Patient Negative Contribution 2	(7)	*
513	Patient Negative Contribution 3	(12)	*
514	Patient Negative Contribution 4	(17)	*
515	Support Time 1	(24)	*
516	Support Time 2	(28)	*
517	Support Time 3	(32)	*
518	Support Time 4	(36)	*

[1]CALPAS variables at times 1-4 contain all scales except Patient Negative Contribution, which was separated to function as an independent index.

[2]TASR variables at times 1-4 contain all TASR scales except Support, which was separated to form an independent index.

[3]In the Factor Loadings and Intercorrelations Matrix, all scales corresponding one to one with clusters, i.e., 37 and 509, 38 and 510, etc. were deleted.

[4]The following variables have been reflected: (2,7,12,17,24,28,32,36)

* Constrained to be 1 since only one subscale composes the scale.

"Table 10 (cont'd.)."

Scales	Factor Intercorrelations and Loading Matrix Communality in the Diagonal						
		1	3	4	5	6	8
Patient Positive Contribution 1	(1)	64	75	75	54	28	28
Patient Commitment 1	(3)	75	70	79	56	21	18
Working Strategy Consensus 1	(4)	75	79	96	81	32	25
Therapist Involvement 1	(5)	54	56	81	54	45	26
Patient Positive Contribution 2	(6)	28	21	32	45	70	77
Patient Commitment 2	(8)	28	18	25	26	77	68
Working Strategy Consensus 2	(9)	27	20	34	38	82	80
Therapist Involvement 2	(10)	51	49	59	42	33	33
Patient Positive Contribution 3	(11)	42	51	49	41	47	27
Patient Commitment 3	(13)	32	42	30	10	24	21
Working Strategy Consensus 3	(14)	21	29	24	16	23	6
Therapist Involvement 3	(15)	17	25	33	41	15	3
Patient Positive Contribution 4	(16)	4	9	28	21	19	20
Patient Commitment 4	(18)	4	24	26	16	14	13
Working Strategy Consensus 4	(19)	-3	10	19	12	3	0
Therapist Involvement 4	(20)	32	29	45	48	8	3
Addressing Transference 1	(21)	10	-7	17	18	5	6
Addressing Defenses 1	(22)	4	-15	-6	-2	16	39
Expressive Intervention 1	(23)	11	21	10	4	15	33
Addressing Transference 2	(25)	-9	-16	0	9	10	3
Addressing Defenses 2	(26)	11	-11	10	15	13	9
Expressive Intervention 2	(27)	35	32	40	35	14	32
Addressing Transference 3	(29)	30	16	29	31	34	35
Addressing Defenses 3	(30)	27	24	18	14	-5	4
Expressive Intervention 3	(31)	-6	1	-9	-20	-17	-10
Addressing Transference 4	(33)	-29	-25	-21	-12	-10	-7
Addressing Defenses 4	(34)	-21	-26	-16	-6	4	-3
Expressive Intervention 4	(35)	2	1	7	17	8	7
CALPAS Time 1	(501)	80	84	99	73	38	29
CALPAS Time 2	(502)	43	34	48	48	84	82
CALPAS Time 3	(503)	36	47	44	35	35	18
CALPAS Time 4	(504)	11	22	36	30	13	11
TASR Time 1	(505)	16	-1	13	13	23	50
TASR Time 2	(506)	27	3	35	43	27	32
TASR Time 3	(507)	35	28	26	17	8	19
TASR Time 4	(508)	-23	-24	-15	-1	1	-1
Pretherapy SCL90-R GSI Score	(509)	-25	-33	-37	-30	-7	-13
Posttherapy SCL90-R GSI Score	(510)	-10	-21	-7	-6	-16	-1
Patient Negative Contribution 1	(511)	35	60	58	34	14	15
Patient Negative Contribution 2	(512)	10	16	16	4	30	59
Patient Negative Contribution 3	(513)	12	13	3	-13	3	-4
Patient Negative Contribution 4	(514)	9	19	15	-15	2	2
Support Time 1	(515)	32	40	54	41	19	22
Support Time 2	(516)	-2	-5	4	6	10	22
Support Time 3	(517)	-6	-3	5	-3	-5	-5
Support Time 4	(518)	9	-14	-15	-14	-1	4

"Table 10 (cont'd.)."

	9	10	11	13	14	15	16	18	19	20	21	22	23	25
1	27	51	42	32	21	17	4	4	-3	32	10	4	11	-9
3	20	49	51	42	29	25	9	24	10	29	-7	-15	21	-16
4	34	59	49	30	24	33	28	26	19	45	17	-6	10	0
5	38	42	41	10	16	41	21	16	12	48	18	-2	4	9
6	82	33	47	24	23	15	19	14	3	8	5	16	15	10
8	80	33	27	21	6	3	20	13	0	3	6	39	33	3
9	102	57	38	21	18	18	28	21	11	20	17	10	10	16
10	57	22	25	14	13	33	20	21	24	41	22	-1	-5	9
11	38	25	56	66	63	48	41	43	31	41	8	-3	2	19
13	21	14	66	67	81	42	29	37	28	29	13	6	10	2
14	18	13	63	81	87	63	38	43	40	40	7	-4	-10	11
15	18	33	48	42	63	38	44	32	37	66	13	-8	-17	16
16	28	20	41	29	38	44	72	70	71	64	13	-22	-16	24
18	21	21	43	37	43	32	70	75	91	46	0	-25	-14	18
19	11	24	31	28	40	37	71	91	85	55	8	-25	-16	25
20	20	41	41	29	40	66	64	46	55	40	29	-15	-11	15
21	17	22	8	13	7	13	13	0	8	29	2	10	7	29
22	10	-1	-3	6	-4	-8	-22	-25	-25	-15	10	54	52	-12
23	10	-5	2	10	-10	-17	-16	-14	-16	-11	7	52	48	-2
25	16	9	19	2	11	16	24	18	25	15	29	-12	-2	20
26	1	-4	13	7	13	4	12	12	19	15	4	24	-4	45
27	18	10	26	42	18	23	19	15	8	31	23	32	40	-9
29	38	45	23	-5	-5	23	24	9	0	29	14	15	3	13
30	-5	21	28	14	9	33	2	2	0	27	12	26	11	-4
31	-19	-12	-2	22	8	2	9	19	18	-2	14	16	18	-16
33	7	0	-5	-6	9	25	21	4	7	24	7	13	12	10
34	14	-8	6	0	12	16	23	10	15	25	17	-10	1	6
35	27	19	17	7	15	36	37	25	28	43	14	-2	6	19
501	35	60	55	34	27	35	19	21	11	46	11	-6	14	-5
502	102	46	43	26	19	22	28	22	12	23	16	20	17	12
503	30	27	75	82	94	61	49	50	44	56	13	-3	-5	16
504	24	32	48	37	49	55	85	86	93	63	15	-27	-17	25
505	24	10	4	19	-5	-8	-16	-25	-21	2	12	75	69	9
506	25	11	42	37	30	31	40	33	38	44	41	31	24	40
507	10	36	34	21	8	39	24	20	12	37	27	39	22	-5
508	24	6	9	0	18	38	40	19	25	45	19	0	10	18
509	-2	-1	-2	-21	-10	6	-1	-10	0	-11	-7	-1	-21	23
510	-2	4	-25	-18	-2	12	18	-1	12	27	-7	4	-17	1
511	25	37	34	20	14	9	38	38	23	23	-11	-34	-9	-5
512	53	29	6	0	-4	-9	15	19	3	-13	2	8	15	-11
513	1	-29	28	44	58	-8	12	16	4	-10	-7	-10	-4	-5
514	7	19	8	28	28	-7	24	53	49	-1	-7	-32	-28	0
515	32	32	41	34	15	27	32	31	26	32	16	-18	-10	9
516	29	-1	12	3	4	-7	28	29	19	5	11	-6	-3	19
517	-3	-17	0	10	15	17	21	18	14	-2	4	-13	3	8
518	5	-16	-19	-7	-19	-15	-20	-41	-36	-2	2	-10	0	-11

"Table 10 (cont'd.)."

