

## Helping alliance and outcome in psychotherapy: What predicts what in routine outpatient treatment?

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### Abstract

This naturalistic longitudinal study analyzed the reciprocal dependency of the helping alliance and symptom outcome over the course of mid- and long-term outpatient psychotherapy as practiced in routine care in Germany. Patient-rated helping alliance and symptom distress were assessed repeatedly over a 2-year period in a sample of 259 outpatients in psychodynamic, cognitive-behavioral, and psychoanalytic psychotherapy. Hierarchical linear models showed that initial symptom distress negatively predicted subsequent quality of the helping alliance but not vice versa. Only initial symptom distress affected symptom status at the last treatment session. These results raise doubts about the helping alliance being a strong predictor of outcome and indicate that other patient and therapist variables might be more important for treatment success.

A beneficial patient-therapist relationship is considered a central process factor in most forms of psychotherapy. Stemming from psychoanalytic and psychodynamic theory (Greenson, 1967), the concept of the therapeutic, helping, or working alliance has also received increasing attention in cognitive-behavioral theories during recent decades (Bordin, 1979; Gelso & Carter, 1985; Rush, 1985). Research on the helping alliance was stimulated by Luborsky's famous "dodo bird" verdict, leading to the assumption that a common factor, presumably the helping alliance, might be the basis for the finding of different treatments with different patients attaining similar outcomes (see Catty, 2004, for a critical overview on conceptual issues pertaining to the therapeutic alliance).

Since the work of Luborsky, Singer, and Luborsky (1975), numerous instruments measuring the quality of the helping alliance have been developed and used in a large number of studies scrutinizing its effect on outcome. In general, the helping alliance was found to be "quite consistently (though not invariably) associated with positive outcome in psychotherapy" (Orlinsky, Rønnestad, & Willutzki, 2003, p. 52). However, meta-analyses yielded only modest effect sizes. For 24 studies with a mean of 49.0 ( $SD = 39.8$ ) participants and 20.6 ( $SD = 12.4$ ) sessions, Horvath and Symonds (1991) reported an

overall effect size of 0.26, which corresponds to a moderate relation between helping alliance and outcome. Subsequent research using more sophisticated research designs did not result in a higher alliance-outcome relation. Analyzing 79 studies with a mean of 60.4 ( $SD = 64.6$ ) participants and 22.2 ( $SD = 18.8$ ) sessions, Martin, Garske, and Davis (2000) again obtained only a moderate average effect size (0.22).

Moreover, some authors (Barber, Connolly, Crits-Christoph, Gladis, & Siqueland, 2000; Feeley, DeRubeis, & Gelfand, 1999) have criticized that many studies assessed the helping alliance during ongoing treatment (e.g., in the third session) without taking into account previous symptom change, which could have influenced the helping alliance as well as treatment outcome (e.g., Krupnick et al., 1996). For instance, in a sample of 54 elderly depressed patients, Gaston, Marmar, Gallagher, and Thompson (1991) found that the helping alliance, which was assessed at Sessions 5, 10, and 15, was moderately correlated with prior symptom change. This relationship, compared with behavior therapy and cognitive therapy, was smallest in brief dynamic therapy. Also Barber et al. (2000), in a sample of 86 patients receiving 16 to 52 sessions of supportive-expressive psychotherapy, observed that early change in depression was associated with the

helping alliance measured at Sessions 5 and 10 but not at Session 2. Furthermore, DeRubeis and Feeley (1990) reported for 25 patients in cognitive therapy that the helping alliance in the third and fourth quarters of treatment was better for patients with greater previous changes in depression. In addition, several authors contend that early symptom improvement is associated with better treatment outcome (Beckham, 1989; Crits-Christoph et al., 2001; Fennell & Teasdale, 1987; Haas, Hill, Lambert, & Morrell, 2002; Renaud et al., 1998).

Research examining the relationship between the helping alliance and outcome when controlling for early symptom change has yielded contradictory results. After partialling out initial level of symptom impairment and early improvement, the alliance no longer predicted outcome in the studies of Gaston et al. (1991) and Barber, Crits-Christoph, and Luborsky (1996). Similarly, no substantial impact of alliance on subsequent decline in drug use was found in a sample of 252 cocaine-dependent outpatients receiving cognitive therapy, dynamic therapy, or drug counselling (Barber et al., 1999). Also, in two different samples of 25 depressed patients each, helping alliance did not predict subsequent symptom change (DeRubeis & Feeley, 1990; Feeley et al., 1999), even though prior symptom change was not partialled out. In Barber et al. (2000), however, after partialling out prior change in depression, early alliance predicted subsequent symptom change assessed at Month 4 and at termination. This finding was replicated in a considerably large study of 341 outpatients (Klein et al., 2003). Using a mixed-effects growth curve model, the authors found that alliance at Week 2 continued to predict change in depressive symptoms between Weeks 3 and 12 after controlling for prior symptom change.

Some researchers have addressed the question of whether change in the helping alliance during the course of treatment is predictive of later outcome. Using hierarchical linear modeling (HLM), Kivlighan and Shaughnessy (1995), in a sample of 21 counseling patients, found that a linear increase in the helping alliance was related to outcome. This finding was replicated by Stiles, Agnew-Davies, Hardy, Barkham, and Shapiro (1998) in a sample of 79 depressed patients in psychodynamic-interpersonal or cognitive-behavioral treatment (CBT). Piper, Boroto, Joyce, McCallum, and Azim (1995) also applied HLM to a sample of 32 outpatients in individual dynamically oriented psychotherapy (PD). They reported that, for patients with a low quality of object relations, change in the helping alliance over time was positively associated with outcome. However, no such relationship was found for patients with a high quality of object relations.

