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The role of therapists' treatment adherence, professional experience, therapeutic alliance, and clients' severity of psychological problems: Prediction of treatment outcome in eight different psychotherapy approaches. Preliminary results of a naturalistic study

Volker Tschuschke^a, Aureliano Cramer^b, Miriam Koehler^a, Jessica Berglar^a, Katharina Muth^a, Pia Staczan^a, Agnes Von Wyl^b, Peter Schulthess^c & Margit Koemeda-Lutz^d

^a Medical Psychology, University Hospital of Cologne, Cologne, Germany

^b Zuerich Hochschule für Angewandte Wissenschaften, Psychology, Switzerland

^c Swiss Charta of Psychotherapy, Zurich, Switzerland

^d Private Practice, Zurich, Switzerland

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EMPIRICAL PAPER

The role of therapists' treatment adherence, professional experience, therapeutic alliance, and clients' severity of psychological problems: Prediction of treatment outcome in eight different psychotherapy approaches. Preliminary results of a naturalistic study

VOLKER TSCHUSCHKE¹, AURELIANO CRAMERI², MIRIAM KOEHLER¹,
JESSICA BERGLAR¹, KATHARINA MUTH¹, PIA STACZAN¹, AGNES VON WYL²,
PETER SCHULTHESS³, & MARGIT KOEMEDA-LUTZ⁴

¹Medical Psychology, University Hospital of Cologne, Cologne, Germany; ²Zuerich Hochschule für Angewandte Wissenschaften, Psychology, Switzerland; ³Swiss Charta of Psychotherapy, Zurich, Switzerland & ⁴Private Practice, Zurich, Switzerland

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Abstract

In this naturalistic study, 262 audiotaped psychotherapy sessions—randomly drawn from 81 individual therapies from eight different psychotherapy approaches—were rated completely on treatment adherence using a newly developed rating manual. In the therapy sessions, a relatively low percentage of treatment specific interventions (ranging from 4.2% to 27.8%) was found for all eight approaches, 50% to 73% of the interventions were nonspecific or common, and approximately 18% to 27% were intervention techniques from other approaches. Different types of psychotherapy differed highly significantly in levels of treatment adherence. There was no statistically significant association between the type of psychotherapy and its outcome, or between the degree of therapists' treatment fidelity and the treatment outcome. However, there were significant associations between therapists' degree of professional experience, clients' initial psychological burden, and treatment response. Clients' severity of psychological problems prior to treatment predicted quality of therapeutic alliance while therapists' treatment adherence was predicted by therapists' professional experience and by the quality of the therapeutic alliance. We discuss the seemingly indirect importance of treatment adherence for psychotherapy outcome that we found in this study in relation to findings from other studies and in the context of the role of schools within psychotherapy.

Keywords: treatment adherence; specific therapeutic factors; common therapeutic factors; treatment alliance; professional experience; severity of psychological problems

The securing of treatment integrity in psychotherapy is considered to be a major point in judging the scientific credibility of a particular psychotherapy approach (Barber, Gallop, Crits-Christoph, Frank, Thase, Weiss, & Connolly Gibbons, 2006; Boswell, Castonguay, & Wasserman, 2010; Moncher & Prinz, 1991; Perepletchikova, Chereji, Hilt, & Kazdin, 2010). However, the real degree of treatment adherence has been widely neglected in psychotherapy research up to now (Moncher & Prinz, 1991; Perepletchikova et al., 2010). There are only a few adherence-outcome studies, and the results are

mixed, providing little evidence that adherence to a treatment approach in fact impacts outcome substantially (Baldwin & Imel, 2013; Webb, DeRubeis & Barber, 2010). It is also not clear whether the degree of treatment adherence is more important in some types of treatment than in others.

Baldwin and Imel (2013) nevertheless argue that the current state of the evidence is not sufficient to fully draw the conclusion that therapists' treatment adherence does not play a role in treatment outcomes. They see the complex combinations of therapist influence, client influence, and their

Volker Tschuschke is now at the Sigmund Freud University Berlin. Correspondence concerning this article should be addressed to Volker Tschuschke, Department of Psychotherapy Science, Sigmund Freud University Berlin, Germany. Email: volker.tschuschke@sfsu-berlin.de

mutual influence on each other as a possible result of relevant process variables, such as therapists' treatment adherence, competence, and therapeutic alliance. Therapeutic alliance is a presumably common or nonspecific therapeutic factor of essential importance in psychotherapy, as evidenced by a growing number of research studies (Muran & Barber, 2010). Barber et al. (2006) and Barber, Khalsa, and Sharpless (2010) found an interesting relationship between therapist adherence and therapeutic alliance. Clients with lower therapeutic alliances seemingly made it necessary for the therapist to adhere more closely to treatment protocol than clients with higher alliance did. This suggests that adherence is not a thing per se and a unique feature of a given therapist but rather is due to therapist-client dyads. A more recent study found that specific techniques (the "active" ingredients of a treatment) may explain less variability in symptom change due to lower levels of depressive symptoms (Webb et al., 2012), since nonspecific factors such as response expectancies or spontaneous remission may tend to account for a relatively larger proportion of treatment outcomes in milder cases compared to more severe clinical depression.

Thus, therapist \times client features may play a more prominent role in psychotherapy, as Orlinsky, Rønnestad, and Willutzki's (2004) Generic Model of Psychotherapy describes. The diversity of the many variables—presumably nonspecific or common factors—contributing to the psychotherapeutic process and its outcome is hypothesized to surmount the theory-specific factors by far (Lambert, 2013). As Lambert suggests, "It seems imperative that we continue moving toward an understanding of how change occurs in psychotherapy through common and unique mechanisms" (p. 202). There are strong arguments for process research in psychotherapy that takes into account therapist and client variables as well as relationship variables, e.g., aspects of the therapeutic alliance, characteristics of particular technical interventions, and so on (Baldwin & Imel, 2013; Crits-Christoph, Connolly-Gibbons, & Mukherjee, 2013; Hatcher, 2010; Lambert, 2013). Although the role of the therapeutic alliance might be a complex one with regard to treatment outcome, the bulk of this research "supports the potential causal role that a positive therapeutic alliance plays in leading to relatively better treatment outcomes" (Crits-Christoph, Connolly-Gibbons, & Mukherjee, 2013, p. 308). It is still not known what the relationship is between the degree of treatment adherence and the quality of the therapeutic alliance.

Other crucial variables in the therapist-client relationship are the professional experience of the therapist and the severity of the client's problems.

Research on both of these variables also leads to mixed results if they were looked at in terms of treatment outcome (Bohart & Greaves Wade, 2013; Hill & Knox, 2013). Therapists' competence is considered to be another important variable in treatment integrity (Barber et al., 2006; Carroll et al., 2000), but "few studies have examined whether competence predicts outcome, and here too the findings are inconsistent, with competence showing moderate effects in some studies" (Hogue et al., 2008, p. 545). Adherence and competence are used to "refer to the core, *theory-specified* techniques or methods that are prescribed for a given treatment modality" (Webb et al., 2010, p. 200). Whereas *adherence* is considered to be "the degree to which therapists are delivering the theory-specified techniques," *competence* is seen as "the skill with which these techniques or methods are implemented" (Webb et al., 2010, p. 201).