	26	27	29	30	31	33	34	35	501	502	503	504	505	506
1	11	35	30	27	-6	-29	-21	2	80	43	36	11	16	27
3	-11	32	16	24	1	-25	-26	1	84	34	47	22	-1	3
4	10	40	29	18	-9	-21	-16	7	99	48	44	36	13	35
5	15	35	31	14	-20	-12	-6	17	73	48	35	30	13	43
6	13	14	34	-5	-17	-10	4	8	38	84	35	13	23	27
8	9	32	35	4	-10	-7	-3	7	29	82	18	11	50	32
9	1	18	38	-5	-19	7	14	27	35	102	30	24	24	25
10	-4	10	45	21	-12	0	-8	19	60	46	27	32	10	11
11	13	26	23	28	-2	-5	6	17	55	43	75	48	4	42
13	7	42	-5	14	22	-6	0	7	34	26	82	37	19	37
14	13	18	-5	9	8	9	12	15	27	19	94	49	-5	30
15	4	23	23	33	2	25	16	36	35	22	61	55	-8	31
16	12	19	24	2	9	21	23	37	19	28	49	85	-16	40
18	12	15	9	2	19	4	10	25	21	22	50	86	-25	33
19	19	8	0	0	18	7	15	28	11	12	44	93	-21	38
20	15	31	29	27	-2	24	25	43	46	23	56	63	2	44
21	4	23	14	12	14	7	17	14	11	16	13	15	12	41
22	24	32	15	26	16	13	-10	-2	-6	20	-3	-27	75	31
23	-4	40	3	11	18	12	1	6	14	17	-5	-17	69	24
25	45	-9	13	-4	-16	10	6	19	-5	12	16	25	9	40
26	84	9	4	9	-9	-7	9	-4	8	6	12	18	16	100
27	9	0	-1	18	28	16	8	16	42	24	35	23	60	0
29	4	-1	13	34	2	10	-14	33	32	49	11	19	21	11
30	9	18	34	71	27	14	12	12	25	5	27	9	32	16
31	-9	28	2	27	7	13	6	19	-11	-19	10	14	31	2
33	-7	16	10	14	13	86	69	38	-26	-3	7	17	21	13
34	9	8	-14	12	6	69	50	22	-21	2	11	22	5	17
35	-4	16	33	12	19	38	22	15	8	20	24	41	11	22
501	8	42	32	25	-11	-26	-21	8		52	48	30	12	32
502	6	24	49	5	-19	-3	2	20	52		35	26	34	30
503	12	35	11	27	10	7	11	24	48	35		61	3	45
504	18	23	19	9	14	17	22	41	30	26	61		-18	47
505	16	60	21	32	31	21	5	11	12	34	3	-18		61
506	100	0	11	16	2	13	17	22	32	30	45	47	61	
507	2	30	33	90	24	25	2	43	31	24	32	28	57	20
508	-1	20	14	18	18	95	70	37	-19	9	21	40	19	26
509	7	-27	15	-15	5	-1	-11	10	-37	-7	-8	-7	-19	2
510	3	13	-1	-17	0	20	9	9	-13	-5	-11	17	-13	12
511	-12	17	21	-9	10	-28	-22	-7	56	29	25	37	-34	0
512	-30	16	16	-17	-13	-9	-3	-6	14	54	-2	7	16	-18
513	3	0	-34	-31	-2	-7	4	-5	5	-9	39	7	-14	-1
514	4	-12	-2	-7	23	-29	-18	-6	9	10	19	38	-43	-6
515	1	35	-4	0	-10	-7	13	2	50	34	38	37	-8	32
516	4	7	21	-3	-2	13	15	28	1	19	4	24	2	21
517	7	9	3	3	13	23	21	24	-2	-10	14	16	-4	17
518	-15	-1	2	11	5	6	25	2	-10	-3	-19	-30	-5	-19

"Table 10 (cont'd.)."

	507	508	509	510	511	512	513	514	515	516	517	518
1	35	-23	-25	-10	35	10	12	9	32	-2	-6	9
3	28	-24	-33	-21	60	16	13	19	40	-5	-3	-14
4	26	-15	-37	-7	58	16	3	15	54	4	5	-15
5	17	-1	-30	-6	34	4	-13	-15	41	6	-3	-14
6	8	1	-7	-16	14	30	3	2	19	10	-5	-1
8	19	-1	-13	-1	15	59	-4	2	22	22	-5	4
9	10	24	-2	-2	25	53	1	7	32	29	-3	5
10	36	6	-1	4	37	29	-29	19	32	-1	-17	-16
11	34	9	-2	-25	34	6	28	8	41	12	0	-19
13	21	0	-21	-18	20	0	44	28	34	3	10	-7
14	8	18	-10	-2	14	-4	58	28	15	4	15	-19
15	39	38	6	12	9	-9	-8	-7	27	-7	17	-15
16	24	40	-1	18	38	15	12	24	32	28	21	-20
18	20	19	-10	-1	38	19	16	53	31	29	18	-41
19	12	25	0	12	23	3	4	49	26	19	14	-36
20	37	45	-11	27	23	-13	-10	-1	32	5	-2	-2
21	27	19	-7	-7	-11	2	-7	-7	16	11	4	2
22	39	0	-1	4	-34	8	-10	-32	-18	-6	-13	-10
23	22	10	-21	-17	-9	15	-4	-28	-10	-3	3	0
25	-5	18	23	1	-5	-11	-5	0	9	19	8	-11
26	2	-1	7	3	-12	-30	3	4	1	4	7	-15
27	30	20	-27	13	17	16	0	-12	35	7	9	-1
29	33	14	15	-1	21	16	-34	-2	-4	21	3	2
30	90	18	-15	-17	-9	-17	-31	-7	0	-3	3	11
31	24	18	5	0	10	-13	-2	23	-10	-2	13	5
33	25	95	-1	20	-28	-9	-7	-29	-7	13	23	6
34	2	70	-11	9	-22	-3	4	-18	13	15	21	25
35	43	37	10	9	-7	-6	-5	-6	2	28	24	2
501	31	-19	-37	-13	56	14	5	9	50	1	-2	-10
502	24	9	-7	-5	29	54	-9	10	34	19	-10	-3
503	32	21	-8	-11	25	-2	39	19	38	4	14	-19
504	28	40	-7	17	37	7	7	38	37	24	16	-30
505	57	19	-19	-13	-34	16	-14	-43	-8	2	-4	-5
506	20	26	2	12	0	-18	-1	-6	32	21	17	-19
507		35	4	-13	15	-9	-45	9	-9	11	13	12
508	35		-1	19	-28	-9	-4	-26	4	28	33	16
509	4	-1		24	-2	2	-16	-16	-31	-15	-12	-10
510	-13	19	24		7	6	-13	-2	-3	7	-3	5
511	15	-28	-2	7		45	16	36	34	22	-3	-20
512	-9	-9	2	6	45		15	11	13	40	-13	-9
513	-45	-4	-16	-13	16	15		31	-3	17	18	0
514	9	-26	-16	-2	36	11	31		19	13	18	-6
515	-9	4	-31	-3	34	13	-3	19		23	-4	-3
516	11	28	-15	7	22	40	17	13	23		16	4
517	13	33	-12	-3	-3	-13	18	18	-4	16		14
518	12	16	-10	5	-20	-9	0	-6	-3	4	14	

Therapist Action Scale. The correlations were based on a set of 184 ratings of four sessions for each of 46 subjects. The ratings were made by two judges who rated 45 sessions in common for reliability analysis. In the case where a session was rated by both judges the mean of their ratings was used.

The exploratory principal-components analysis followed by a varimax rotation yielded three components which accounted for 37% of the total variance. The three factor solution contained the four hypothesized dimensions, once the first component was split (Table 11). The three factor solution was used in scale development. The structure of the Therapist Action Scale Revised is generally confirmed.

Four component based scales were constructed by considering hypothesized structure and conceptual relevance. In confirmatory factor analysis (Table 12), the magnitude of item correlations with the scale relative to the other scales as well as the pertinent coefficient alpha were considered.

Reliability of the Therapist Action Scale Revised

For purposes of checking interrater reliability both judges rated a subset of 45 sessions. The interrater

Table 11

Exploratory Factor Analysis of the Therapist Action Scale Revised

Item Number	Varimax Factors With Items Reordered and Grouped According to Their Largest Factor Loading		
	1	2	3
9	78*	5	1
7	77*	0	-5
1	73*	6	5
3	43*	10	0
5	38*	-4	-8
2	18*	4	3
4	9*	-4	-2
8	38	70*	5
6	48	62*	6
17	3	54*	-21
16	4	51*	1
18	-5	42*	-8
13	-13	38*	6
11	-2	3	76*
15	-13	-5	70*
12	5	-6	68*
14	-19	4	61*
10	19	-8	53*

Eigenvalues		
1	2	3
2.95	2.25	1.44

Proportion of Variance		
1	2	3
.14	.10	.13

Table 12

Confirmatory Factor Analysis of the Therapist Action Scale Revised

Scale Number	Scale Name	Items Included	Standard Score Coefficient Alphas
501	Addressing Transference	(1,3,5)	65
502	Addressing Defenses	(6,8,7,9)	78
503	Expressive Intervention	(13,16,17,18)	57
504	Support	(11,12,14,15)	78
505	Residual	(2,4,10)	-14

Items & Scales — Factor Intercorrelations and Loading Matrix Communality in the Diagonal

	1	3	5	6	8	7	9	13	16	17	18	11	12	14
1	58	46	40	30	29	50	51	-10	13	11	3	8	13	-16
3	46	35	28	19	19	22	19	8	15	0	1	2	0	-5
5	40	28	27	9	8	19	19	-5	-1	6	2	-6	-3	-7
6	30	19	9	60	75	34	44	12	24	25	15	4	0	-4
8	29	19	8	75	40	28	29	14	26	26	26	5	-7	3
7	50	22	19	34	28	41	72	-1	-2	8	-2	-9	-3	-16
9	51	19	19	44	29	72	51	-8	5	10	-3	-2	0	-9
13	-10	8	-5	12	14	-1	-8	17	19	20	26	7	-1	12
16	13	15	-1	24	26	-2	5	19	26	44	14	4	10	-10
17	11	0	6	25	26	8	10	20	44	44	27	-15	-15	-11
18	3	1	2	15	26	-2	-3	26	14	27	18	-3	-5	-3
11	8	2	-6	4	5	-9	-2	7	4	-15	-3	63	54	47
12	13	0	-3	0	-7	-3	0	-1	10	-15	-5	54	35	30
14	-16	-5	-7	-4	3	-16	-9	12	-10	-11	-3	47	30	38
15	-8	-8	-5	-10	-10	-7	-5	7	0	-12	-6	56	43	53
2	36	24	-6	4	5	1	3	-9	6	-6	21	7	7	-4
4	11	-5	20	-4	-4	5	9	1	0	8	-2	3	3	1
10	14	2	-7	15	8	12	13	-6	-4	-19	-13	37	45	17
501	77	58	51	31	30	48	47	-4	14	9	3	2	6	-14
502	58	29	20	77	63	64	72	6	19	25	13	-1	-3	-9
503	8	12	1	38	47	1	2	40	51	67	42	-4	-5	-6
504	-1	-4	-7	-4	-3	-13	-6	9	1	-19	-6	80	59	61
505	37	13	4	9	6	11	15	-8	1	-11	4	28	33	8

"Table 12 (cont'd.)."

