Is the relation between early post-session reports and treatment outcome an epiphenomenon of intake distress and early response? A multi-predictor analysis in outpatient psychotherapy

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Is the relation between early post-session reports and treatment outcome an epiphenomenon of intake distress and early response? A multi-predictor analysis in outpatient psychotherapy

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Abstract
The early phase of psychotherapy has been regarded as a sensitive period in the unfolding of psychotherapy leading to positive outcomes. However, there is disagreement about the degree to which early (especially relationship-related) session experiences predict outcome over and above initial levels of distress and early response to treatment. The goal of the present study was to simultaneously examine outcome at post treatment as a function of (a) intake symptom and interpersonal distress as well as early change in well-being and symptoms, (b) the patient's early session-experiences, (c) the therapist's early session-experiences/interventions, and (d) their interactions. The data of 430 psychotherapy completers treated by 151 therapists were analyzed using hierarchical linear models. Results indicate that early positive intra- and interpersonal session experiences as reported by patients and therapists after the sessions explained 58% of variance of a composite outcome measure, taking intake distress and early response into account. All predictors (other than problem-activating therapists' interventions) contributed to later treatment outcomes if entered as single predictors. However, the multi-predictor analyses indicated that interpersonal distress at intake as well as the early interpersonal session experiences by patients and therapists remained robust predictors of outcome. The findings underscore that early in therapy therapists (and their supervisors) need to understand and monitor multiple interconnected components simultaneously.

Keywords: process research; integrative treatment models; cognitive behavior therapy; early response; alliance

Psychotherapy uses innate human interpersonal skills such as language and other communications to change the mental representations of the individual as well as his or her interpersonal behaviors, cognitions, emotions and needs (e.g., Benedetti, 2011; Kirsch, 1990; Wampold & Budge, 2011). Not all patients respond to psychotherapy, and suboptimal outcomes are not uncommon (e.g., Lambert, 2001). There is some evidence that the early phase of psychotherapy (usually defined as the first 4 weeks) is a sensitive period in the unfolding of psychotherapy and is critical to achieving positive outcomes (e.g., Haas, Hill, Lambert, & Morrell, 2002; Wilson, Fairburn, Agras, Walsh, & Kraemer, 2002). Early in treatment, various simultaneous in-session processes, which may relate to later treatment outcome, have to be monitored/handled by the therapist, such as establishing a therapeutic alliance, developing an individualized case formulation, and fostering early symptom reduction and improvements in well-being (e.g., Eells, 2007; Goldfried, 1980/2009; Norcross, 2011). Research has not examined simultaneously the distress of patients at intake and early response to treatment (i.e., increase in well-being and symptom reduction, as well as patient's and therapist's early session evaluations) (e.g., Barber, Khalsa, & Sharpless 2009).

Dual model of psychotherapy. Dual models of psychotherapy postulate at least two general types of processes to be essential in the early phase of therapy (Grawe, 2006; Schulte, 1996): (a) Interpersonal in-session processes, which refer to processes between the therapist and the patient, such as stabilizing and maintaining a responsive therapeutic collaboration based on trust and patients' openness, and (b)

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intrapersonal in-session processes, which refer to a focus on understanding and working on the patient's problems and target complaints (e.g., by psychoeducation regarding psychological mechanisms related to a specific target complaint/disorder or resumption of proactive behaviors). It is important to note that these intrapersonal in-session processes may involve interpersonal problems and complaints (e.g., lacking assertiveness), but they do not primarily involve the immediate interaction with the therapist. There is some evidence that various measures of early (relationship-related) interpersonal in-session processes account for 8% to 14% of explained outcome variance (Norcross, 2011). The explained variance might increase if the analyses include more generalized evaluations of the therapeutic process being aggregated over repeated assessments (Crits-Christoph, Connolly Gibbons, Hamilton, Ring-Krutz, & Gallop, 2011; Hoyt & Melby, 1999).

Interpersonal and intrapersonal in-session processes might represent two simultaneous but interconnected tasks (Watzlawick, Weakland & Fisch, 1974). For example, if as part of psychoeducation the patient understands his or her problems or target complaints better (patient's intrapersonal in-session experiences) this might enhance trust in therapist and treatment (patient's interpersonal in-session experiences). Likewise, the perception of the therapist's optimistic and empathic responses (patient's interpersonal in-session experiences) might enhance the patient's trust in his or her own mastery skills as well as readiness to engage in previously avoided activities (patient's intrapersonal in-session experiences). However, at the very beginning of therapy, therapists might generally avoid confronting their patients with strong negative emotions, for example, by in vivo confrontation or empty chair work before the therapeutic relationship as well as the patient's functioning are sufficiently stable (Grawe, 2004; Ilardi & Craighead, 1994).