This paper examines therapeutic interventions in several psychotherapy approaches and their effects under naturalistic conditions (effectiveness study), concentrating, in a first step, solely on therapist treatment adherence. The aim is to look at therapists' treatment adherence in relation to common or so-called nonspecific factors, such as the therapeutic alliance, the severity of clients' problems, and the role of therapists' professional experience. The results of this study are part of the *Practice Study Outpatient Psychotherapy—Switzerland (PAP-S)*; Tschuschke et al., 2010) conducted by the Swiss Charta for Psychotherapy. The main goal of the PAP-S is to compare different types of psychotherapy with regard to specific and nonspecific, common therapeutic factors. More details on the study design are described elsewhere (von Wyl, Crameri, Koemeda, Tschuschke, & Schulthess, 2013).

This paper is the first with PAP-S data to address the adherence issue and its possible relationships with several *common factors*.

To our knowledge, the relationships between treatment fidelity, therapeutic alliance, severity of clients' problems, and therapists' professional experience have not been addressed in research up to now.

To study these issues, we developed a new rating system (Tschuschke, Koemeda, & Schlegel, 2013) that allows objective identification of each intervention by the therapist with regard to approach fidelity (treatment adherence), use of nonspecific/common interventions, and use of intervention techniques stemming from other approaches. In the first step it was not possible to control for therapists' competence but rather for therapists' treatment adherence across different types of psychotherapies.

Based on the previous research mentioned earlier, we hypothesized that (i) the amount of treatment

adherence has a statistically relevant impact on treatment outcomes across all approaches under study, and (ii) the quality of the therapeutic alliance significantly predicts positive psychotherapy outcome. In addition, we were also interested in investigating the role of other (common) therapy factors that are important for the change process but show inconsistent and mixed research results, such as the initial severity of clients' psychological problems and the therapists' professional experience in connection with treatment fidelity (Baldwin & Imel, 2013; Bohart & Greaves Wade, 2013). Does the severity of the client's initial psychological burden significantly predict treatment alliance or treatment outcome?

Method

The *PAP-S* study conducted under the auspices of the *Swiss Charta for Psychotherapy* (see www.psychotherapiecharta.ch) is studying outpatient psychotherapeutic treatment from 10 different theoretical psychotherapy approaches. Therapists from 8 of these 10 types of therapy provided complete audiorecordings of client sessions. In brief, the approaches are the following (name of founder shown in parentheses):

- Analytical psychology—Main orientation: Psychodynamic (Jung, 2000); Psychoanalysis—Main orientation: Psychodynamic (Freud, 1895–1940)

- Bioenergetic analysis—Main orientation: Body oriented (Lowen, 1971)
- Existential analysis and logotherapy (GES)—Main orientation: Humanistic (Frankl, 1956–1999)
- Gestalt therapy—Main orientation: Humanistic (Perls; Perls, Hefferline, & Goodman, 1951)
- Integrative body psychotherapy—Main orientation: Body oriented (Rosenberg, Rand, & Asay, 1996)
- Art and expression-oriented psychotherapy—Main orientation: Integrative (P. J. Knill; Knill, Barba, & Fuchs, 1995)
- Process-oriented psychotherapy—Main orientation: Integrative (Mindell, 1998)
- Transactional analysis—Main orientation: Humanistic (Berne, 1973)

Psychotherapists working with these eight types of psychotherapy cooperate across major cities of Switzerland (Basel, Bern, Chur, Lausanne, Lucerne, Neuchatel, St. Gallen, Zurich/Winterthur). The *PAP-S* study was started in 2007 and was completed by the end of 2012 (follow-up data will be collected for 12 more months). This paper gives an account of data from audiorecorded therapy sessions from 8 of the 10 approaches (2 of the 10 approaches did not provide enough audiotaped sessions). We thus report preliminary data from 81 different individual therapies from eight types of psychotherapy (Figure 1).

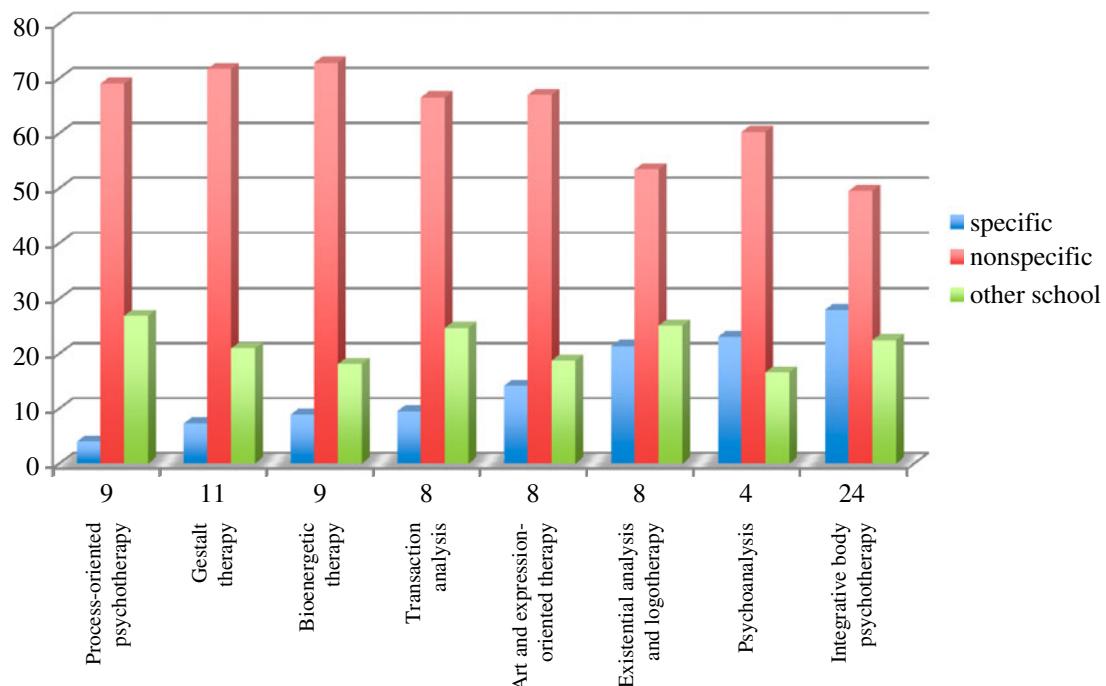


Figure 1. Eight types of psychotherapy: Specific (theory-specific) interventions (treatment adherence; blue), nonspecific, common interventions (red), and interventions from psychotherapy schools other than the therapist's own (green) (mean percentage across all therapies using each psychotherapy concept) and numbers of rated therapies per concept in the bottom line.