In summary, the question of whether the helping alliance predicts outcome when previous symptom change has been controlled for has not been resolved adequately. In this context, the question has been raised whether "symptom improvement led to positive alliances rather than the other way round" (Feeley et al., 1999, p. 578). DeRubeis and Feeley (1990), Gaston et al. (1991), and Feeley et al. (1999) only found indications for the first direction (symptom improvement predicts helping alliance). However, findings reported by Barber et al. (2000) can be interpreted as supporting both possible directions of effect. This pertains to issues of temporal sequence and direction of effect: Does alliance lead to or is it a consequence of (early) symptom improvement? If the latter is true, the importance of alliance as a process variable might be doubted because it would merely be a by-product of therapeutic gain (Horvath & Luborsky, 1993; Horvath & Symonds, 1991).

On the basis of longitudinal data of a large sample of patients in three forms of mid- and long-term outpatient psychotherapy (psychodynamic psychotherapy, cognitive-behavioral therapy, or psychoanalytic psychotherapy), this explorative study addresses the following research questions:

1. Does change in the helping alliance over time predict subsequent change in symptom distress and vice versa?
2. Do early status and change in the helping alliance affect later symptom distress beyond initial symptom status and early symptomatic change?
3. Do initial level of symptom distress and early symptomatic change affect status of the helping alliance later in treatment?

## Method

### Design and Recruitment

"Transparency and Outcome Orientation in Outpatient Psychotherapy" (TRANS-OP) is a prospective longitudinal observational study. Participants were recruited from a major German health insurance company (Deutsche Krankenversicherung [DKV]). All insurees who requested reimbursement of outpatient psychotherapy were asked to participate between fall 1998 and spring 2000 ( $N=3,804$ ; the following treatment modalities are eligible for reimbursement: psychodynamically orientated psychotherapy – PD, cognitive-behavioral treatment – CBT, and psychoanalytic psychotherapy – PAP). Information on the study made clear that participation had no effect on quality of health insurance coverage and/or treatment in any way.

Nine hundred thirty-nine insurees who gave informed consent to participate received an intake (T1) questionnaire and, provided they did not refuse participation during the course of the study, four further questionnaires. For each participant, intermediate measurement points (T2 and T3) were administered randomly at two of seven points in time (4, 8, 16, 28, 40, 52, or 64 weeks after intake). Furthermore, all participants received follow-up questionnaires 1.5 years (T4) and 2 years (T5) after intake. This design, optimized for the application of HLM, allows for a large number of measurement points (10 total [three fixed and seven random]) while participants were asked to provide data at only five times. All questionnaires were sent to the patients by postal mail together with a stamped return envelope. At T1, an additional questionnaire for the therapist was enclosed. Patients did not receive remuneration for study participation.

Obtaining reliable information on service utilization turned out to be rather laborious. Thus, from each form of psychotherapy we drew a randomized subsample of 100 patients who were recruited before December 1999 (for a total of 300 patients). Of these, 259 returned the first questionnaire. Information about date of each session was provided by DKV from insurance claims after completion of the study. Figure 1 shows further information on response rates and flow of study participants.

Overall, return rates were high (78–97% for the different measurement points) and hardly differed by form of treatment. Of the 259 participants who returned at least the T1 questionnaire, 199 (76.8%) returned all five questionnaires, while 13 returned four, 19 returned three, 10 returned two, and 18 sent back only T1, resulting in a total of 1,142 observations. The T1 questionnaire was sent at the time of requesting reimbursement for outpatient treatment, which did not necessarily coincide with the time of the first treatment session. However, time lag was marginal; that is, treatment started on average 13.65 days after the return date of the T1 questionnaire (mode=4; 25th percentile=60 days, 75th percentile = -36 days).

## Measures

Psychological symptom distress was measured at T1 to T5 via the German version (Franke, 1995) of Derogatis's (1986) Symptom Checklist-90-Revised (SCL-90-R). The SCL-90-R is a widely used outcome measure in psychiatry, psychotherapy, and psychosomatic medicine (Derogatis, 2000). For the German version, Franke (1995) reported high internal consistencies, especially for the Global Severity

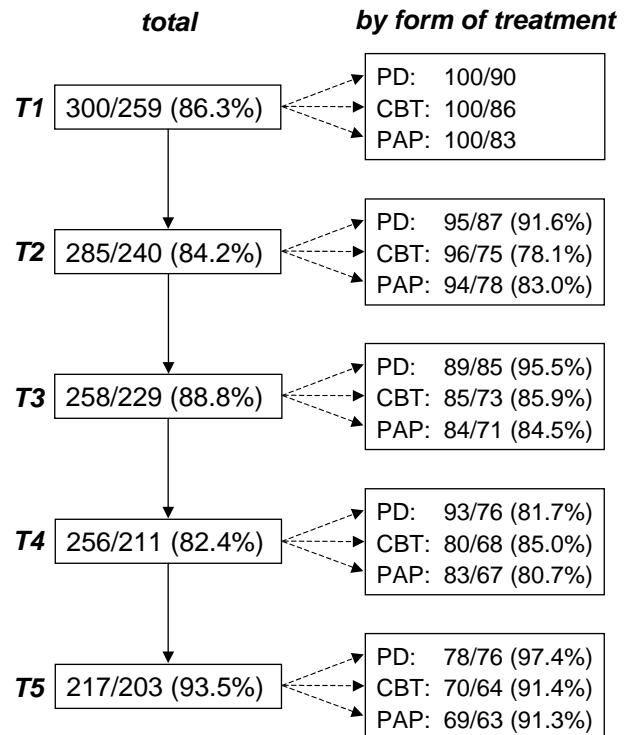


Figure 1. Response rates and participant flow.