	15	2	4	10	501	502	503	504	505
1	-8	36	11	14	77	58	8	-1	37
3	-8	24	-5	2	58	29	12	-4	13
5	-5	-6	20	-7	51	20	1	-7	4
6	-10	4	-4	15	31	77	38	-4	9
8	-10	5	-4	8	30	63	47	-3	6
7	-7	1	5	12	48	64	1	-13	11
9	-5	3	9	13	47	72	2	-6	15
13	7	-9	1	-6	-4	6	40	9	-8
16	0	6	0	-4	14	19	51	1	1
17	-12	-6	8	-19	9	25	67	-19	-11
18	-6	21	-2	-13	3	13	42	-6	4
11	56	7	3	37	2	-1	-4	80	28
12	43	7	3	45	6	-3	-5	59	33
14	53	-4	1	17	-14	-9	-6	61	8
15	58	-6	-5	28	-11	-12	-6	76	10
2	-6	100	-4	-3	29	5	6	1	56
4	-5	-4	100	-6	14	2	4	1	54
10	28	-3	-6	100	5	18	-21	46	55
501	-11	29	14	5		57	11	-6	29
502	-12	5	2	18	57		32	-9	15
503	-6	6	4	-21	11	32		-7	-7
504	76	1	1	46	-6	-9	-7		29
505	10	56	54	55	29	15	-7	29	

reliability was checked by Pearson's r correlation coefficient between the scores of the two judges for the 45 sessions. The interrater reliabilities for the Therapist Action Scale Revised scales computed in this way were moderate (Table 10, between raters correlation matrix). The interrater reliability for Addressing Transference was r = .62, for Addressing Defenses r = .44, for Expressive Intervention r = .47, and for Support r = .50. Comparing the between rater correlation matrix (Table 13) to the within rater correlation matrix, the correlations are comparable in pattern and magnitude. The coefficient alphas for the scales range from .57 to .78, which represents adequate internal consistency.

Test-retest reliabilities for the same rater computed with Pearson's correlation were low (Table 14, between times correlation matrix). Test-retest reliability for Addressing Transference was r = .16, for Addressing Defenses r = .13, for Expressive Intervention r = .29, and for Support r = .36. Again the pattern of the correlations is preserved from the within time correlation matrix to the between time correlation matrix, and the magnitude of the correlations is comparable.

The between time correlation matrix with different raters (Table 15) again showed correlations near zero. Pearson's r for Addressing Transference was (r = -.03), and for Addressing Defenses (r = .12, and for Expressive Intervention (r = .01), and for Support (r = .01).

Table 13

Therapist Action Scale Revised Interrater Reliability

Different Raters at the Same Time Point									
Rater	Scale	1A	2A	3A	4A	1B	2B	3B	4B
	(1)		.34	.07	-.05	.62	.36	.44	-.22
A	(2)	.34		.16	-.09	.42	.44	.38	-.11
	(3)	.07	.16		-.11	-.04	.18	.47	-.03
	(4)	-.05	-.09	-.11		.02	-.02	-.17	.50
	(1)	.62	.42	-.04	.02		.58	.23	-.15
B	(2)	.36	.44	.18	-.02	.58		.39	-.16
	(3)	.44	.38	.47	-.17	.23	.39		-.32
	(4)	-.22	-.11	-.03	.50	-.15	-.16	-.32	

Within-Rater Correlation Matrix					
		1	2	3	4
Addressing Transference	(1)		.46	.15	-.10
Addressing Defenses	(2)	.46		.28	-.13
Expressive Intervention	(3)	.15	.28		-.22
Support	(4)	-.10	-.13	-.22	

Between-Raters Correlation Matrix					
		1	2	3	4
Addressing Transference	(1)	.62	.39	.20	-.10
Addressing Defenses	(2)	.39	.44	.28	-.07
Expressive Intervention	(3)	.20	.28	.47	-.10
Support	(4)	-.10	-.07	-.10	.50

Idiosyncratic Component Correlation Matrix					
		1	2	3	4
Addressing Transference	(1)	.38	.07	-.05	-.00
Addressing Defenses	(2)	.07	.56	-.00	-.06
Expressive Intervention	(3)	-.05	-.00	.53	-.11
Support	(4)	-.00	-.06	-.11	.50

Table 14

Therapist Action Scale Revised Test-retest Reliability

Same Rater at Different Time Points

Time	Scale	Time I 1	2	3	4	Time II 1	2	3	4
	(1)		.48	-.10	-.27	.16	.08	-.06	-.14
I	(2)	.48		.13	.09	.18	.13	.03	-.04
	(3)	-.10	.13		.00	.03	.32	.29	.01
	(4)	-.27	.09	.00		-.23	-.04	.00	.36
	(1)	.16	.18	.03	-.23		.37	.04	-.03
II	(2)	.08	.13	.32	-.04	.37		.22	-.07
	(3)	-.06	.03	.29	.00	.04	.22		-.23
	(4)	-.14	-.04	.01	.36	-.03	-.07	-.23	

Within-Time Correlation Matrix

		1	2	3	4
Addressing Transference	(1)		.43	-.03	-.15
Addressing Defenses	(2)	.43		.18	.01
Expressive Intervention	(3)	-.03	.18		-.12
Support	(4)	-.15	.01	-.12	

Between-Times Correlation Matrix

		1	2	3	4
Addressing Transference	(1)	.16	.13	-.02	-.19
Addressing Defenses	(2)	.13	.13	.18	-.04
Expressive Intervention	(3)	-.02	.18	.29	.01
Support	(4)	-.19	-.04	.01	.36

Idiosyncratic Component Correlation Matrix

		1	2	3	4
Addressing Transference	(1)	.84	.30	-.02	.03
Addressing Defenses	(2)	.30	.87	.00	.05
Expressive Intervention	(3)	-.02	.00	.71	-.12
Support	(4)	.03	.05	-.12	.64

Table 15
Therapist Action Scale Revised Reliability Across Time and Rater

Different Raters Across Two Time Points

Time	Scale	Time I 1	2	3	4	Time II 1	2	3	4
	(1)		-.01	-.18	-.18	-.03	-.09	.01	.12
I	(2)	-.01		.40	.15	.16	.12	-.08	.01
	(3)	-.18	.40		-.17	.28	.00	.01	-.07
	(4)	-.18	.15	-.17		-.11	-.01	-.16	.01
	(1)	-.03	.16	.28	-.11		.47	.14	-.12
II	(2)	-.09	.12	.00	-.01	.47		.16	-.09
	(3)	.01	-.08	.01	-.16	.14	.16		-.26
	(4)	.12	.01	-.07	.01	-.12	-.09	-.26	

Within-Time Correlation Matrix With Different Raters

		1	2	3	4
Addressing Transference	(1)		.23	-.02	-.15
Addressing Defenses	(2)	.23		.28	.03
Expressive Intervention	(3)	-.02	.28		-.22
Support	(4)	-.15	.03	-.22	

Across-Times Correlation Matrix With Different Raters

		1	2	3	4
Addressing Transference	(1)	-.03	.03	.15	.00
Addressing Defenses	(2)	.03	.12	-.04	.00
Expressive Intervention	(3)	.15	-.04	.01	-.12
Support	(4)	.00	.00	-.12	.01

Idiosyncratic Component Correlation Matrix

		1	2	3	4
Addressing Transference	(1)	1.03	.19	-.16	-.16
Addressing Defenses	(2)	.19	.88	.32	.03
Expressive Intervention	(3)	-.16	.32	.99	-.10
Support	(4)	-.16	.03	-.10	.99

Reliability of the Revision of the Therapist Action Scale Revised (TASR)

Steps were taken to improve the reliability of the TASR. There has been considerable improvement in the interrater reliability as a result of combining the scales (Table 16). For the Therapist Action Scale Revised (TASR) the Pearson correlation for the TASR combined variable between raters was r = .98, and for the Support scale r = .64.

Revision of the Therapist Action Scale Revised

Each of the four Therapist Action Scale Revised scales were combined together into one large scale at each of the four time points measured. For comparison, the pretherapy and posttherapy SCL90-R Global Severity Index scores were combined into one symptoms measure.

A confirmatory factor analysis was performed on these combined variables (Table 9). For the Therapist Action Scale Revised, the Support scale does not correlate as well with the other Therapist Action Scale Revised scales as they do with each other nor does it correlate well with the combined scale as a whole. There is room for

Table 16

Therapist Action Scale Revised Interrater Reliability

Rater	Scale		Different Raters at the Same Time Point Correlation Matrix[1]			
			1A	2A	1B	2B
A	TASR[2]	(1)		-0.41	0.98	0.15
	Support	(2)	-0.41		-0.21	0.64
B	TASR	(1)	0.98	-0.21		-0.18
	Support	(2)	-0.15	0.64	-0.18	

[1]Corrected for attenuation.

[2]TASR variables contain all TASR scales except Support, which was separated to form an independent index.

improvement in the combined scale alphas as well.