Cooperating Institutes and Therapists

Ten of the 23 institutes of the Swiss Charta for Psychotherapy agreed to cooperate in the *PAP-S* study. It was decided to carry out a naturalistic study (effectiveness study). The participating institutes were interested in empirical investigations that did not impact everyday practice (frequency of sessions, duration of treatment, client selection, and so on) other than the necessary audiorecording and testing of clients. The institutes agreed to have no influence on the scientific utilization of all project data.

All data were coded (ID number) by the therapists, so that the researchers worked with anonymous data and had no access to client identification. Therapists had no access to client session ratings (ratings were sealed in an envelope by clients) or outcome battery test results, because the clients were tested by independent testers and raters outside the therapists' practice. Psychotherapists practicing behavior therapy, client-centered therapy, and system therapy approaches were invited to take part in the study but they declined.

Client Recruitment and Session Selections

From March 2007 to June 2011, cooperating psychotherapists at all of the participating institutes/approaches asked their new clients if they would like to participate in the study on a voluntary basis. There were no restrictions on client inclusion regarding diagnosis, age, and so on. The therapists agreed to ask all clients entering psychotherapeutic treatment in their practices to participate in the study on a voluntary basis. The 81 therapies in this study were drawn randomly as a representative audiorecorded subsample of the study, taking into account the available number of cases from each type of psychotherapy. From each of the 81 cases, three to five sessions were randomly drawn from the early, middle, and advanced sessions of each treatment for objective ratings of the therapist's interventions.

Client Sample

Demographic information. Forty-six of the 81 clients were women and 35 were men. Their average age was 39.6 years and ranged from 17 to 71 years with a median of 41 years ($sd = 11.8$ years). Forty-two clients (51.9%) were single, 21 married (25.9%), 17 (21.0%) separated or divorced, and 1 widowed. Fifty of the 81 clients (61.7%) lived in a stable relationship, and 31 did not (38.3%). As their highest education level attained, 7 clients had completed elementary school (8.6%), 33 had an apprenticeship certificate (40.7%), 16 had a high school

diploma (19.8%), 12 had a polytechnical degree (14.8%), and 13 had a university degree (16.0%).

Diagnostic information. To date, *PAP-S* includes 379 clients. The 81 clients in this paper are representative of the total sample, taking into account demographic information (sex, age, education, etc., as well as diagnostic issues). A total of 147 *DSM-IV* (American Psychiatric Association, 2000) diagnoses were given, including:

- substance-related disorders: 7 diagnoses (= 4.8%), exclusively as second or third diagnoses
- mood disorders: 35 diagnoses (= 23.8%); 28 of these were first diagnoses and 7 were second or third diagnoses
- anxiety, posttraumatic stress disorders, and somatoform disorders: 50 diagnoses (= 34.0%); 39 of these were first diagnoses and 11 were second or third diagnoses
- eating and sexual disorders: 8 diagnoses (= 5.4%); 2 of them were first diagnoses, and 6 were second or third diagnoses
- personality disorders: 15 diagnoses (= 10.2%); 8 of these were first diagnoses and 7 were second or third diagnoses
- four clients had other first diagnoses (= 2.7%)

Mood, anxiety, and personality disorders covered 68% of the diagnostic range of the 147 diagnoses of the 81 clients under study.

Informed Consent

Each participating client signed a written informed consent. The document included the warranty that all participants were free to withdraw from the study at any time and without any justification. Also, each client was assured of having the right to not participate in the study and to receive therapeutic treatment from the same therapist. A research application was submitted to the ethical committees of each of the Swiss cantons involved prior to project start; all of the applications were approved by the local ethical committees.

Therapists

Demographic information. The 81 cases of this study were brought in by 30 therapists (18 female and 12 male) who had an average age of 50.4 years (ranging from 38 to 64 years) and an average professional experience of 9.4 years (ranging from 0 to 28 years; $sd = 7.3$ years). Twenty-seven therapists were psychologists, one was physician, and two studied another field at university. All therapists

were licensed by their institute (and awarded state recognition) after having successfully completed their psychotherapy training.

Supervision was not controlled for the purposes of this study. One major goal of this study was to investigate psychotherapists' treatment fidelity (adherence) in a natural setting to find out how many of the therapies practiced in a day-to-day setting with a typical outpatient clientele are being implemented in accordance with the treatment approach once learned by the therapist. Thus, the design of the study did not aim at controlling for maintenance of a therapist's fidelity to his or her chosen intervention model but at ensuring what a therapist really does and with what consequences for treatment process and outcome.

Outcome Battery

The three tests in the outcome battery were administered by independent and trained psychotherapists (not identical with clients' therapists and not involved in the study as therapists). The *Global Severity Index (GSI)* of the *Brief Symptom Inventory (BSI)* (Franke, 2000), completed by clients, comprises 53 items and nine subscales covering a broad range of psychological symptoms. This short version of the *Symptom Check-List (SCL-90-R)* has satisfactory high internal consistencies of its scales, ranging between .70 and .89, and .96 for the *GSI* (Cronbach's alpha). Concurrent or convergent validity was estimated by high positive correlations with a number of clinical self-rating scales (Geisheim et al., 2002). It is an overall measure and stands for general symptom load.

The *Outcome Questionnaire (OQ-45.2)* (Lambert, Hannöver, Nisslmüller, Richard, & Kordy, 2002), also completed by clients, is a measure for capturing symptom load, interpersonal relationship functioning, and quality of social integration. The internal consistency of the German version ranges from .59 to .93 for the different scales (Cronbach's alpha) and the convergent or concurrent validity was estimated by positive correlations between .45 (German version of the *SCL-90-R*) and .76 (German version of the *Inventory of Interpersonal Problems – IIP*).

Finally, we used the *Global Assessment of Functioning Scale (GAF)* (American Psychiatric Association, 2000), which is a global psychiatric rating carried out by independent clinical raters after having interviewed clients. The German version revealed an acceptable intraclass correlation coefficient (ICC) for the interrater reliability of .62 between 45 German clinicians judging 12 cases and for validity a satisfactory positive correlation with client responses on the *SCL-90-R Global Severity Index* (Siebel et al., 1997).

The three tests were employed within the first probationary sessions before the start of treatment (t1), immediately after the last therapy session (t2), and at follow-up one year after the completion of therapy (t3).

Outcomes for each of the 81 therapies were operationalized using the strategy of multiple outcome criteria (Ajzen & Fishbein, 1980; Fishbein & Ajzen, 1975). Rather than use a single outcome criterion, we combined several outcomes from different outcome measures to measure up to the complexity of therapeutic effects. For this, T-score transformations for each score of each outcome measure (*BSI-GSI*, *GAF*, and *OQ-45.2*) at each measurement point were made. T-scores were then summed up across the three outcome measures each at pre (t1) and post (t2), and the total at t2 was subtracted from the total at t1, resulting in a final "outcome T-score." T-score sum at premeasurement (t1) served also as a measure of the client's initial severity of psychological problems prior to treatment.