Note.  $N_{\text{sent}}/N_{\text{returned}}$  (percent of  $N_{\text{sent}}$ ); PD: Psychodynamic psychotherapy; CBT: Cognitive-behavioral treatment; PAP: Psychoanalytic psychotherapy.  $\chi^2$  tests for differences in return rates by form of treatment ( $df=2$ ): T1:  $\chi^2=2.09$ ;  $p=.35$ ; T2:  $\chi^2=6.66$ ;  $p=.04$ ; T3:  $\chi^2=6.28$ ;  $p=.04$ ; T4:  $\chi^2=.56$ ;  $p=.75$ ; T5:  $\chi^2=3.05$ ;  $p=.22$ .

Index (GSI) for different samples, with Cronbach's  $\alpha$  ranging from .94 to .97, as well as good test-retest reliabilities ( $r_{tt}=.69-.92$ ). In a number of studies, high correlations were found between the SCL-90-R and several other symptom measures or measures of general well-being. In this study, GSI, the mean score over all 90 items, was used. It ranges from 0 to 4; higher values indicate higher distress. Internal consistency ranged from  $\alpha=.96$  to .98 from T1 to T5.

The patient's view of the quality of the helping alliance was measured at T1 to T4 via the German adaptation (Bassler, Potratz, & Krauthauser, 1995) of Alexander and Luborsky's (1986) Helping Alliance Questionnaire (HAQ). Like the English language original, this inventory consists of 11 items rated on a 6-point scale ranging from -3 to +3 (0 omitted), of which a sum score was calculated by adding all item scores and then dividing this by the number of items. The German HAQ has been shown to have a good reliability (Cronbach's  $\alpha=.89$ ) and validity (Bassler et al., 1995). Internal consistency of the HAQ in our sample was a bit less (Cronbach's  $\alpha$  ranging from .79 to .89 from T1 to T4).

Information on socioeconomic status was provided in the T1 questionnaire; information on diagnoses was obtained from the therapist questionnaire at T1 or from participants' application for reimbursement to the DKV.

### Sample and Treatment

Of the 259 patients, 47.9% were men and 52.1% were women. At study entry, the mean age was 42.8 years ( $SD=11.3$ ), 43.0% were married, 74.4% held a high track degree of education ("Abitur"), and 58.8% were university graduates. The vast majority of participants (96.1%) were born in Germany. Therapists provided main diagnoses coded according to the International Classification of Diseases, 10th revision (World Health Organization., 1993) for 210 patients. These comprised mainly neurotic, stress-related, and somatoform disorders (F4: 41.0%) and affective disorders (F3: 48.1%), whereas behavioral syndromes (F5: 4.3%) and personality disorders (F6: 6.2%) were rarely diagnosed.

Of the 253 therapists, 51.4% were women. All therapists were licensed to practice one of the three forms of psychotherapy. Three to five years of post-master's degree training are required to become licensed. There were only four cases in which therapists treated more than one patient (but never more than two) who participated in the study. There is no information available about the details of the treatment that was actually carried out. However, these therapies can at least be considered as intended as PD, CBT, or PAP in the sense that, according to the rules of the German health service system, every application went through a peer-review system in which the treatment plan was assessed by an experienced clinician, thus ensuring clinical standards.

According to the information in the DKV's health insurance records, the mean total session number during the entire observation period was 61.7 ( $SD=56.4$ ). This number varied substantially by form of treatment,  $F(2, 257)=49.5$ ,  $p<.001$ ; that is, patients in CBT ( $M=33.0$ ,  $SD=18.1$ ) used fewer sessions than those in PD ( $M=50.3$ ,  $SD=23.0$ ), while those in PAP ( $M=103.7$ ,  $SD=79.4$ ) had the highest session number. Mean session frequency was higher for patients in PAP ( $M=4.1$ ,  $SD=2.2$  sessions per month) compared with the other two forms of treatment (PD:  $M=2.2$ ,  $SD=0.7$ ; CBT:  $M=2.3$ ,  $SD=1.2$ ),  $F(2, 257)=41.3$ ,  $p<.001$ . Twelve percent of all treatments were not terminated during the observation time. As to be expected, because of longer treatment duration of psychoanalytic psychotherapy, this was most often the case for participants in PAP (27.7%) but rare for those in

PD (3.3%) and CBT (5.8%),  $\chi^2(2, N=257)=28.9$ ,  $p<.001$ .

### Data Analysis

To examine the effect of the helping alliance on symptom improvement and vice versa, HLMs (Raudenbush & Bryk, 2001) were carried out with session number as the time variable. Because the study data were not assessed within psychotherapy sessions, a given measurement point (e.g., T2) does not correspond to the same session number (e.g., session 10) for all patients. For instance, some patients had not yet started their treatment at T2, a few had already terminated, and others were at different points within their treatment. Therefore, the number of used sessions at each measurement point was determined for each patient. If treatment had not yet started, the assigned session number was 0, and if termination had occurred, for example, before T3 after 30 sessions, the assigned session number at T4 and T5 was also 30. Table I shows that the average number of sessions at each measurement point differs substantially by form of treatment; participants in PAP received by far the most treatment compared with those in PD and CBT.