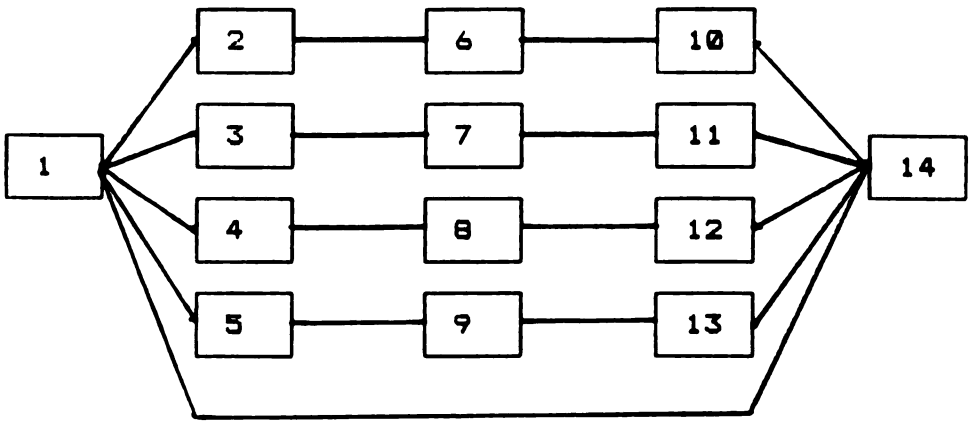
The variables were regrouped again. The Therapist Action Scale Revised scales were combined at each time point, but the support variable was split out to function as an independent variable at each time point. The pretherapy and posttherapy SCL90-R Global Severity Index Scores were separated to function as independent scales.

A confirmatory factor analysis was performed on the new variables (Table 10). Component scale-combined scale correlations were higher, and component scales were more parallel in intercorrelation. The coefficient alphas for the combined scales were improved as well.

Path analysis was conducted on the combined variables in Table 14. The time 2 data was dropped because of lower reliability in the Therapist Action Scale Revised, alpha = .35 compared with .48, .44, and .70 for the other times, and component-combined scale correlation was erratic (.40, 1.0, 0.0). The time 2 data failed to follow a pattern that the other time points shared involving the combined CALPAS and TASR variables being more highly correlated with the immediately following time point than with the more distant points (Table 10). The two path models in Figure 1 and 2 were tested and will be discussed in relation to the hypotheses of the study.

Figure 1

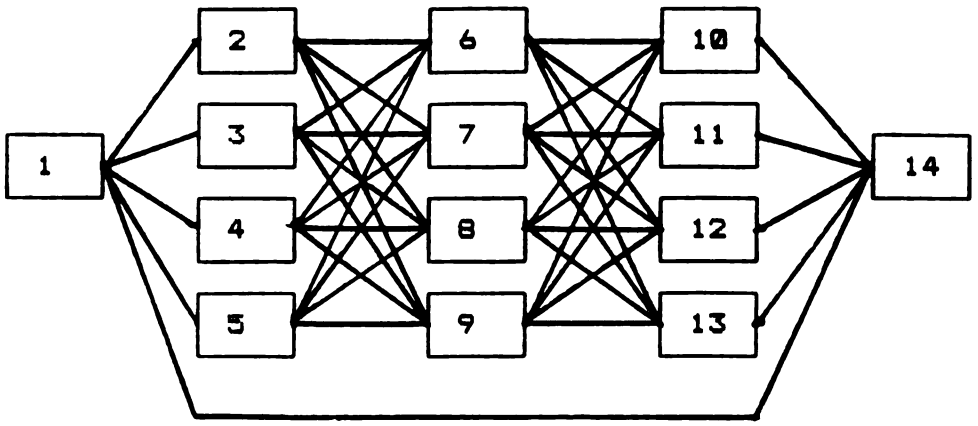
Path Model 1



Number	Variable Name
1	Pretherapy SCL90R Global Severity Index Score
2	CALPAS Time 1
3	TASR Time 1
4	Patient Negative Contribution Time 1
5	Support Time 1
6	CALPAS Time 3
7	TASR Time 3
8	Patient Negative Contribution Time 3
9	Support Time 3
10	CALPAS Time 4
11	TASR Time 4
12	Patient Negative Contribution Time 4
13	Support Time 4
14	Posttherapy SCL90R Global Severity Index Score

Figure 2

Path Model 2



Number	Variable Name
1	Pretherapy SCL90R Global Severity Index Score
2	CALPAS Time 1
3	TASR Time 1
4	Patient Negative Contribution Time 1
5	Support Time 1
6	CALPAS Time 3
7	TASR Time 3
8	Patient Negative Contribution Time 3
9	Support Time 3
10	CALPAS Time 4
11	TASR Time 4
12	Patient Negative Contribution Time 4
13	Support Time 4
14	Posttherapy SCL90R Global Severity Index Score

Hypotheses 1 and 4

Hypothesis 1 stated that a high level of therapeutic alliance in the first session as measured by CALPAS would predict symptom reduction at the end of treatment on the SCL90-R. Hypothesis 4a stated that after the initial level of alliance is accounted for, the final level of alliance will predict more outcome variance in SCL90-R symptom reduction. Hypothesis 4b stated that CALPAS level of the therapeutic alliance during the final session of therapy would better predict symptom reductions during therapy than would that level during the first session of therapy. Both hypotheses are rejected.

All correlations of posttherapy SCL90-R Global Severity Index (GSI) with other variables were low (see Table 17). Due to these correlations and the low reliability of CALPAS, the most parsimonious reaction is to reject the hypotheses. With regard to hypothesis 1, CALPAS session one alliance scores correlated only -.13 with posttherapy SCL90-R GSI. Concerning hypotheses 4a and 4b, the initial alliance correlated -.13 with GSI while the alliance measured by the CALPAS at time 4 correlated .17 with GSI. Considering these meager correlations and the change in sign as well as the poor reliability of CALPAS, these correlations are within the error of measurement.

Consistent with this evaluation of the correlations, the Path coefficients in model 1 (Table 17, Figure 1) predicting posttherapy SCL90-R GSI were low. The coefficient for pretherapy GSI predicting posttherapy GSI was only .26, and the coefficient for alliance at time 4 measured by CALPAS predicting Posttherapy SCL90-R GSI score was .20, which was both small and not in the predicted direction.

Table 17 Path Analysis 1

Number	Variable Name	Reliability
1	Pretherapy SCL90R Global Severity Index Score	1.00
2	CALPAS Time 1	0.90
3	TASR Time 1	0.48
4	Patient Negative Contribution Time 1	1.00
5	Support Time 1	1.00
6	CALPAS Time 3	0.86
7	TASR Time 3	0.44
8	Patient Negative Contribution Time 3	1.00
9	Support Time 3	1.00
10	CALPAS Time 4	0.89
11	TASR Time 4	0.70
12	Patient Negative Contribution Time 4	1.00
13	Support Time 4	1.00
14	Posttherapy SCL90R Global Severity Index Score	1.00

Original Correlations

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1		-37	-19	2	31	-8	4	16	12	-7	-1	16	10	24
2	-37		12	-56	-50	48	31	-5	2	30	-19	-9	10	-13
3	-19	12		34	8	3	57	14	4	-18	19	43	5	-13
4	2	-56	34		34	-25	-15	16	-3	-37	28	36	-20	-7
5	31	-50	8	34		-38	9	-3	-4	-37	-4	19	-3	3
6	-8	48	3	-25	-38		32	-39	-14	61	21	-19	19	-11
7	4	31	57	-15	9	32		45	-13	28	35	-9	-12	-13
8	16	-5	14	16	-3	-39	45		18	-7	4	31	0	13
9	12	2	4	-3	-4	-14	-13	18		-16	-33	18	14	3
10	-7	30	-18	-37	-37	61	28	-7	-16		40	-38	30	17
11	-1	-19	19	28	-4	21	35	4	-33	40		26	-16	19
12	16	-9	43	36	19	-19	-9	31	18	-38	26		-6	2
13	10	10	5	-20	-3	19	-12	0	14	30	-16	-6		-5
14	24	-13	-13	-7	3	-11	-13	13	3	17	19	2	-5	

Path Coefficients

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	-37	0	0	0	0	0	0	0	0	0	0	0	0	0
3	-19	0	0	0	0	0	0	0	0	0	0	0	0	0
4	2	0	0	0	0	0	0	0	0	0	0	0	0	0
5	31	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	48	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	57	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	16	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	-4	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	61	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	35	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	31	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	14	0	0	0	0	0
14	26	0	0	0	0	0	0	0	0	20	9	2	-12	0

"Table 17 (cont'd)."

Reproduced Correlations

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1	100	-37	-19	2	31	-18	-11	0	-1	-11	-4	0	0	24
2	-37	100	7	-1	-11	48	4	0	0	29	1	0	0	-4
3	-19	7	100	0	-6	3	57	0	0	2	20	0	0	-3
4	2	-1	0	100	1	0	0	16	0	0	0	5	0	1
5	31	-11	-6	1	100	-6	-3	0	-4	-3	-1	0	-1	7
6	-18	48	3	0	-6	100	2	0	0	61	1	0	0	7
7	-11	4	57	0	-3	2	100	0	0	1	35	0	0	0
8	0	0	0	16	0	0	0	100	0	0	0	31	0	1
9	-1	0	0	0	-4	0	0	0	100	0	0	0	14	-2
10	-11	29	2	0	-3	61	1	0	0	100	0	0	0	17
11	-4	1	20	0	-1	1	35	0	0	0	100	0	0	8
12	0	0	0	5	0	0	0	31	0	0	0	100	0	2
13	0	0	0	0	-1	0	0	0	14	0	0	0	100	-12
14	24	-4	-3	1	7	7	0	1	-2	17	8	2	-12	100

Errors: (Actual - Reproduced)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1	0	0	0	0	0	10	15	16	13	4	3	16	10	0
2	0	0	5	-55	-39	0	27	-5	2	1	-20	-9	10	-9
3	0	5	0	34	14	0	0	14	4	-20	-1	43	5	-10
4	0	-55	34	0	33	-25	-15	0	-3	-37	28	31	-20	-8
5	0	-39	14	33	0	-32	12	-3	0	-34	-3	19	-2	-4
6	10	0	0	-25	-32	0	30	-39	-14	0	20	-19	19	-18
7	15	27	0	-15	12	30	0	45	-13	27	0	-9	-12	-13
8	16	-5	14	0	-3	-39	45	0	18	-7	4	0	0	12
9	13	2	4	-3	0	-14	-13	18	0	-16	-33	18	0	5
10	4	1	-20	-37	-34	0	27	-7	-16	0	40	-38	30	0
11	3	-20	-1	28	-3	20	0	4	-33	40	0	26	-16	11
12	16	-9	43	31	19	-19	-9	0	18	-38	26	0	-6	0
13	10	10	5	-20	-2	19	-12	0	0	30	-16	-6	0	7
14	0	-9	-10	-8	-4	-18	-13	12	5	0	11	0	7	0

Note: The sum of squared errors in the lower triangle is 3.405053

Note: The analysis for the model as a whole is

The overall chisquare is 50.31
The degrees of Freedom are 74

Hypotheses 2 and 3

Hypothesis 2 stated that an initially poor therapeutic alliance as measured by CALPAS can be improved by the end of treatment as a result of these therapist technical activates measured by TASR:

a) addressing the patient's defenses.

b) addressing the patient's guilt and expectation of punishment.

c) addressing the patient's problematic feelings in relation to the therapist.

d) linking the problematic feelings in relation to the therapist with the patient's defenses.