Process Measure

Clients rated the therapeutic relationship (alliance) after each fifth session using Luborsky's *Helping Alliance Questionnaire (HAQ)* (Bassler, Potratz, & Krauthausen, 1995). Internal consistencies (Cronbach's alpha) of the two subscales (*HAQ-1*: satisfaction with therapeutic relationship [six items] and *HAQ-2*: satisfaction with treatment [four items]) range from .85 to .88, thereby providing evidence for a sufficient reliability of the measure. Satisfying positive correlations with several outcome measures indicate the validity of the measure. Scale 1 (*HAQ-1*) was used as a measure for clients' experience of the quality of the therapeutic relationship.

Treatment Adherence Rating

Rationale and development of a manual. The aim of this study was to objectively rate in-session processes, particularly the type of psychotherapy being used by the therapist. For this, it was necessary to develop a new instrument that would allow very precise identification of the content of the therapist's interventions prescribed by his or her psychotherapy concept. Treatment adherence in psychotherapy is generally meant to refer to the core of the treatment, the theory-specified intervention techniques, and methods prescribed for a given treatment modality (Castonguay & Holtforth, 2005; Webb et al., 2010), also called *specific factors* in psychotherapy. The focus was on in-session processes and not on a general session rating. Moreover, it was necessary to develop

Table I. PAP-S Rating Manual: Structure of rating categories (example category: Confrontation of defense and resistance/psychoanalysis).

Category 1: Confronting Defense and Resistance
<u>DEFINITION:</u>
Therapist confronts client with circumstances that are unconscious or very troubling to the client—and are therefore defended. This is an unconscious manipulation of one's own perception of real situations and their importance (neglect, cutting out).
<u>OPERATIONAL:</u>
Therapist
<ul style="list-style-type: none"> • points directly to defensive maneuvers of the client or • confronts the client with the fact that the client does not notice something or does not take something seriously enough or • addresses uncomfortable realities
<u>DIFFERENTIATION:</u>
<p>➤ <u>Category 60 (confrontation):</u> Therapist points out contradictions in client behavior and / or points out stereotypical repeatedly occurring difficulties</p> <p>➤ <u>Category 61 (Showing congruence):</u> Therapist tries to further consciousness by referring to contradictions between verbal and nonverbal messages (not contradictions in content). This category aims at becoming aware that tone, facial expression, and gesture do not agree with the content of the message (Watzlawick's analogous versus digital communication)</p>
<u>RATING EXAMPLES:</u>
<ol style="list-style-type: none"> 1) Therapist: I sense that you are fooling yourself. 2) Therapist: I think you do not want to look at it carefully. 3) Therapist: I feel that you, unconsciously, are making big efforts in order to prevent certain insights 4) Therapist: You are defending something! 5) Therapist: Can it be that you are not perceiving something correctly? 6) Therapist: I guess you do not want to look at it!

a very specific rating manual that covers all basic intervention techniques of the participating institutes and their types of psychotherapies. This would allow us to tap the presumably unique intervention techniques of each cooperating type of therapy, used by a therapist trained in that approach (*specific factor*).

Cooperating therapy schools/institutes were asked to describe 6 to 12 technical interventions that are typical and unique to their approaches, following a suggested structure: name of the technique, definition, operational definition, and some examples (see Table I for the principal structure of each rating category). Other relevant psychotherapy approaches that were not participating in the study were also integrated in the manual (techniques from cognitive-behavior therapy, client-centered therapy, and systemic therapy; each of them described by acknowledged theoretical and clinical experts). Finally, 25 common, general intervention techniques that are presumably part of all psychotherapy treatments were also gathered in the manual. These common intervention techniques were elaborated based on

the available research literature and were then integrated in the manual (e.g., Pfammatter, Junghan, & Tschacher, 2012; Tracey, Lichtenberg, Goodyear, Claiborn, & Wampold, 2003). An independent team from the scientific board of the PAP-S study worked two years to develop the manual in continuous consultation with the institutes and with external experts. We therefore expect that the manual has conceptual (construct) validity, because all categories—with the exception of the 25 general (unspecific) categories—were defined and constructed by clinicians and lecturers from the cooperating institutes (and additionally by colleagues from nonparticipating institutes) and not by the researchers. The final manual (Tschuschke, Koemeda, & Schlegel, 2013) comprises 100 intervention techniques.

The rater version of the manual does not include information about intervention techniques and their psychotherapy school relatedness. Ratings can be made on the basis of a grammatical clause (the rating unit) of a therapist's intervention.

To test the degree of treatment adherence of the therapeutic interventions, complete therapy sessions were audiorecorded. Therapists used digital recorders for taping complete sessions across the entire course of therapy (with preagreement of clients). Both therapists and raters were blind with regard to what sessions in the entire treatment would be chosen for ratings later on. Independent researchers drew three to five sessions from each therapy by chance for intensive ratings by blind raters who did not know the session number or the type of therapy that they were rating.

Rating procedure and rater training. Using the manual, each therapy session was rated completely regarding the therapist's interventions (by also listening to client utterances in order to understand the therapist's intervention = the *context unit*). The intervention categories of the manual exclude each other, so that one rating can be given exclusively. A whole therapy session serves as the *calculation unit*: Scores were calculated for a total session by adding up the simple numbers of (i) theory-specified (specific), (ii) common, and (iii) other approach interventions. These numbers were then transformed into percentages per session. The numbers of interventions across each of the three clusters add up to 100%. Technical interventions that are theory specified (prescribed by the theory) were taken in the first step as a measure for treatment adherence. In the second step, prescribed intervention techniques and common (unspecific) interventions together were taken as a measure for treatment adherence (see "Results" section).

Since the percentage of treatment-specific interventions of each therapist varied extremely across different sessions within each treatment, we decided to average treatment-adherence ratings across the three to five chosen sessions of each case.

The training of four raters was extremely time consuming and took 500 to 600 hours across two years. Interrater reliabilities were administered by using session segments (5-min segments) of several total therapy sessions from different psychotherapy approaches as well as different therapists. Rater agreement was given when two raters rated exactly the same category (out of all 100 categories) within

the same therapist intervention at the same time independently of each other. The resulting interrater reliability (Cohen's kappa) across the five sessions between the remaining three raters is moderate to acceptable: $\kappa_{\text{rater1/rater2}} = .62$; $\kappa_{\text{rater2/rater3}} = .57$; $\kappa_{\text{rater1/rater3}} = .71$ (mean $\kappa = .63$).

The average number of ratings per session across all 262 rated therapy sessions from all 81 treatments ranged from 30 to 60 ratings.