Following Bryk and Raudenbush (1987); Raudenbush & Bryk, 2001), a formal denotation of an unconditional (Level 1) HLM is as follows:

$$Y_{ti} = \beta_{00} + \beta_{10} t_{ti} + \varepsilon_{ti}, \text{ where } \varepsilon_{ti} \\ = u_{0i} + u_{1i} t_{ti} + e_{ti}, \text{ and } e_{ti} \sim N(0, \sigma^2).$$

$Y_{ti}$  indicates a given participant's  $i$  predicted score, here HAQ or SCL-90-R GSI, at time  $t$  consisting of the addition of the fixed effect of the intercept ( $\beta_{00}$ ), the slope ( $\beta_{10}$ ), the random effects  $u_{0i}$  and  $u_{1i}$ , and the measurement error  $e_{ti}$  which is assumed to be independent, normally distributed with a mean of zero and constant variance. Extension to a conditional (Level 2) model by including time-varying predictors is straightforward (cf. Pinheiro & Bates, 2000; Singer & Willett, 2003, pp. 171–173). Whereas in a time-invariant model only one single status of the predictor variable is entered in the equation (e.g., GSI at T1), in the time-variant model, repeated measures (T1–T5) of this same predictor variable are included. Thus, the impact of change (and not only status as in the time-invariant model) in variable  $A$  (e.g., GSI) on change in variable  $B$  (e.g., HAQ) over time is modeled. Because this model only accounts for correlational relationships at one time point, as suggested by Singer and Willett (2003), we lagged (by order 1) the criterion variable to allow interpretations pertaining to temporal precedence of the predictor variable.

Table I. Session Number, Helping Alliance, and Symptom Distress by Measurement Point for the Entire Sample and by Form of Treatment.

Variable	T1		T2		T3		T4		T5	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Session no.										
PD	8.97	6.76	17.36	9.96	28.67	13.68	41.10	15.83	46.53	19.99
CBT	7.72	5.65	15.53	9.06	23.28	11.82	30.64	15.49	32.30	17.02
PAP	12.37	12.65	23.61	20.01	50.06	38.72	75.22	52.55	89.93	65.71
Total	9.64	8.99	18.75	14.15	33.73	26.79	48.56	37.39	55.71	46.84
HAQ total										
PD	1.79	0.61	1.74	0.73	1.87	0.64	1.99	0.71		
CBT	1.76	0.73	1.72	0.73	1.76	1.01	1.76	1.00		
PAP	1.59	0.64	1.52	0.92	1.67	0.86	1.68	0.87		
Total	1.72	0.66	1.66	0.80	1.77	0.84	1.82	0.87		
SCL-90-R GSI										
PD	1.00	0.50	0.86	0.54	0.74	0.57	0.70	0.56	0.60	0.54
CBT	0.96	0.57	0.79	0.61	0.74	0.69	0.75	0.67	0.57	0.51
PAP	1.10	0.55	0.91	0.51	0.77	0.49	0.79	0.54	0.66	0.51
Total	1.02	0.54	0.85	0.55	0.75	0.58	0.75	0.59	0.61	0.52

Note. PD = psychodynamic psychotherapy; CBT = cognitive-behavioral treatment; PAP = psychoanalytic psychotherapy; HAQ = Helping Alliance Questionnaire; SCL-90-R GSI = Symptom Checklist-90-Revised, Global Severity Index.

Then early and late treatment phases were defined individually as the first 25% and the remaining 75% of used total sessions, respectively. Thus, for each patient, initial status pertains to values at baseline, early status to those after 25% of elapsed sessions, and late status to those at the last session. Accordingly, for each patient, early change indicates change from baseline to 25% of total session number, and late change indicates change from 25% of total session number to the last session. To explore the relationship between status and change of early and late helping alliance and symptomatic outcome, a data subset was created of observations from the first 25% of used sessions of each patient. For the entire sample, the mean early session number operationalized this way was 15.4 ( $SD = 14.1$ ), with large variation by form of treatment (PD:  $M = 12.6$ ,  $SD = 5.8$ ; CBT:  $M = 8.3$ ,  $SD = 4.5$ ; PAP:  $M = 25.9$ ,  $SD = 19.9$ ),  $F(2, 257) = 49.5$ ,  $p < .001$ .

Then, for both HAQ and SCL-90-R GSI, Level 1 HLMs were computed for the early and late observations whose individual intercept and slope coefficients were merged, resulting in a data set consisting of intercepts and slopes early and late in treatment. Using this data set, generalized linear models (GLMs) were calculated to examine, including effect of form of treatment, the following effects: (a) of early status and change of the helping alliance on late status of symptom distress; (b) of the same effects as in (a) plus early change and initial status of symptom distress on late status of symptom distress; and (c) of early change and initial

status of symptom distress on early status of helping alliance.

Analyses were carried out in S-PLUS (Version 6.2) and SPSS (Version 11.5.1). Sum scores of SCL-90-R GSI and HAQ were calculated only when patients had provided answers to at least 80% of the items of each scale.

## Results

Table I shows session number, patient-rated helping alliance, and symptom distress by measurement point for the total sample and for each form of treatment. An unconditional HLM for the course of the helping alliance (based on 916 observations of 259 participants) yielded a level at Session 0 of 1.65 HAQ points (intercept), which significantly changes at a rate of 0.003 HAQ points per session (slope). According to this model, after 60 sessions, for example, helping alliance was 0.18 HAQ points higher than at Session 0. For symptom distress (model based on 1,110 observations of 259 participants), intercept was 0.96 and slope was  $-0.005$  SCL-90-R GSI points, resulting in a significant mean reduction of 0.30 GSI points after 60 sessions. Results of conditional models for both criterion variables with form of treatment entered as a discrete covariate are shown in Table II.