Hypothesis 3 stated that an initially good therapeutic alliance as measured by CALPAS can be damaged by therapist technical activity measured by TASR. The alliance can be weakened by the therapist failing to:

a) address the patient's defenses.

b) address the patient's guilt and expectation of punishment.

c) address the patient's problematic feelings in relation to the therapist

d) link the problematic feelings in relation to the therapist with the patients defenses.

The hypotheses were rejected. These hypotheses taken together essentially state that this group of therapist

activities strengthens and maintains the therapeutic alliance. Testing them together avoids the substantial reduction in power involved in partitioning an already small sample. In addition, the therapist actions were combined as discussed above to improve the reliability. The resulting groups of therapist actions included: a) (TASR)- addressing transference, addressing the patient's defenses, making interventions that encourage patient expression, b) (Support)- providing support. The results that follow are based on the combined scales, and on not dividing the data into initially high and low alliance groups.

Path analysis 2 (Table 18) indicates that the alliance at time 3 measured by CALPAS was not affected by therapist actions at time 1 measured by TASR. The path coefficient for variable 3 onto variable 6 is -3. Similarly, path analysis 2 indicates that the alliance at time 4 was not affected by therapist actions at time 3. The path coefficient for variable 7 onto variable 10 is -10.

Comparing path analysis model 1 (Table 17, Figure 1) with path analysis model 2 (Table 18, Figure 2), path analysis model 1 contains less error, which suggests it is a better model. Path analysis 1 has pretherapy SCL90-R

Table 18 Path Analysis 2

Number	Variable Name	Reliability
1	Pretherapy SCL90R Global Severity Index Score	1.00
2	CALPAS Time 1	0.90
3	TASR Time 1	0.48
4	Patient Negative Contribution Time 1	1.00
5	Support Time 1	1.00
6	CALPAS Time 3	0.86
7	TASR Time 3	0.44
8	Patient Negative Contribution Time 3	1.00
9	Support Time 3	1.00
10	CALPAS Time 4	0.89
11	TASR Time 4	0.70
12	Patient Negative Contribution Time 4	1.00
13	Support Time 4	1.00
14	Posttherapy SCL90R Global Severity Index Score	1.00

Original Correlations

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1		-37	-19	2	31	-8	4	16	12	-7	-1	16	10	24
2	-37		12	-56	-50	48	31	-5	2	30	-19	-9	10	-13
3	-19	12		34	8	3	57	14	4	-18	19	43	5	-13
4	2	-56	34		34	-25	-15	16	-3	-37	28	36	-20	-7
5	31	-50	8	34		-38	9	-3	-4	-37	-4	19	-3	3
6	-8	48	3	-25	-38		32	-39	-14	61	21	-19	19	-11
7	4	31	57	-15	9	32		45	-13	28	35	-9	-12	-13
8	16	-5	14	16	-3	-39	45		18	-7	4	31	0	13
9	12	2	4	-3	-4	-14	-13	18		-16	-33	18	14	3
10	-7	30	-18	-37	-37	61	28	-7	-16		40	-38	30	17
11	-1	-19	19	28	-4	21	35	4	-33	40		26	-16	19
12	16	-9	43	36	19	-19	-9	31	18	-38	26		-6	2
13	10	10	5	-20	-3	19	-12	0	14	30	-16	-6		-5
14	24	-13	-13	-7	3	-11	-13	13	3	17	19	2	-5	

Path Coefficients

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	-37	0	0	0	0	0	0	0	0	0	0	0	0	0
3	-19	0	0	0	0	0	0	0	0	0	0	0	0	0
4	2	0	0	0	0	0	0	0	0	0	0	0	0	0
5	31	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	42	-3	6	-19	0	0	0	0	0	0	0	0	0
7	0	13	66	-38	23	0	0	0	0	0	0	0	0	0
8	0	-4	11	14	-10	0	0	0	0	0	0	0	0	0
9	0	-5	7	-7	-5	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	73	-10	28	-12	0	0	0	0	0
11	0	0	0	0	0	7	30	-2	-28	0	0	0	0	0
12	0	0	0	0	0	13	-35	51	6	0	0	0	0	0
13	0	0	0	0	0	48	-43	36	9	0	0	0	0	0
14	26	0	0	0	0	0	0	0	0	20	9	2	-12	0

"Table 18 (cont'd.)."

Reproduced Correlations

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1	100	-37	-19	2	31	-21	-11	-4	-1	-15	-4	-1	-7	24
2	-37	100	7	-1	-11	44	16	-2	-4	31	9	-1	14	-4
3	-19	7	100	0	-6	1	66	11	7	-3	18	-17	-23	-2
4	2	-1	0	100	1	5	-38	14	-7	12	-10	21	23	0
5	31	-11	-6	1	100	-23	18	-11	-5	-21	5	-15	-23	7
6	-21	44	1	5	-23	100	-1	2	-1	74	7	14	49	4
7	-11	16	66	-38	18	-1	100	-1	6	-11	28	-35	-43	2
8	-4	-2	11	14	-11	2	-1	100	0	29	-2	51	38	1
9	-1	-4	7	-7	-5	-1	6	0	100	-13	-26	4	6	-6
10	-15	31	-3	12	-21	74	-11	29	-13	100	5	28	50	11
11	-4	9	18	-10	5	7	28	-2	-26	5	100	-12	-12	10
12	-1	-1	-17	21	-15	14	-35	51	4	28	-12	100	41	2
13	-7	14	-23	23	-23	49	-43	38	6	50	-12	41	100	-4
14	24	-4	-2	0	7	4	2	1	-6	11	10	2	-4	100

Errors: (Actual - Reproduced)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1	0	0	0	0	0	13	15	20	13	8	3	17	17	0
2	0	0	5	-55	-39	4	15	-3	6	-1	-28	-8	-4	-9
3	0	5	0	34	14	2	-9	3	-3	-15	1	60	28	-11
4	0	-55	34	0	33	-30	23	2	4	-49	38	15	-43	-7
5	0	-39	14	33	0	-15	-9	8	1	-16	-9	34	20	-4
6	13	4	2	-30	-15	0	33	-41	-13	-13	14	-33	-30	-15
7	15	15	-9	23	-9	33	0	46	-19	39	7	26	31	-15
8	20	-3	3	2	8	-41	46	0	18	-36	6	-20	-38	12
9	13	6	-3	4	1	-13	-19	18	0	-3	-7	14	8	9
10	8	-1	-15	-49	-16	-13	39	-36	-3	0	35	-66	-20	6
11	3	-28	1	38	-9	14	7	6	-7	35	0	38	-4	9
12	17	-8	60	15	34	-33	26	-20	14	-66	38	0	-47	0
13	17	-4	28	-43	20	-30	31	-38	8	-20	-4	-47	0	-1
14	0	-9	-11	-7	-4	-15	-15	12	9	6	9	0	-1	0

Note: The sum of squared errors in the lower triangle is 4.947172

Note: The analysis for the model as a whole is

The overall chisquare is 63.38
The degrees of Freedom are 50

Global Severity Index score predicting each of the four analysis variables at time 1; then each variable predicts its counterpart at time 3; then time 3 variables predict time 4; then the time 4 variables predict posttherapy SCL90-R Global Severity Index score. Path analysis model 2 contains these relationships plus all the causal arrows between the variables at each time point. Overall, the mismatching of the path coefficients at the two time periods (see Appendix B for technical details), combined with the lower error in model 1, supports model 1 over model 2.

Accepting model 1 over model 2 indicates that the variables are causally independent over time. This fails to support hypothesis 2 and 3. Again, the near 0 path coefficients for variable 3 onto 6 and 7 onto 10 (Table 18) specifically fail to support hypothesis 2 and 3 as well as demonstrating the superiority of model 1 over model 2, and the causal independence of these particular variables.