After having reached a sufficient interrater reliability, the three raters split up the 262 sessions of all cases, and each rater rated approximately 80 to 100 sessions.

Results

Treatment Outcome

Table II shows the treatment effects of 81 cases. Scores were tested on a pre/post basis, because follow-up data were not available for all 81 therapies at this point. Changes in all three tests between pre- and postassessments were highly significant. The effect sizes in the *BSI-GSI* were slightly below average; however, the scores on this test were relatively low before treatment started. The effect size in the *GAF* was large given the relatively low initial scores, whereas the effect size in *OQ-45.2* was moderate. All in all, the initial level of clients' psychological problems was between slightly below average and moderate. On average, clients benefitted from their therapies.

Therapists were very experienced on average. Their average number of years of professional experience with their learned and licensed treatment concept was 9.4 years (with more than two-thirds of the distribution ranging between 2.1 and 16.7 years).

Prediction of Treatment Adherence

Figure 1 gives an overview of psychotherapists' average amounts of treatment adherence, common, nonspecific interventions, and interventions from approaches other than their own across the eight approaches. As can be seen, treatment adherence was relatively low across all eight treatment

Table II. Outcome (pre/post) of the total sample and effect sizes (ES) ($n = 81$; missing data due to insufficient compliance of clients or therapists).

	Pre			Post			t-score	df	p	ES
	N	Mean	SD	N	Mean	SD				
GSI-BSI	58	0.86	0.58	58	0.53	0.47	4.61	57	0.0001	0.69
GAF	61	58.00	13.33	61	72.95	13.43	-7.16	60	0.0001	1.12
OQ-45.2 (total score)	59	59.70	19.89	59	46.61	22.85	4.85	58	0.0001	0.61

approaches; on average, it ranged from 4.2% at the low to 27.8% at the high end. Nonspecific, common intervention techniques were used much more often by the therapists; they ranged between 49.6% and 72.9%. Interventions from approaches other than the therapist's own ranged from 15.9% to 26.9%.

The nested data structure (clients are nested within therapists) made it necessary to calculate a mixed model, taking into account several cases from the same therapist. As can be seen, the degree of treatment adherence differed significantly between different types of psychotherapy (Table III; see also Figure 1). Adherence was also significantly predicted by therapists' professional experience and the therapeutic alliance. The statistical analysis of the covariance of the variable "therapist" reveals that the person of the therapist does not significantly contribute to the model, although it explains 9% of the variance (test of random effects).

Therapists varied considerably in their degree of treatment adherence within the same treatment (within-therapist relationship), from session to session. The most extreme variation was given in one therapy, where the therapist stuck to his treatment protocol 100% in one session and 0% in another. The amount of treatment adherence differed among therapists working with the same therapy approach to a similar extent as it did among therapists working with different types of therapy.

A mixed-model analysis of theory-specific plus common interventions (as another measure for

treatment adherence) revealed no significance for either variable. Theory-specific and common interventions were highly negatively correlated ($-.77$; $N = 81$; $p \leq .0001$) and were significantly negatively correlated with interventions from other concepts than one's own ($-.24$; $N = 81$; $p \leq .03$).

Prediction of Treatment Outcome

Table IV shows the results of a mixed-model calculation, again taking into account several cases from the same therapist. Specific ("treatment adherence") and important common variables, such as "type of therapy," quality of the "therapeutic alliance," "therapists' professional experience," and "the severity of clients' psychological problems" at treatment entry, were tested with regard to treatment outcome. Since the relationship between the two variables "severity of psychological problems" and "professional experience" might not be linear (an interaction of the two variables did not predict treatment outcome although either variable alone did), another approach used the two variables dichotomized (by using the median of each variable): higher "severity of psychological problems," lower "severity of psychological problems," higher "professional experience," and lower "professional experience."

Table IV shows the results of a mixed-model analysis with alliance, treatment adherence, types of therapy approaches, the extreme groups of the two variables (problems and experience), and the

Table III. Dependent variable: Treatment adherence (mixed model, fixed effects).

Parameter	Estimates of fixed effects						95% Confidence interval	
	Estimate	SE	df	t	p	Lower bound	Upper bound	
Intercept	8.07	11.16	45.69	0.724	.473	-14.38	30.53	
Therapeutic alliance	3.62	1.51	53.69	2.399	.020*	.60	6.65	
Professional experience	-.52	.20	21.19	-2.618	.016*	-.94	-.11	
Severity of problems	.05	.07	54.57	0.754	.454	-.09	.19	
Therapy 1 (Process-oriented)	-3.15	6.60	24.80	-0.477	.637	-16.75	10.45	
Therapy 2 (Gestalt)	3.67	6.01	20.64	0.560	.581	-9.14	15.87	
Therapy 3 (Integrative body)	15.07	5.31	17.33	2.839	.011*	3.89	26.25	
Therapy 4 (Existential analysis)	11.34	5.97	16.39	1.898	.075	-1.30	23.98	
Therapy 5 (Art and expression-oriented)	4.70	6.12	17.47	0.768	.453	-8.19	17.59	
Therapy 6 (Psychoanalysis)	15.55	6.92	21.86	2.247	.035*	1.19	29.91	
Therapy 7 (Bioenergetic)	-.95	6.04	22.19	-0.157	.876	-13.47	11.57	
Therapy 8 (Transaction analysis)	0 ^a							

Test of random effects					
Parameters	Estimate	SE	Wald Z	p	Explained variance
Residual	66.090	14.666	4.506	.000	14.44/157.5 = .09
Therapist	15.442	14.763	1.046	.296	approximately 9%

^aThis parameter is set to zero because it is redundant * $p < .05$; Variance of treatment adherence = 157.8.

Table IV. Dependent variable: Treatment outcome (mixed model, fixed effects).

Parameter	<i>Estimates of fixed effects</i>						95% Confidence interval	
	Estimate	SE	df	t	p	Lower bound	Upper bound	
Intercept	37.90	16.96	9.46	2.234	.051	-1.19	76.00	
Ther. alliance	-5.87	4.42	13.65	-1.328	.206	-15.37	3.63	
Treatment adherence	-0.85	0.40	12.71	-2.108	.056	-1.72	0.02	
Severity group = 1	-23.23	5.87	11.57	-3.954	.002*	-36.08	-10.38	
Severity group = 2	0 ^a							
Experience group = 1	-27.33	8.81	19.74	-3.101	.006*	-45.73	-8.93	
Experience group = 2	0 ^a							
Severity/experience combination group = 1	-23.07	5.90	15.39	-3.909	.001**	-35.63	-10.52	
Severity/experience combination group = 2	0 ^a							
Therapy 1 (Process-oriented)	-13.81	23.29	9.22	-0.593	.567	-66.30	38.68	
Therapy 2 (Gestalt)	-22.33	26.72	6.70	-0.836	.432	-86.08	41.41	
Therapy 3 (Integrative body)	-1.70	19.06	9.16	-0.089	.931	-44.69	41.29	
Therapy 4 (Existential analysis)	-15.80	22.08	7.35	-0.716	.496	-67.51	35.92	
Therapy 5 (Art and expression-oriented)	-6.46	22.43	7.97	-0.288	.781	-58.23	45.31	
Therapy 6 (Psychoanalysis)	-20.28	28.27	8.89	-0.717	.492	-84.36	43.81	
Therapy 7 (Bioenergetic)	-11.92	20.43	7.87	-0.584	.576	-59.16	35.32	
Therapy 8 (Transaction analysis)	0 ^a							