A model comparison of the linear course over time of total SCL-90-R GSI and HAQ total scores to a logarithmic as well as to a quadratic fit substantiated the adequacy of the simpler linear models (results not shown).

Table II. Course of Helping Alliance and Symptom Distress by Form of Treatment Over Time (HLM).

Scale	Notation	Value	SE	df	t	p
<b>HAQ<sup>a</sup></b>						
Intercept	$\beta_{00}$	1.520	0.078	654	19.585	<.001
PD (vs. PAP)	$\beta_{01}$	0.148	0.112	256	1.317	.189
CBT (vs. PAP)	$\beta_{02}$	0.121	0.115	256	1.057	.292
Slope	$\beta_{10}$	0.002	0.001	654	2.261	.024
PD (vs. PAP)	$\beta_{11}$	0.004	0.002	654	1.905	.057
CBT (vs. PAP)	$\beta_{12}$	0.003	0.003	654	1.203	.229
<b>GSI<sup>b</sup></b>						
Intercept	$\beta_{00}$	1.048	0.058	848	18.201	<.001
PD (vs. PAP)	$\beta_{01}$	-0.079	0.081	256	-0.967	.335
CBT (vs. PAP)	$\beta_{02}$	-0.149	0.083	256	-1.802	.073
Slope	$\beta_{10}$	-0.004	0.001	848	-6.374	<.001
PD (vs. PAP)	$\beta_{11}$	-0.002	0.001	848	-1.955	.051
CBT (vs. PAP)	$\beta_{12}$	-0.001	0.002	848	-0.564	.573

Note. HLM = hierarchical linear model; PD = psychodynamic psychotherapy; CBT = cognitive-behavioral treatment; PAP = psychoanalytic psychotherapy; HAQ = Helping Alliance Questionnaire; GSI = Global Severity Index.

<sup>a</sup>Includes 916 observations of 259 participants. Random effects (SD): intercept = 0.54; slope = 0.001; residual = 0.56. Goodness of fit: Akaike Information Criterion (AIC) = 1965.90; Bayesian Information Criterion (BIC) = 2014.04; log-restricted likelihood (logLik) = -972.95. <sup>b</sup>Includes 1,110 observations of 259 participants. Random effects (SD): intercept = 0.46; slope = 0.003; residual = 0.32. Goodness of fit: AIC = 1287.32; BIC = 1337.38; logLik = -633.66.

It can be seen that slopes for both HAQ (positive) and SCL-90-R (negative) significantly differ from 0, whereas differences by form of treatment are moderate. These results are illustrated in Figures 2 and 3. (Note that, especially for the ordinate, both figures display only a proportion of the scores' possible ranges.)

Figure 2 shows the moderate but significant increase of the HAQ sum score with increasing session number. In this model, compared with participants in PD and CBT, those in PAP started somewhat lower and increased a bit more slowly. In the model for symptom distress illustrated in

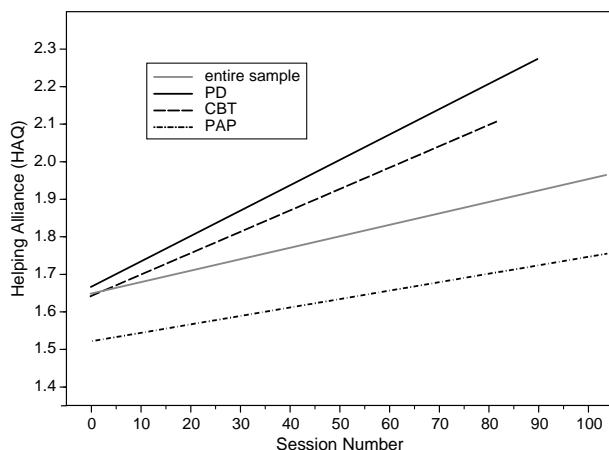


Figure 2. Course of helping alliance (Helping Alliance Questionnaire). (PD = psychodynamic psychotherapy; CBT = cognitive-behavioral treatment; PAP = psychoanalytic psychotherapy.)

Figure 3, it can be seen that, compared with participants in PD and CBT, those in PAP started treatment somewhat more impaired (trend significance; cf. Table II) and also improved at a slower rate. In line with the concept of clinical significant change (Jacobson & Truax, 1991; Kordy & Hannöver, 2000), cutoffs indicating severity of distress (horizontal interrupted lines) have been chosen at the 68th (functional vs. dysfunctional) and 95th (dysfunctional vs. severely dysfunctional) percentiles of a German normative sample (Franke, 1995).

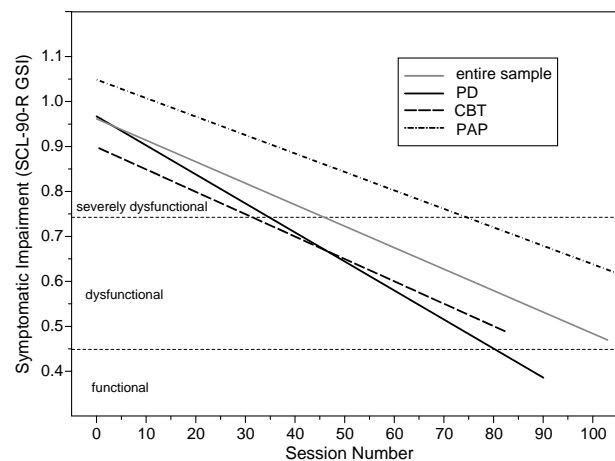


Figure 3. Course of symptom distress (Symptom Checklist-90-Revised, Global Severity Index [SCL-90-R GSI]). (PD = psychodynamic psychotherapy; CBT = cognitive-behavioral treatment; PAP = psychoanalytic psychotherapy.)