Some Related Findings

While the particular hypotheses concerning the therapeutic alliance and therapist actions were not supported, note that most patients in this sample improved in psychotherapy (Table 19, Figure 3). Pretherapy SCL90-R

Table 19

Analysis Variables Means and Standard Deviations

Variables		Time 1	Time2	Time 3	Time 4
Alliance[1] (CALPAS)	M	5.21	4.9	5.43	5.52
	SD	.76	.66	.48	.52
Patient Negative Contribution	M	1.84	1.9	1.57	1.77
	SD	.34	.75	.57	.79
Therapist Actions[2] (TASR)	M	1.46	1.6	1.56	1.58
	SD	.27	.32	.31	.35
Support	M	1.28	1.3	1.40	1.63
	SD	.34	.48	.54	.71
	N	44	44	44	44

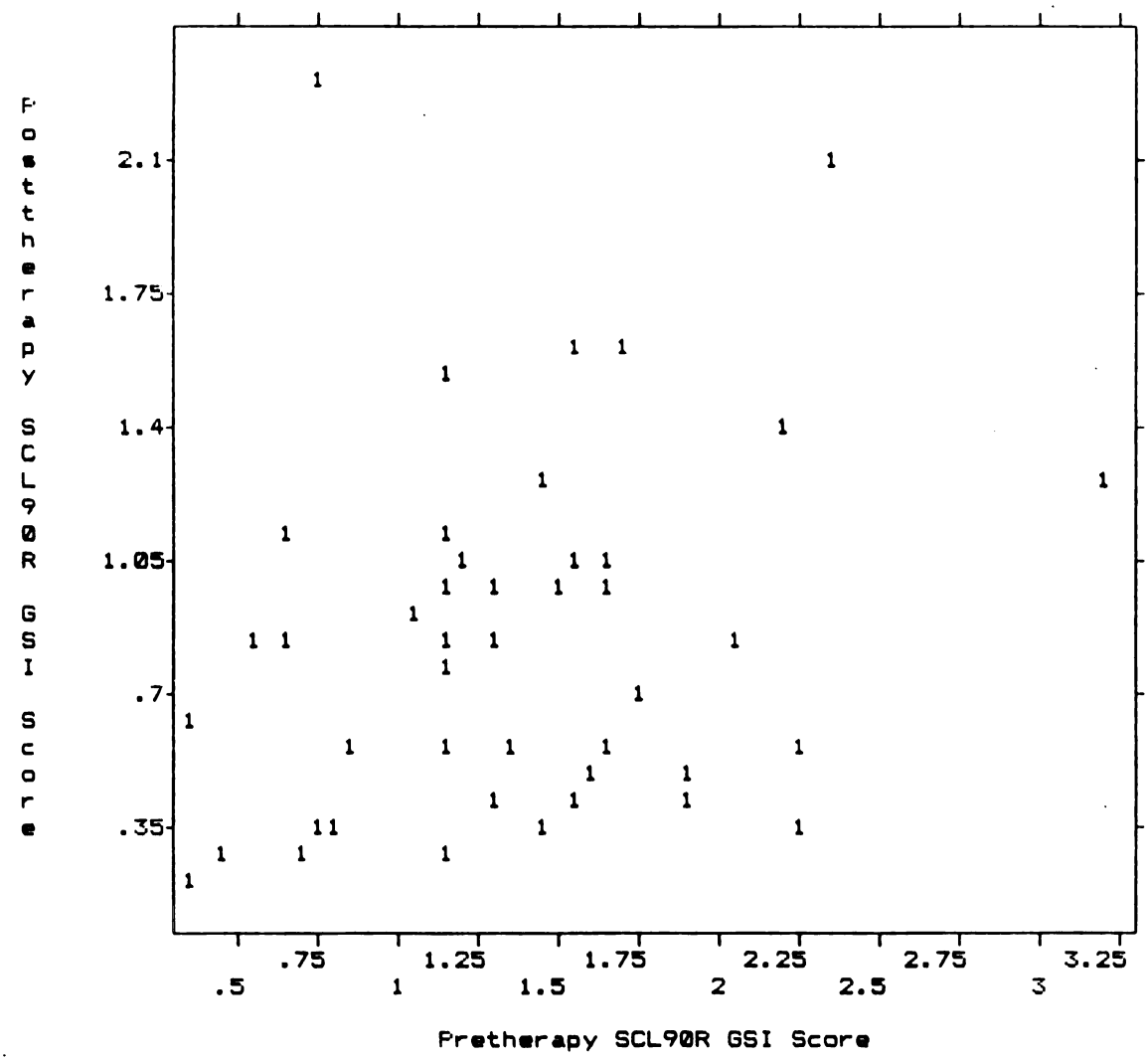
		Pretherapy	Posttherapy
Global Severity Index Score (SCL90R)	M	1.36	.84
	SD	.60	.48
	N	44	44

[1]CALPAS variables at times 1-4 contain all scales averaged together except patient Negative Contribution, which was separated to function as an independent index.

[2]The TASR variables at times 1-4 contain all scales averaged together except Support, which was separated to form an independent index.

Figure 3

Pretherapy SCL90R GSI BY Posttherapy SCL90R GSI



symptom level was reduced from a mean of 1.36 to a posttherapy mean of .84. This represents a change of 1.08 standard deviations on the posttherpy SCL90-R distribution of scores.

A high alliance at time 1 indicates that the alliance will most likely be high at time 3 and 4 (Table 17), because the path coefficient of variable 2 onto 6 is .48, and the path coefficient of variable 6 onto 10 is .61. Overall, there is a slight tendency for the alliance to get stronger over time (Table 19). Likewise, high Patient Negative Contribution at time 1 indicates, that for at least some patients, Patient Negative Contribution will be high at time 3 and time 4 (Table 17), because the path coefficients of variable 4 onto variable 8 is .16, and the path coefficient of variable 8 onto variable 12 is .31. High therapist action at time 1 indicates that therapist actions at time 3 and 4 will most likely be high (Table 17), because the path coefficients of variables 3 onto 7 is .57, and the path coefficient of variable 7 onto 11 is .35.

While correlations between different variables over time are not substantial, the correlations within sessions are high (Table 17, original correlations). Therapist Support correlates inconsistently within session as well as over time. However, Patient Negative Contribution, California Psychotherapy Alliance Scale, and Therapist Action Scale Revised are correlated in the same pattern

within each time point.

Alliance as measured by the California Psychotherapy Alliance Scale (CALPAS) and therapist action as measured by the Therapist Action Scale Revised (TASR) are correlated within time and that correlation tended to increase over time (Table 17, original correlations). At time 1 CALPAS and TASR are correlated .12; at time 2 CALPAS and TASR are correlated .22; at time 3 CALPAS and TASR are correlated .32, and at time 4 CALPAS and TASR are correlated .40. Similarly, Patient Negative contribution and TASR are positively correlated across each time point (.34, .12, .45, .26), even though CALPAS and Patient Negative contribution are negatively correlated within times (-.56, -.46, -.39, -.38).

DISCUSSION

This study has yielded a considerable amount of information on the structure of the California Psychotherapy Alliance Scale. Exploratory and confirmatory factor analysis identified five factors which turned out to be highly correlated with each other in this sample. Marmar, Gaston, Gallagher and Thompson (1989) found similar interscale correlations and they also treated the data by combining the scales. Their intercorrelation may be the consequance of raters having formed one overall impression of the therapeutic alliance that influanced their ratings of all items or a scoring manual that failed to fully clarify the criteria for rating discrete attributes. There are also good theoretical reasons to expect these intercorrelations. High Patient Positive Contribution scores seem likely when both Patient Commitment, and Therapist Involvement are high, and there is also high Working Strategy Consensus. For well-trained therapists, such a level of Therapist Involvement should be a given provided the patient is active.

While refinement of the rater's manual and their more intensive training might be helpful, there is also good reason to question whether these subscales can differentiate group data since most often they can be expected to vary

together. Future researchers should be cautious about anticipating differences on the California Psychotherapy Alliance Scale subscales. In fact, this study demonstrates that the greatest reliability is obtained by aggregating four of the CALPAS subscales into a single Patient Positive Contribution index while retaining the Patient Negative Contribution Scale.

Tables 5, 6, and 7 clarify how quickly relationships between variables are dissolved when correlations are compared over time or between raters, and how they are diminished when correlations are compared between raters and across time. To some extent, this suggests future researchers need to take steps to insure reliability by means of more intensive rater training, and more extensive manual documentation. On the other hand, these results suggest that there are many state-like aspects of the alliance and fluctuation is the norm.

Reliability problems with the California Psychotherapy Alliance Scale obscure the findings of this study. This study has demonstrated some problems with the reliability of the California Psychotherapy Alliance Scale. Previously, CALPAS was used primarily by its developers. Given that the variables of the study are correlated within sessions but not across times, we can only speculate about the extent to which correlations are obscured by the low reliability of

the California Psychotherapy Alliance Scale.

This study has provided further information on the Therapist Action Scale Revised as well. While four discrete subscales emerged, and there was less intercorrelation between subscales, the internal consistency of the subscales (measured by Cronbach's alpha) was unsatisfactory. While subscales demonstrated only modest interrater reliability, it may be desirable to include more items required in order to establish internal consistency (subscales now contain only 3-4 items). Although combining subscales yielded more reliable scales for analysis, this method does not permit investigation of what appear to be conceptually discrete subdimensions (Addressing Transference vs. Addressing Defenses).

Alliance and Outcome

Freud (1913/1958) hypothesized the primary and central importance of the relationship between the client and therapist or the therapeutic alliance in the process of psychotherapy. He viewed the establishment and maintenance of the alliance as a primary goal of treatment. Freud wrote about the affective component or capability to form a positive transference that the client brings to treatment. Sterba (1934) and Zetzel (1956) stressed the analytic ego

functions which were viewed as another component that the client must bring to treatment.

Luborsky (1976) developed the first operational translation of the alliance. Luborsky (1990) has been evaluating empirically the proposition that a therapeutic alliance must develop in order for a patient to benefit from dynamic psychotherapy. Gaston (1990), in a theoretical review article, has recapitulated the theories of the roles played by the alliance in outcome that have been investigated up to now. The alliance can be therapeutic in and of itself. The alliance may be a prerequisite for therapist interventions to be effective. The alliance may interact with therapist interventions in determining successful outcome. None of these supositions were supported by the data of this study.