<i>Test of random effects</i>					
Parameters	Estimate	SE	Wald Z	p	Explained variance
Residual	81.93	39.17	2.092	.036	32.5/255.90 = .13
Therapist	32.50	262.05	1.625	.104	13%

^aThis parameter is set to zero because it is redundant *p < .01, **p < .001; Variance of Treatment Outcome = 255.90.

interaction between them (group 1 comprised clients with lower severity of problems and therapists with lower professional experience, clients with higher

severity of problems and therapists with lower professional experience, clients with lower severity of problems and therapists with higher professional

Table V. Dependent variable: Therapeutic alliance (mixed model, fixed effects).

Parameter	<i>Estimates of fixed effects</i>						95% Confidence interval	
	Estimate	SE	df	t	p	Lower bound	Upper bound	
Intercept	7.19	0.62	39.83	11.645	.000	5.94	8.44	
Treatment adherence	0.01	0.01	54.95	1.265	.211	-0.02	0.03	
Professional experience	0.00	0.01	19.12	0.236	.816	-0.02	0.03	
Severity of psychological problems	-0.01	0.00	53.28	-3.541	.001*	-0.02	-0.01	
Therapy 1 (Process-oriented)	-0.03	0.35	21.52	-0.077	.940	-0.76	0.71	
Therapy 2 (Gestalt)	0.06	0.32	15.68	0.190	.852	-0.61	0.74	
Therapy 3 (Integrative body)	-0.11	0.30	17.23	-0.369	.717	-0.74	0.52	
Therapy 4 (Existential analysis)	0.15	0.32	13.55	0.473	.644	-0.54	0.85	
Therapy 5 (Art and expression-oriented)	0.14	0.32	12.96	0.426	.677	-0.56	0.83	
Therapy 6 (Psychoanalysis)	0.04	0.39	20.63	0.113	.911	-0.76	0.85	
Therapy 7 (Bioenergetic)	0.02	0.32	18.57	0.073	.942	-0.65	0.70	
Therapy 8 (Transaction analysis)	0 ^a							

<i>Test of random effects approximately</i>					
Parameters	Estimate	SE	Wald Z	p	Explained variance
Residual	0.24	.05	4.341	.000	0.02/0.282 = .07
Therapist	0.02	.05	0.410	.682	approximately 7%

^aThis parameter is set to zero because it is redundant *p < .05; Variance of therapeutic alliance = 0.282.

experience, and group 2 comprised clients with higher severity of problems and therapists with higher professional experience).

As the results in **Table IV** show, a certain combination of subgroups of the two variables was highly significant: Highly experienced therapists working with clients with more severe problems achieved highly significantly better treatment outcomes compared to all other combinations. Professional experience of therapists' and severity of psychological problems alone also play a significant role in respect to treatment outcome. Type of psychotherapy did not predict treatment outcome, as did neither the therapeutic alliance nor the degree of treatment adherence, although there was a strong tendency for the latter. Again, the person of the therapist did not play a significant role (test of random effects), although explaining 13% of the variance.

Prediction of Therapeutic Alliance

Table V shows that the quality of the therapeutic alliance is predicted by the severity of clients' psychological problems. None of the other variables (type of therapy, degree of treatment adherence, professional experience) predicted the quality of the therapeutic alliance. Again, the person of the therapist did not have an impact (test of random effects) (explaining 7% of the variance).

Discussion

This paper presents findings concerning the importance of treatment adherence in selected types of psychotherapy. No conclusions can be drawn about other forms of psychotherapy that were not examined in this study. This is particularly true for behavioral and cognitive-behavioral, person-centered, systemic, and psychodynamic therapies (the four psychodynamic cases in this study are far too small an empirical basis to draw any further conclusions). But also the cases in this study do not allow us to generalize the results of the selected samples of each type of psychotherapy that participated in the study. Some approaches were represented by only very few therapists, so that the results may be due to the therapists' individual personalities or due to the very few clients being treated by some types of psychotherapy.

However, the results of this study contribute to the debate on the role of treatment fidelity/adherence in psychotherapy and should be taken as contributing toward the generation of hypotheses.

One major finding of this study is that different types of psychotherapy differ significantly in their degree of treatment adherence, if we look at either

theory-prescribed, theory-specific interventions, or common interventions. The relatively higher degrees of adherence for some types of psychotherapy (integrative body psychotherapy, psychoanalysis, existential analysis and logotherapy) as well as the relatively lower degrees of common, nonspecific interventions or vice versa—compared to the other types examined in this study—cannot fully be explained at this point. It appears that different psychotherapy approaches tend to be more specific than others (see below), notwithstanding the fact that the degree of adherence is not correlated with treatment outcome.

Theory-specific and common intervention techniques are highly negatively correlated and seem to complement each other. The more treatment specific that therapists work, the relatively less commonly they intervene and vice versa. Both summed up, they do not contribute to a discrimination between different types of psychotherapy. Although one can assume that any type of psychotherapy uses helpful, sensitive human communication (a common factor) besides theory-specific interventions—in order to further the working alliance and the change process—this result suggests that both seem to play a different role. This calls for further investigation.

One explanation for the relatively highest level of adherence of the integrative body psychotherapy approach (24 cases, 8 therapists)—with a relatively lower level of common interventions at the same time—in our study might lie in the nature of the treatment. Therapists of body-oriented psychotherapies should use different intervention techniques than other types of therapy—just body-oriented techniques, besides the commonly used pathways of human communication. Nevertheless, the absolute amount of treatment adherence levels remains relatively low across all eight types of therapy compared to nonspecific interventions and interventions stemming from other approaches.

Although any type of psychotherapy contains some combination of treatment-specific and nonspecific therapeutic interventions, the large proportion of nonspecific, common interventions in the eight therapy approaches was still surprising. What the best proportion of specific and nonspecific interventions in psychotherapy is cannot be said at this point. It might be that the correct timing of certain interventions plays a major role in the psychotherapeutic endeavor. But what is the right moment for a treatment-specific or a nonspecific intervention? This question probably will remain unanswered until we know more about the role of therapists' competence.