Table III. Course of Helping Alliance (HAQ) Over Session Number by Symptom Distress (SCL-90-R GSI) at the Time of the Previous Measurement Point (HLM).

Scale	Notation	Value	SE	df	<i>t</i>	<i>p</i>
Intercept	$\beta_{00}$	1.682	0.106	585	15.903	<.001
SCL-90-R GSI	$\beta_{01}$	−0.232	0.073	585	−3.168	.002
PD (vs. PAP)	$\beta_{02}$	0.212	0.128	237	1.650	.100
CBT (vs. PAP)	$\beta_{03}$	0.051	0.135	237	0.378	.706
Slope	$\beta_{10}$	0.001	0.001	585	1.013	.312
SCL-90-R GSI	$\beta_{11}$	0.001	0.001	585	0.846	.398
PD (vs. PAP)	$\beta_{12}$	0.002	0.002	585	0.760	.448
PD (vs. PAP)	$\beta_{13}$	0.005	0.003	585	1.495	.136

Note. HLM = hierarchical linear model; PD = psychodynamic psychotherapy; CBT = cognitive-behavioral treatment; PAP = psychoanalytic psychotherapy; HAQ = Helping Alliance Questionnaire; SCL-90-R GSI = Symptom Checklist-90-Revised, Global Severity Index.

Includes 830 observations of 240 participants. Random effects (SD): intercept = 0.51; slope = 0.01; residual = 0.57. Goodness of fit: Akaike Information Criterion = 1787.19; Bayesian Information Criterion = 1843.74; log-restricted likelihood = −881.59.

### Prediction of the Helping Alliance Over Treatment Time From Previous Symptom Distress and Vice Versa

To ascertain reciprocal dependence of the helping alliance and symptom distress, first a model on lagged (by order 1) HAQ sum scores predicted by time-varying GSI was computed (Table III). It can be seen that previous level of symptom distress significantly affects intercept but not slope of HAQ. These effects did not differ by form of treatment. Second, effect of HAQ on subsequent GSI was analyzed (Table IV), with no resulting effects on either intercept or slope and also no differences by form of treatment.

### Helping Alliance and Symptom Distress Early and Late in Treatment

First, a GLM was carried out to examine effect of early change (within the first 25% of total treatment sessions) and status (after the first 25% of sessions) of the helping alliance on GSI at the last treatment session. As can be seen in Table V (Model A),

neither covariate affected outcome, and differences by form of treatment did not emerge.

Second, two more covariates were added to the first model (i.e., initial status and early change of symptom distress). As shown in Table V (Model B), of these four covariates, only initial status of GSI substantially affected symptom outcome. Again, no differences by form of treatment were found.

Finally, a GLM was computed with early status of the helping alliance (after 25% of total treatment sessions) as the criterion variable and with initial status and early change of symptom distress as covariates (Table VI). No effects of the model variables on early status of the helping alliance were found, and again, differences by form of treatment were absent.

### Discussion

In the present study, the “scenario of ‘alliance as an artifact’” (Horvath & Luborsky, 1993, p. 566), i.e., the hypothesis of the helping alliance being a

Table IV. Course of Symptom Distress (SCL-90-R GSI) Over Session Number by Helping Alliance at the Time of the Previous Measurement Point (HLM).

Variable	Notation	Value	SE	df	<i>t</i>	<i>p</i>
Intercept	$\beta_{00}$	1.095	0.088	409	12.425	<.001
HAQ	$\beta_{01}$	−0.003	0.034	409	−0.077	.939
PD (vs. PAP)	$\beta_{02}$	−0.068	0.103	238	−0.662	.509
CBT (vs. PAP)	$\beta_{03}$	−0.178	0.106	238	−1.679	.095
Slope	$\beta_{10}$	−0.002	0.002	409	−0.937	.349
HAQ	$\beta_{11}$	−0.001	0.001	409	−0.766	.444
PD (vs. PAP)	$\beta_{12}$	−0.002	0.002	409	−1.052	.294
CBT (vs. PAP)	$\beta_{13}$	0.000	0.002	409	−0.154	.878

Note. HLM = hierarchical linear model; PD = psychodynamic psychotherapy; CBT = cognitive-behavioral treatment; PAP = psychoanalytic psychotherapy; HAQ = Helping Alliance Questionnaire; SCL-90-R GSI = Symptom Checklist-90-Revised, Global Severity Index.

Includes 830 observations of 240 participants. Random effects (SD): intercept = 0.48; slope = 0.00; residual = 0.33. Goodness of fit: Akaike Information Criterion = 933.73; Bayesian Information Criterion = 987.39; log-restricted likelihood = −454.86.

Table V. Symptom Distress (SCL-90-R GSI) at Last Treatment Session by Early Change and Early Status of Helping Alliance (Model A) as Well as by Early Change and Initial Status of Symptom Distress (Model B), Including Test for Difference by Form of Treatment (Generalized Linear Model).