The initial alliance was viewed as particularly predictive because the alliance was considered at least a necessary condition for favorable outcome. Its presence initially therefore at least assures that favorable outcome is possible. Those who do not initially demonstrate an alliance may or may not develop an alliance as therapy progresses. Gaston et. al. (1990) found that the alliance was a better predictor of outcome when it was measured later in the therapy because more of the participants who eventually develop an alliance are included in the

prediction. This finding is in direct contrast to the findings that will be presented from this study, which indicate that higher final alliance is associated with GREATER posttherapy symptoms.

Hypotheses 1 and 4 will be discussed together. Hypothesis 1 states that a high level of therapeutic alliance in the first session as measured by the California Psychotherapy Alliance Scale will predict symptom reduction at the end of treatment on the SCL90-R. Hypothesis 4a states that once one accounts for the initial level of alliance, the final level of alliance will predict more outcome variance in SCL90-R symptom reduction. Hypothesis 4b states that the level of the therapeutic alliance as measured by the California Psychotherapy Alliance Scale during the final session of therapy is a better predictor of symptom reduction during therapy than the level of alliance during the first session of therapy. Both hypotheses were rejected.

Initial therapeutic alliance and the final therapeutic alliance are not highly enough correlated with lower posttherapy symptom level to be statistically significant with N = 44. However, Horvath and Symonds (1991) conducted a meta-analysis of 24 studies done on 20 distinct data sets and found a moderate and reliable relationship between the therapeutic alliance and therapy outcome. The effect size

was based on correlation (Pearson) between alliance and symptom outcome. The average effect size, when alliance was rated by an outside rater and outcome was rated by the client, was $\underline{r}$ = .21 with the standard deviation being $\underline{SD}$ = .14. The result of the present study is that initial alliance is correlated .13 in magnitude[1] with relatively lower posttherapy symptoms. Since N = 44, the standard error for this correlation is .15. The 95% confidence interval is .13 $\pm$ .29, which includes the .21 found in the meta-analysis. Thus the .13 found here does not differ by more than sampling error from the .21 of the meta-analysis.

Certain key results have been included in the prior presentation. These results have been highlighted in Table 20. Consider first the correlation between initial alliance and posttherapy symptoms; the correlation often used to assess outcome. This correlation is -.13 in the present study and -.21 in the Horvath and Symonds (1991) meta-analysis. This modest correlation has been interpreted in past studies as suggesting a relationship between initial alliance and outcome. We will show that this interpretation can be questioned.

Consider the correlation between initial alliance and pretherapy symptoms; a correlation of -.37. This

[1]In this study higher initial alliance is associated with lower posttherapy symptoms so the sign of the correlation is negative.

Table 20

The correlations between early and later alliance, and symptoms.

		BTS	IA	FA	ATS
Before Therapy Symptoms	(BTS)	1.00	-.37	-.07	.24
Initial Alliance	(IA)	-.37	1.00	.30	-.13
Final Alliance	(FA)	-.07	.30	1.00	.17
After Therapy Symptoms	(ATS)	.24	-.13	.17	1.00

suggests that patients who enter at a more disturbed level have more trouble establishing rapport with the therapist. But this means that patients with a poor initial alliance not only have more symptoms after therapy but began with substantially more symptoms. Indeed, the fact that patients with lesser alliance finish with more symptoms could simply mean that they were initially more disturbed and may NOT mean that they responded more poorly to therapy.

The key question is this: If patients were matched for level of initial symptoms, how well would initial alliance predict outcome? The statistical answer to this question is the partial correlation between initial alliance and posttherapy symptoms with pretherapy symptoms held constant. This partial correlation is -.05. This partial correlation is not statistically significant. This near 0 partial correlation implies that the only reason that initial alliance predicts symptoms after therapy is because it is highly correlated with symptoms before therapy. This result suggests that there is actually no relationship between initial alliance as measured by this scale and subsequent response to therapy.

This research also provides data on the relationship between the later alliance and outcome. In particular, the correlation between final alliance and posttherapy symptoms is +.17. This is in the opposite direction to that

predicted: those with a high final alliance have more symptoms than those with a poor final alliance. Before we consider this an outcome relationship, we must conceptually match the patients for pretherapy symptoms. The partial correlation between final alliance and posttherapy symptoms with initial symptoms held constant is +.19. That is, even matched for initial symptom level, those with a strong final alliance describe more symptoms than those with a weak final alliance. The partial correlation of +.19 can be compared with the simple correlation of +.17.

Consider these two facts in conjunction: (a) Those with a strong initial alliance are those with FEWER symptoms before therapy, while (b) those with a strong alliance at the end of therapy describe MORE symptoms than those with a weak final alliance. This suggests that an increase in alliance is associated with the admission of more symptoms. Consider patients matched on both pretherapy symptoms and on initial alliance. Individual differences within such a matched group measure change in alliance and change in symptoms. That is, the correlation within such a matched group is the correlation between change in symptoms and change in alliance. Statistically, this is the partial correlation between final alliance and posttherapy symptoms with both initial symptoms and initial alliance held constant. That partial correlation is +.22. Thus in this

data there is a strong correlation between change in alliance and change in stated symptoms. Given the fact that the average patient increased in alliance and decreased in symptoms, this means that those patients whose alliance increased the most were those who described the smallest decrease in symptoms.

This interpretation of the change in posttherapy symptoms can also be checked by doing a multiple regression of posttherapy symptoms onto initial symptoms, initial alliance, and final alliance. The standardized regression equation is:

(After Therapy Symptoms = .21 Before Therapy Symptoms - .12 Initial Alliance + .22 Final Alliance) (see table 21)

In this equation, the regression weight for initial alliance is negative while the weight for final alliance is positive. This shows that outcome, as defined by decreased symptoms, was best predicted by the change in alliance; the greater the increase in alliance, the less the decrease in symptoms. That is, for the patients in this study, increased alliance led to greater description of symptoms.

There may be state-like and trait-like aspects to the therapeutic alliance which are influenced by transference

Table 21

Multiple regression of posttherapy symptoms onto initial symptoms, initial alliance, and final alliance.

Variables	Mean	Standard Deviation
Y1 = Pretherapy Symptoms	1.36	.60
X1 = Initial CALPAS	5.21	.76
X2 = Final CALPAS	5.52	.52
Y2 = Posttherapy Symptoms	.84	.48

Raw Score Regression Equation

Y2 = .17 Y1 - .07 X1 + .20 X2 - .125

Consider various relatively common pairs of groups
(All combinations of the independent variables
either 1 SD above or 1 SD below the mean)

Y1	X1	X2	Y2	
.76	4.45	5.00	.96	CALPAS up a little
.76	4.45	6.04	1.17	CALPAS up more, higher symptoms
.76	5.97	5.00	.94	CALPAS down
.76	5.97	6.04	1.15	CALPAS up, higher symptoms
1.96	4.45	5.00	1.16	CALPAS up a little
1.96	4.45	6.04	1.37	CALPAS up more, higher symptoms
1.96	5.97	5.00	1.15	CALPAS down
1.96	5.97	6.04	1.36	CALPAS up, higher symptoms

and resistance. In some clients a deeply entrenched characterological negativism and hostility may prevent any type of alliance formation. However, this study suggests that there are also clients who can form a relationship with time. Low initial alliance may be indicative of moretransitory transference phenomenon and resistance based on the material being discussed, which can be overcome in therapy. Similarly, some individuals evidencing higher initial negative contribution can utilize these expressions of hostility to improve in therapy (the correlation of initial patient negative contribution and posttherapy symptoms was -.07). It is also possible that in some cases high initial alliance does not guarantee a decrease in symptom descriptions. The high initial alliance may be indicative of idealized transference and obligatory compliance which is not the same as an enduring commitment to treatment. On the other hand, high final alliance may indicate dependence on the therapist and regressive transference, suggesting continued need for treatment.

Hypotheses 2 and 3 will be discussed together. Hypothesis 2 states that an initially poor therapeutic alliance as measured by the California Psychotherapy Alliance Scale can be improved by the end of treatment as a result of therapist activates measured by the Therapist Action Scale Revised. Hypothesis 3 states that an initially

good therapeutic alliance as measured by the California Psychotherapy Alliance Scale can be damaged by the absence of certain therapist activity measured by the Therapist Action Scale Revised. These hypotheses taken together essentially state that the following group of therapist actions strengthen and maintain the therapeutic alliance: a) addressing transference, addressing the patient's defenses, making interventions that encourage patient expression, b) providing support[1]. Both hypotheses were rejected.

Therapist actions were not associated with the strengthening or weakening of the alliance over time. Therapeutic alliance and therapist actions were causally independent over time. This finding is in direct contradiction to Forman and Marmar (1985) who found, in a pilot study of six individuals, that addressing transference and addressing defenses was associated with improvement in the therapeutic alliance. This study's finding is consistent with Lansford's (1986) results, also based on only six individuals, which indicated patient factors to be more important than therapist activity in the

[1]As discussed in the Results section, grouping of therapist actions was collapsed to these broader scales to improve reliability.

repair of weakened alliances. In a single case study, Gabbard et. al. (1988) found that the alliance with a borderline patient was improved with transference interpretations. Studies with one or six subjects are less persuasive than studies with greater numbers of subjects. In this regard, the finding of this study based on 44 individuals clearly fails to support the hypothesis that therapist actions improved and sustained the alliance over time.