Our results suggest that treatment adherence in psychotherapy—be it theory-specific, theory-prescribed interventions alone or in combination with

nonspecific, common interventions—does not contribute to treatment outcome per se. Thus, hypothesis 1 cannot be supported. The amount of treatment adherence is—besides the type of therapy—significantly predicted by the therapist's level of professional experience and by the quality of the therapeutic alliance. More experienced psychotherapists use significantly fewer theory-specific intervention techniques than less experienced therapists. They use more nonspecific intervention techniques (common factor) but they do not differ from less experienced therapists in their use of techniques from other theoretical concepts.

This result leaves room for speculations. It is often heard that over the years of clinical practice psychotherapists acquire techniques from other treatment concepts and integrate them into their own repertoire of techniques. We do not find a difference between old hands and beginners in this regard. Both subgroups use approximately 20% techniques from other schools that are not prescribed by their own approach. However, this result is compatible with the assumption that over the years, psychotherapists learn to handle their prescribed repertoire of techniques more flexibly, being more “conservative” in their use of treatment-specific interventions. This does not necessarily mean that specific techniques are less important than unspecific techniques. It might be important to be guided by a theoretical concept and its related technical intervention equipment which would allow therapists to use specific interventions from time to time (keyword “timing”) due to the needs of the treatment course.

PAP-S Rating Manual

In this study, 262 therapy sessions from 81 therapies were investigated by objective session ratings and process-outcome relationships (therapists' treatment adherence, therapeutic alliance) to generate hypotheses about complex process-outcome relationships between so-called specific (adherence) and common therapeutic factors (alliance, professional experience, severity of psychological problems).

We aimed at precise investigation of psychotherapeutic treatments under natural conditions by using a highly dissolving instrument that allows a precise look at each therapeutic intervention in a given course of therapy by therapists from different types of psychotherapy. The interrater reliability of most available adherence and competence rating scales are found in critical ranges around or even below 0.50 (Wiltink, Edinger, Haselbacher, Imruck, & Beutel, 2010). The average kappa coefficient of our rating system was 0.63 and should be considered as moderate to acceptable, particularly given the very

detailed rating process where each intervention by the therapist is rated. The main problem with this procedure is identifying new interventions and deciding where the previous intervention ends in cases where therapists' interventions comprise complex issues and exceed one grammatical clause.

Extensive rater training is required to achieve an acceptable interrater reliability. This might preclude the application of this manual in other studies or in clinical practice, although the instrument allows for sophisticated research.

The results of this study were planned to deliver a deeper understanding of the relationships between relevant variables of the psychotherapeutic endeavor: the relationships between psychotherapists' treatment fidelity and the therapeutic alliance as perceived by clients, clients' psychological burden when entering treatment, therapists' level of professional experience, and treatment outcomes.

The results from multilevel modeling (mixed model) calculations suggest that the degree of treatment adherence is determined by type of therapy, therapists' experience, and the quality of the therapeutic relationship, and that treatment outcome is significantly moderated by the severity of clients' problems. A closer look at different combinations is merited.

Treatment Adherence and Outcome

The results show that—on the basis of these eight different therapeutic approaches—the level of treatment adherence per se does not play a significant role with regard to treatment outcome, thus confirming the results of a recent meta-analysis (Webb et al., 2010). The amount of treatment adherence most likely plays an indirect and significant role in combination with other relevant variables, such as the severity of clients' psychological problems. It might be that therapists—across different types of psychotherapy—adapt their intensity of treatment adherence to their clients' level of psychological burden. We found that very experienced psychotherapists adhered less to their treatment protocol with clients in general than their less experienced fellows. Obviously very experienced therapists adapt to their clients' elevated severity of psychological problems in some ways (see Table V and Figure 2). Unfortunately our limited sample size does not allow us to answer more sophisticated questions, such as the role of complex interrelations between specific and common therapeutic factors, for example, the relationships between clients' level of psychological problems, its impact on the degree of treatment adherence (on the background therapists' level of experience) and on the

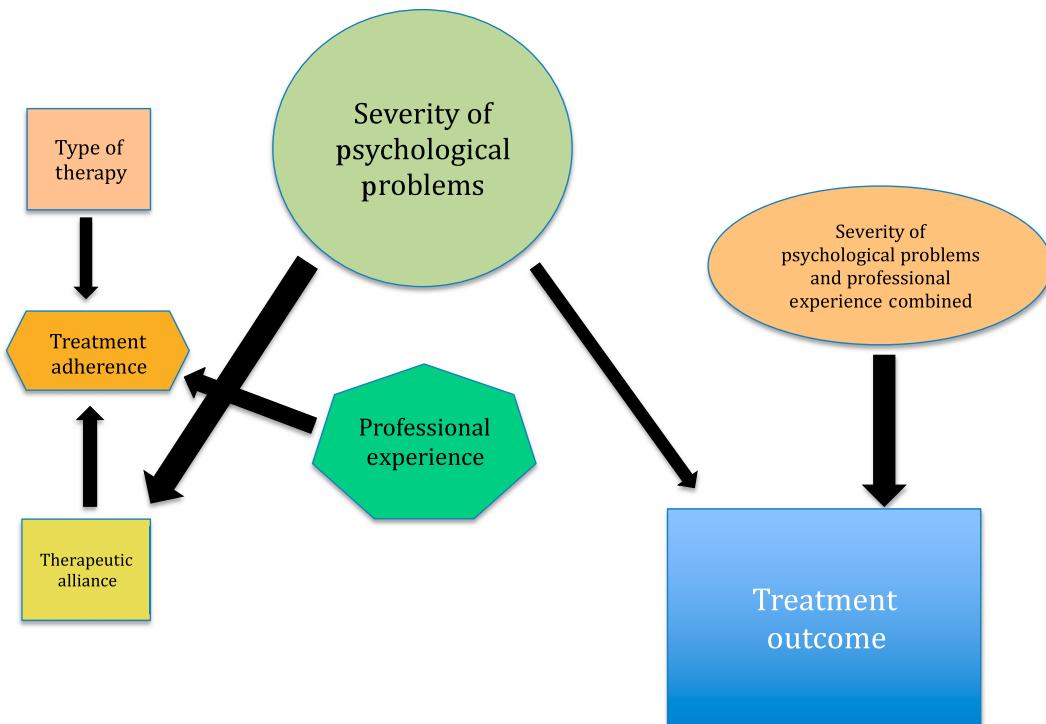


Figure 2. Significant relationships (predictors).

quality of the therapeutic alliance, and the impact of them all on treatment outcome.

Treatment Adherence, Therapeutic Alliance, and Other Common Factors

Therapeutic alliance was not directly connected with treatment outcome, thus not confirming the hypothesis. A mixed-model calculation (taking into account that some therapists were repeatedly involved by treating different clients) reveals that therapeutic alliance was not significantly correlated with outcome. Therefore hypothesis 2 is also not supported. As can be seen in Figure 2, therapeutic alliance is significantly related to other crucial common factors and may play an indirect role in the change process.