Source	Model A <sup>a</sup>					Model B <sup>b</sup>				
	SS	df	MS	F	p	SS	df	MS	F	p
Corrected model	2.105	6	.351	1.776	.107	18.968	12	1.581	16.872	.000
Constant	.088	1	.088	.446	.505	.030	1	.030	.324	.570
HAQ										
Early change	.003	1	.003	.014	.904	.015	1	.015	.156	.693
Early status	.016	1	.016	.081	.776	.036	1	.036	.385	.536
GSI										
Early change						.003	1	.003	.028	.867
Initial status						.373	1	.373	3.98	.048
HAQ × FOT										
Early change	.124	2	.062	.313	.732	.076	2	.038	.407	.667
Early status	.349	2	.175	.884	.415	.114	2	.057	.607	.546
GSI × FOT										
Early change						.031	2	.016	.166	.847
Initial status						.014	2	.007	.073	.930
Error	31.009	157	.198			14.147	151	.094		
Total	121.179	164				121.179	164			
Corrected total	33.114	163				33.114	163			

Note. SCL-R-90 GSI = Symptom Checklist-90-Revised, Global Severity Index; SS = sum of squares (Type III); MS = mean square; HAQ = Helping Alliance Questionnaire; GSI = Global Severity Index; FOT = form of treatment (psychodynamic psychotherapy, cognitive-behavioral therapy, or psychoanalytic psychotherapy).

<sup>a</sup> $R^2 = .064$  (adjusted  $R^2 = .028$ ). <sup>b</sup> $R^2 = .573$  (adjusted  $R^2 = .539$ ).

by-product rather than a prerequisite of successful therapy was tested explicitly by means of a naturalistic longitudinal study in a sample of 259 participants receiving subsidized outpatient psychotherapy. Treatment included the three forms of psychotherapy that are currently subsidized in the German health care system: Psychodynamically oriented psychotherapy

(PD), cognitive-behavioral treatment (CBT), and psychoanalytic psychotherapy (PAP).

For the 2-year observation period, HLMs of patient-rated quality of the helping alliance (HAQ) and symptom distress (SCL-90-R GSI) yielded, with increasing session number, a moderate increment in helping alliance and a substantial decrease

Table VI. Early Status of the Helping Alliance by Early Change and Initial Status of Symptom Distress, Including Test for Difference by Form of Treatment (Generalized Linear Model).

Source	SS	df	MS	F	p
Corrected model	.583 <sup>a</sup>	6	.097	1.745	.114
Constant	51.192	1	51.192	919.486	.000
GSI					
Early change	.027	1	.027	.480	.489
Initial status	.064	1	.064	1.147	.286
GSI × FOT					
Early change	.175	2	.087	1.570	.211
Initial status	.173	2	.087	1.557	.214
Error	8.741	157	.056		
Total	457.338	164			
Corrected total	9.324	163			

Note.  $R^2 = .063$  (adjusted  $R^2 = .027$ ). SS = sum of squares (Type III); MS = mean square; FOT = form of treatment (psychodynamic psychotherapy, cognitive-behavioral therapy, or psychoanalytic psychotherapy).



in symptom distress. These findings applied to participants in all three forms of psychotherapy.

### **Prediction of the Helping Alliance Over Treatment Time From Previous Symptom Distress and Vice Versa**

Two HLMs with time-varying covariates and lagged criteria were computed to analyze the reciprocal dependence of self-rated quality of the helping alliance and symptom distress. These models yielded that severely impaired patients judged the helping alliance at the subsequent assessment to be worse than patients who were less impaired, but that the status of the helping alliance at a given point in treatment did not affect subsequent symptom status. This finding is in contrast with many studies reporting that the helping alliance is a predictor of treatment outcome (Horvath & Symonds, 1991; Martin et al., 2000).

The study design entailed that the density of assessments was highest early in treatment. Thus, one possible explanation for the limited predictive power of the helping alliance is that a lack of experiences with the therapist might have yielded a low quality of the patient's judgment of the helping alliance in the beginning of treatment. On the other hand, high initial symptom impairment might affect the capacity of the patient to build stable relationships and to accept help from the therapist (Muran, Segal, Samstag, & Crawford, 1994). In addition, severely distressed patients might already have experienced one or more therapists without success and, therefore, might be more reluctant to form a trusting bond with the therapist during the early phase of treatment.

The models also suggested that neither change in the helping alliance nor change in symptom distress affected subsequent change in the other variable. This result contradicts the previous finding that a linear increase of the helping alliance is related to outcome (Kivlighan & Shaughnessy, 1995; Stiles et al., 1998). However, findings are not directly comparable because Kivlighan and Shaughnessy (1995) measured outcome with the Inventory of Interpersonal Problems (Horowitz, Rosenberg, Bauer, Ureño, & Villaseñor, 1988) and not with the SCL-90-R GSI as in our study. Furthermore, both the studies of Kivlighan and Shaughnessy (1995) and Stiles et al. (1998) applied pre-post designs and thus could not analyze the sequential relationship between the helping alliance and outcome as it unfolds over the course of psychotherapy.

### **Helping Alliance and Symptom Distress Early and Late in Treatment**

First, generalized linear regression models were used to examine more specifically the question of whether helping alliance status early (operationalized as after 25% of elapsed total sessions for each patient) in treatment and preceding change of the alliance predicted outcome at the last treatment session. It was found, with no differences by form of treatment, that neither early status nor early change in the helping alliance had an effect on late symptom level.

Second, when additionally accounting for initial status of symptom distress and early symptom change (cf. Barber et al., 2000; Feeley et al., 1999), early symptom status turned out to be the only significant predictor of late symptom level. Again, no differences by form of treatment emerged.

These findings are in line with the results of Barber et al. (1996, 1999) and Gaston et al. (1991), who discerned no relationship between the helping alliance and outcome when controlling for early symptom change. Furthermore, as in the studies of DeRubeis and Feeley (1990) and Feeley et al. (1999), the helping alliance did not predict treatment outcome when early symptom change was taken into account. However, our results are also in contrast with findings reported by Klein et al. (2003), who reported that the early alliance did predict later symptom status after controlling for prior symptom change. These discrepancies might be due to sample and measurement differences because participants in Klein et al.'s study (2003) were chronically depressed patients treated with a special form of CBT, and outcome was assessed by an expert rating on the Hamilton Rating Scale for Depression.