A patient with a high alliance at time 1 will most likely have a high alliance at time 3 and time 4. Considering this finding in connection with the failure of therapist action to impact on the alliance over time supports the notion that the formation of the alliance rests largely with the capacity of the patient. Piper, Azim, Joyce, McCallum, Nixon, and Segal (1991) found that the lifelong quality of the patient's object relations was a better predictor of the therapeutic alliance and therapy outcome than measures of recent interpersonal functioning. This is to say that patients enter therapy with a certain trait-like capacity to form a relationship with the therapist that will facilitate therapy, and this capacity is not malleable by the therapist. Patients may likewise have a trait-like capacity for change from initial to final level of alliance. Considering the level of

pathology that would be indicated by lifelong impaired object relations (e.g. borderline personality, narcissistic personality, psychosis), it is not surprising that the quality of relationship capability was notfound malleable, particularly in one year of psychotherapy.

In this study it is clear that most patients who rated high on Patient Negative contribution at time 1 were still high on Patient Negative Contribution at time 3 and time 4. This further supports the notion that the capability to form a relationship or not form a relationship lies with the patient. It also supports Finell's (1987) contention that there is a negative therapeutic reaction rooted in characterological negativism and deeply rooted negative transference, which one could theorize goes back to Freud's notion of identification with a punitive parent. However, these individuals have all stayed in therapy and experienced symptom reduction. In fact, some individuals demonstrating higher initial negative contribution can utilize these expressions of hostility to improve in therapy (the correlation of initial patient negative contribution and posttherapy symptoms was -.07). The therapist's willingness to continue to work with these types of individuals may yet be fruitful. This study may be a snapshot of a longer term change process for these individuals.

Within individual sessions there is a relationship

between therapeutic alliance and therapist action, and this relationship gets stronger over time. Either therapist actions influence patient behavior within sessions, and/or patient behavior influences therapist action within sessions. Following the patient centered model of the alliance, when the patient is working and producing material or being hostile, the therapist can provide a range of responses. It is also possible that in the individual session therapist actions facilitate the development of the alliance. The increasing relationship over time between therapist actions and the alliance indicates that the therapist calibrates actions to the client's demonstrated capabilities better over time. Given the overall favorable outcome in symptom reduction for this sample, this calibration between the client and the therapist appears to be constructive.

One positive implication of this study is that clients who stay in therapy improve symptomatically over time. It is also reassuring from a person-centered perspective that to a substantial degree, the capacity to form an alliance and change in therapy lies with the client. It is also reassuring that continuing to work with initially hostile clients may be fruitful as well.

Implications for Theory and Practice

This study suggests that the importance of the initial alliance in predicting outcome in psychotherapy may need to be questioned. A strong initial alliance does not guarantee benefit from therapy in a population where all patients appear to have symptom reduction. The absence of a strong initial alliance did not preclude benefits from psychotherapy.

The view of effective therapy demonstrated by this study is the following. Forming a strong initial alliance is not associated with symptomatic improvement, because this association is influenced by initial symptomatology. The partial correlation between initial alliance and posttherapy symptoms with initial symptoms partialed out was -.05. In the final stage of therapy it is those who have a weaker alliance who describe less symptoms (correlation of initial alliance with posttherapy symptoms is -.13 whereas correlation of final alliance with posttherapy symptoms is .17). This interpretation of the change in posttherapy symptoms can also be checked by doing a multiple regression of posttherapy symptoms onto initial symptoms, initial alliance, and final alliance. The standardized regression equation is:

ATS = .21 BTS - .12 IA + .22 FA (see Table 21)

One theory of improvement is supported by this data. First the alliance must be established, then those patients who are confronted with alternative views of themselves and their problems by the therapist to the point at which the alliance actually decreases are those who improve. However, therapists do not appear to be accurate judges of when the alliance is weak or strong. The correlation between the two therapist-judges alliance ratings was .26 for patient positive contribution and .60 for patient negative contribution. This difficulty assessing the alliance suggests that therapists should simply plan to do as much as possible to build an alliance during the first two sessions of therapy and then switch to a more confrontational strategy.

Rather than a continual building of the alliance throughout therapy it is giving the patient an alternative view that is effective. Solely building the alliance does not appear to be effective and in fact the data suggests that this may not contribute to patient statements concerning symptoms. The therapist must not reinforce the patient's pathology but rather must ultimately present the patient with an alternative view, which the patient may not want to hear. This presentation may be to the detriment of the alliance, yet may lead to symptom reduction.

Implications for Future Research

An investigation of the speculations above is worth considering. The degree to which therapists confront patients with a different view of themselves and their problems could be measured and the relationship of the degree of this action to alliance and outcome could be evaluated.

Investigation of therapy process variables with specialized treatments of specific disorders such as systematic desensitization of phobias, sex and marital therapy procedures etc. would help in evaluating the importance of the alliance. It may be that there are particular techniques that are more directly related to symptomatic improvement and the course of the alliance, because the therapist actions assessed in this study did not demonstrate a direct relationship to improvement or the alliance. Comparing the role of the alliance in treatment by more and less experienced therapists could be useful, because therapist skill may impact on the effectiveness of technique. Although this study stopped short of assessing the impact on the alliance of the accuracy and theoretical integrity of the therapist's interventions, investigations along these lines in the future would also be useful.

APPENDIX A

Scale Construction

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Scale Construction

California Psychotherapy Alliance Scale

The Patient Positive Contribution scale items (1-6) (Table 1) along with item (17) loaded on the first factor of the exploratory factor analysis (Table 3), which accounted for 24% of the total variance. Judging from the content item (17) appears to belong there, and its high correlation with that scale (.80 as opposed to .70 with its hypothesized scale) further clarifies its placement. The items correlate from .77 to .91 with the scale in confirmatory factor analysis (Table 4). The coefficient alpha for this scale is .94.

The Patient Negative Contribution scale items (8,9,11) (Table 1) and item (22) loaded on factor three of the exploratory factor analysis (Table 3), which accounted for 16% of the total variance. Item (10), which is hypothesized to be in this scale, loaded highest with this factor .49 after the null fifth factor, which included only items (10,12). The items (8,9,10,11) correlate from .58 to .84 with this scale in confirmatory factor analysis (Table 4). The coefficient alpha is .77.

The Patient Commitment Items (13,14,15,16,18) (Table 1) loaded on factor 4 of the exploratory factor analysis (Table 3), which accounted for 11% of the total variance. The items (13,14,15,16,18) correlate from .81 to .85 with this scale in confirmatory factor analysis (Table 4). The coefficient alpha is .92.

The Working Strategy Consensus scale items (19-23) (Table 1) loaded moderately on the four meaningful factors of the exploratory factor analysis (Table 3). However, the items (19-23) correlate from .81 to .88 with this scale in confirmatory factor analysis (Table 4), which is higher than their correlation with any of the other scales. The coefficient alpha is .92.

The Therapist Involvement Scale items (25-30) along with item 24 load on factor 2 of the exploratory factor analysis (Table 3), which explains 16% of the total variance. Judging from the content item (24) belongs with the therapist items. The items (25-30, and 24) correlate from .63 to .87 with this scale in confirmatory factor analysis (Table 4). The coefficient alpha is .90. Thus the structure of the California Psychotherapy Alliance Scale is basically confirmed.

Therapist Action Scale Revised

The Addressing Transference Scale items (1-5) (Table 2) loaded along with items (7 and 9) on the first factor of the exploratory factor analysis (Table 11), which accounted for 14% of the total variance. Items (7 and 9) are moved back to their hypothesized scale Addressing Defenses. Items (2 and 4) are dropped because they correlate poorly with the other items on the scale (1,3,5), and poorly with the scale score. Items (1,3,5) correlate from .51 to .77 with the scale in confirmatory factor analysis (Table 12). The coefficient alpha for this scale is .65.

The Addressing Defenses items were split between factor 1 and factor 2. Because these items belong together conceptually and are well correlated with one another they were put together on the Addressing Defenses Scale. The items correlate from .63 to .77 with this scale in confirmatory factor analysis (Table 12). The coefficient alpha for this scale is .78.

The Expressive Intervention items (16-18) along with item 13, loaded on factor 2 of the exploratory factor analysis (Table 11). Because of its higher loading on this factor and because it conceptually seems to belong there it was moved to this scale. The items (16-28 and 13) correlate from .40 to .67 with the scale. The coefficient alpha for

this scale is .57.

The Support items (11,12,14,15) (Table 2) loaded on factor 3 of the exploratory factor analysis (Table 11), which explained 13% of the total variance. The items correlate from .59 to .80 with the scale (Table 11). The coefficient alpha for this scale is .78. The structure of the Therapist Action Scale is basically confirmed.

APPENDIX B

Some Technical Aspects of the Data Analysis

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Some Technical Aspects of the Data Analysis

In terms of most theories involving longitudinal data, the block of variables 6 to 9 correlated with variables 2 to 5 and the block of variables 10 to 13 correlated with variables 6 to 9 should differ only by sampling error (Table 17). The best estimate of both correlation blocks would be to average the two. Variable 2 onto variable 6 correlates .42 which matches up with variable 6 onto variable 10 correlated .73. However, variable 4 onto variable 7 correlates -.38 which does not match up with variable 8 onto variable 11 correlated -.02. An even worse match is variable 5 on to variable 7 correlated .23 which does not match up with variable 9 onto variable 11 correlated -.28. Variable 2,3,4, and 5 onto 9 are correlated near 0, while variables 6,7, and 8 onto 13 are correlated high (.48 -.43 .36). These fluctuations are the result of multicolinearity resulting from variables 6 and 8 being correlated -.39, variables 6 and 7 being correlated .32, and variables 7 and 8 being correlated .45. Overall, the mismatching of the path coefficients at the two time periods, combined with

the lower error in model 1 supports model 1 over model 2. Overall, the mismatching of the path coefficients at the two time periods, combined with the lower error in model 1 supports model 1 over model 2.

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