Barber et al. (2006) refer to a possibly complex interrelation: "It is also possible that competence moderates the relation between adherence and outcome" (p. 230). It is a methodological challenge to detect fidelity-outcome relations since these may be confounded by third-variable influences that "account indirectly for observed fidelity-outcome effects" (Hogue et al., 2008, p. 545). The competence of a therapist may be the crucial variable that binds the variables investigated in this study together: clients' severity of psychological problems, their ability to bond with the therapist, therapists' specific or unspecific interventions, timing of the

interventions, as well as the content and tone of these interventions, and last but not least the role of the therapists' professional experience.

We found that the level of treatment adherence varies considerably from therapist to therapist (between-therapist relationship)—even within the same treatment concept, as well as within the same therapy (within-therapist relationship)—and also as a consequence of the quality of the therapeutic alliance, thus confirming Barber et al. (2006) and Baldwin and Imel's (2013) conclusions regarding an important relationship between the quality of alliance (clients' experience of the therapeutic relationship) and therapists' adherence reaction emerged (see above).

The results mentioned above argue for the fact that treatment adherence is not a thing per se in psychotherapy—even if we find that more experienced psychotherapists tend to be less specific and more unspecific, general in their intervention techniques (common factor) in their work with clients. Treatment adherence varies considerably between and also within therapists, which suggests that psychotherapists might react flexibly to situations. The inconsistent results of the Barber et al.'s (2006) study and of this study point up the need for more research that takes into account alliance-adherence relationships (Barber et al., 2010).

The therapist's level of professional experience itself plays an important role in treatment outcome.

It impacts the degree of treatment adherence, this being at least the case for the eight different types of psychotherapies examined here.

The severity of the clients' psychological problems at entry into treatment did not predict therapeutic adherence directly.

Figure 2 suggests that there is a very complex picture of specific and nonspecific factors involved in the therapeutic change process. Clients' severity of psychological problems significantly impacts treatment outcome as well as the therapeutic alliance. The therapeutic alliance in turn predicts the degree of therapists' treatment adherence as does the type of therapy. Also the amount of therapists' professional experience significantly impacts their degree of treatment fidelity.

The results also highlight the role of the therapeutic alliance (Muran & Barber, 2010) in psychotherapy. The quality of the therapeutic alliance is deeply influenced by clients' severity of psychological problems. Psychotherapists seem to adapt to a stressed or weakened therapeutic alliance by lowering their degree of treatment adherence and vice versa. Thus, our results stand in contrast to the results of Barber et al. (2010) who found a positive correlation between therapeutic alliance and treatment fidelity. The interdependency of the two variables seems to be a crucial factor in the psychotherapeutic process that merits more attention in future research.

The interaction between the severity of clients' initial psychological problems when entering treatment and therapists' degree of professional experience was found to be not linear. A meaningful interaction analysis between the two variables could not be found although each one of them alone significantly predicted treatment outcome. However, a dichotomization of the two variables (using the medians) allowed for combinations that revealed a significant impact of a certain combination: Particularly, highly experienced therapists work highly significantly more effectively with clients with a higher severity of psychological problems compared to less experienced therapists (whether they worked with clients with less severe problems or more severe problems). Even very experienced therapists seem to work less effectively with clients with lower levels of psychological problems.

Limitations of the Study

Generalizations from the results of this study are hampered by several limitations. First, some major psychotherapy schools did not participate in the study. The cooperating institutes/approaches provided too few cases (particularly the psychoanalytic

approach) and too few therapists to allow generalization based on the given results. Several calculations suffered from missing values (particularly outcome measures and repeated alliance measuring during the treatments), so that statistical calculations of subsamples were partly hindered by a sometimes very small empirical basis.

Second, treatment adherence was looked at on a quantitative basis which entails some limitations. As mentioned above, adherence on a very high level throughout treatment cannot be expected and has not been found in previous research (Baldwin & Imel, 2013). Thus, the *qualitative* meaning of a significant technical intervention of the therapist at a most crucial point ("perfect timing") may be the most important intervention in a session or in the whole therapy and might serve as a turning point. That kind of qualitative analysis merits far more efforts than was possible within our study; the endeavor would aim at the core of psychotherapists' competence. This points to another aspect: Therapists' competence was not investigated together with treatment fidelity. That association might open up ways to answer fundamental questions. We plan to study this aspect in future investigations with the available material from the 379 cases of the *PAP-S* study.

Strengths of the Study

This study addresses several relevant variables in the psychotherapeutic process-outcome relationship. Therapeutic adherence—an often neglected variable—was rated objectively by using total sessions of psychotherapy in a natural setting. Eight different psychotherapy institutes with their particular treatment approaches provided audiorecorded sessions. This allowed us to conduct an objective investigation of the impact of therapeutic adherence in several psychotherapy approaches with a comparable client clientele. The conclusions regarding the role of treatment adherence are therefore based on the activities of 30 therapists in eight different theoretical approaches with 81 clients. Further, the process-outcome study design allowed us to study the relationships between the so-called specific therapeutic ingredient (treatment adherence) and so-called nonspecific, common therapeutic factors, such as therapeutic alliance, severity of clients' psychological problems, amount of therapists' professional experience, their interdependency, and their relation to treatment outcome.

An extremely complex but nevertheless fascinating pattern of interrelations appears to pave or block pathways to change in psychotherapy; this calls for more research.

Conclusions

The results of this study illustrate that therapeutic adherence does not play a prominent role per se in psychotherapy. It is obviously moderated by other relevant variables in the therapeutic process. Psychotherapists seem to react to the client's ability—or lack of ability—to bond with them in the treatment process. First, the client's severity of psychological problems at treatment entry has a strong impact on the quality of the therapeutic alliance. The quality of the therapeutic relationship in turn impacts the therapist's amount of intervention specificity (specific factor). We can speculate that therapists might have to make sure that the therapeutic process can continue and that the relationship is improving or at least stabilizing on an acceptable level, so as to assure that the treatment can continue. This probably includes therapists easing their treatment protocol temporarily. Thus, treatment adherence in psychotherapy is not always a stable factor but instead depends on therapists' level of professional experience, clients' abilities to establish a good enough working alliance, and the climate of the therapeutic cooperation in the dyad, although it might, on average, remain on a relatively low level in most sessions. Nevertheless, the flexibility of therapists' treatment adherence reactions seems to impact treatment outcomes substantially if clients' severity of psychological problems hampers the working alliance.

The role of therapists' competence could not be investigated so far with the data of this study. The complexity of the psychotherapeutic change process could only be indicated by the relationships that were detected with the preliminary data of this effectiveness study. Treatment adherence in psychotherapy was found to be a complex issue, depending on the type of psychotherapy, the quality of the therapeutic alliance, and therapists' degree of professional experience, and also indirectly on clients' severity of psychological problems. We are planning to aim at explaining the described complexity by developing a measure for therapeutic competence using the data from a larger sample of the PAP-S project.

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