Third, in a separate GLM, initial symptom status and early symptom change did not affect early status of the helping alliance. This result is in contrast with the results of Barber et al. (2000), DeRubeis and Feeley (1990), and Gaston et al. (1991), who reported that early symptom change was predictive of the helping alliance. Furthermore, at first sight, this finding contradicts our own result reported previously: that symptom status affects subsequent status of the helping alliance. However, this first finding pertains to the whole study period, whereas the latter (GLM) applies only to the first 25% of treatment. The lack of subgroup differences by form of treatment also contradicts the finding reported by Gaston et al. (1991) that, compared with behavior therapy and CBT, the correlation between the helping alliance and prior symptom change was smallest

in brief dynamic therapy. However, it is in line with the results of Klein et al. (2003), who found that neither level nor change in depressive symptoms predicted the subsequent course of the alliance. Note that these comparisons should be considered *cum grano salis* since the other researchers assessed outcome and helping alliance at different time points in considerably smaller samples than ours. Also treatment duration was much shorter (e.g., no more than 20 sessions in the study of Gaston et al., 1991).

### Limitations

Some limitations of this explorative study should be borne in mind. First, because patients were insured by a private health insurance company, our sample is somewhat biased in terms of participants' educational and professional status. It could be argued that the development of the helping alliance and its relationship with outcome would be different in a sample with lower educational status, although there is no empirical evidence to support this assumption (Orlinsky et al., 2003).

Second, because assessments were randomly assigned, assuming a linear course over time, individual HAQ and SCL-90-R GSI scores, which were entered into the GLMs, were estimated via HLM from the total scores and the individual scores over the course of treatment. Admittedly, it would have been preferable to use actual scores obtained at each treatment session for data analyses, which would have placed a tremendous burden on the study participants. Nevertheless, we believe that the accuracy of estimates is sufficient because they are based on both a considerable sample size and a large number of assessment points, which were spaced more densely during the starting phase of treatment.

Third, the operationalization of early and late treatment phases could be considered as somewhat arbitrary. The specification of treatment phases should reflect characteristics of the local service delivery system. In the German health care system, duration of subsidized outpatient psychotherapy heavily exceeds that in the United States (where median session number = 4; Hansen, Lambert, & Forman, 2002). In addition, in our study there was a substantial variation between treatments. Thus, the adoption of methods used in U.S. studies (e.g., Barber et al., 2000) to distinguish treatment phases seemed inappropriate. Hence, we decided to refrain from setting a specific session as cutoff between early and late treatment phases. Instead, for each patient, early in treatment was defined as the phase of the first 25% sessions of the total session number.

Finally, one might object to comparisons between treatment modalities because, as a result of the naturalistic design, patients were not randomly assigned to different treatment conditions. However, in the German health care system, the choice of type of outpatient psychotherapy (with the exception of treatment offered by nonlicensed therapists) is more or less subject to chance, and we were explicitly interested in studying outpatient psychotherapy in everyday practice. Also, it is worth mentioning that at intake participants' scores on measures of symptom distress and helping alliance did not differ between treatment subgroups.

### Implications for Theory and Practice

As in this study, patients' alliance ratings have repeatedly been found to be rather high from an early point of treatment on and to tend to be stable over the course of treatment (Martin et al., 2000). Within the framework of alliance phases (Horvath & Luborsky, 1993), one could draw the following conclusions from our results: Once a stable relationship has been established, it might not play a major role for symptom improvement any more whether it changes from good to even better later on. Instead, because our findings indicate that the helping alliance can possibly be fostered via early therapeutic gains, in the early phase of treatment the opposite direction of effect might be crucial. Furthermore, a low initial quality of the helping alliance might be a reason not to start or continue therapy within a specific patient-therapist constellation unless other developments such as early symptom improvements provide sufficient motivation for continuation.

### Conclusions

These results from a long-term naturalistic study justify some doubt regarding the widespread assumption of the helping alliance being a strong or even a moderate predictor of outcome in outpatient psychotherapy. They rather partly support the opposite direction of effect: Status of symptom distress predicted subsequent status of the helping alliance. Although there is a large bulk of sophisticated studies on the alliance-outcome relationship, only a few studies account for the possibility of this direction of effect. It might be argued that, even if alliance is a (by-) product of early therapeutic gains, that does not necessarily diminish its importance. These results should not be misinterpreted in the sense that they imply that a good quality of the helping alliance might not be a necessary prerequisite for a successful treatment. Rather, they indicate that, once therapy has come to a good start in the sense that a good

helping alliance has been established, other patient and therapist variables, such as the ability to benefit from rupture–repair cycles or the effective use of specific interventions, might play a more important role for treatment success than further improvement of an already good helping alliance. These issues remain to be addressed in future studies.

In general, future research should go beyond the question of the mere overall relation between the helping alliance and outcome, which seems well substantiated. If a good alliance is part of a treatment context that supports therapeutic change, research should focus on the possible multiple inputs (e.g., symptom improvement, fit between patient and therapist, or aspects of treatment setting) by which a good alliance is formed. Also, to arrive at more meaningful clinical implications of such research, efforts should be made to further disentangle questions of temporal and sequential dependencies between the helping alliance and outcome. More attempts to study the interplay of these two variables, including other determinants of treatment outcome under conditions of routine care, should be welcomed.

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