There is an ongoing debate about the relative predictive potential of early session experiences (especially interpersonal experiences) over and above distress and early response (e.g., Barber et al., 2010; Brotman, 2004; Strauss et al., 2006). For example, such session experiences might be interpreted as a "relatively uninteresting epiphenomenon" (DeRubeis, Brotman & Gibbons, 2005, p. 179) of early symptom reduction.

Intake characteristics and early response. Outcome is not independent of the patient's variables at intake, such as general symptom distress or interpersonal distress (e.g., Grosse Holtforth, Lutz, & Grawe, 2006; Howard, Moras, Brill, Martinovich & Lutz, 1996; Lutz et al., 2005). For example,

Grosse Holtforth et al. (2006) reported that interpersonal distress at intake explained 40% of remaining interpersonal distress at the end of treatment.

Further, early reduction of symptoms has been discussed a means of predicting later outcome (usually defined as post-assessment) in cognitive behavioral treatments for depression (Busch, Kanter, Landes, & Kohlenberg, 2006; Fennell & Teasdale, 1987; Hardy et al., 2005; Ilardi & Craighead, 1994; Kelly, Roberts, & Ciesla, 2005; Strunk, Brotman, & DeRubeis, 2010; Tang & DeRubeis, 1999; Tang, DeRubeis, Hollon, Amsterdam, & Sheldon, 2007), anxiety disorders (Doane, Feeny, & Zoellner, 2010; Hofmann, Schulz, Meuret, Moscovitch, & Suvak, 2006; Kelly, Rizvi, Monson, & Resick, 2009; Norton, Klenck, & Barrera, 2010), and eating disorders (Agras et al., 2000; Grilo, Masheb, & Wilson, 2006; Hilbert et al., 2007; Loeb et al., 2005; Wilson et al., 2002). That is, those who make early gains are more likely to make further gains. Furthermore, the importance of early symptom reduction has been demonstrated in other therapies than cognitive-behavioral therapy (Andrusyna, Luborsky, Pham, & Tang, 2006; Renaud et al., 1998; Tang, Luborsky, & Andrusyna, 2001) and in patients in routine clinical practice (Haas et al., 2002; Lutz & Tschitsaz, 2007; Stiles et al., 2003; Tschitsaz-Stucki & Lutz, 2009). However, estimates of the variability in final outcomes due to early symptom reduction have varied widely, with estimates from 0% (Constantino, Arnow, Blasey, & Agras, 2005) up to 50% of explained outcome variance (Tang & DeRubeis, 1999).

Some authors understand early response in the broader context of remoralization, which is characterized by an early response of one's subjective well-being and an alleviation of generalized hopelessness and an advent of optimistic expectations about the own coping skills (Frank & Frank, 1991; Howard, Lueger, Maling, & Martinovich, 1993; Illardi & Craighead, 1994; Stulz & Lutz, 2007; Wampold, 2001).

Patient's and therapist's perspectives. For the prediction of outcome by post-session reports, it seems to make a difference who performs the process ratings, that is, the patient him or herself or the therapist (e.g., Hatcher, Barends, Hansell, & Gutfreund, 1995; Horvath, Del Re, Flückiger, & Symonds, 2011). In previous research, moderate correlations have been detected between instruments measuring the same construct from patient and therapist perspectives, highlighting the different frames of reference potentially being used by patients and therapists (Flückiger, Regli, Zwahlen, Hostettler, &

Caspar, 2010; Hatcher et al., 1995). Based on an extensive review of alliance-outcome relationships in individual psychotherapy, the patient-rated alliance was found to generally correlate stronger with therapy outcome (8% of explained outcome variance) than therapist-rated alliance (around 4% of explained outcome variance), although this difference was not statistically significant (Horvath et al., 2011). Further, more intervention-focused variables such as adherence and competence ratings (generally evaluated by external observers) turned out to be less predictive than process-related variables such as the alliance (Webb, DeRubeis & Barber, 2010).

Based on the dual model of psychotherapy (Grawe, 2006; Schulte, 1996), the goal of the present study was to examine the prediction of psychotherapy outcome by early session experiences taking intake distress and early response into account. The following predictive variables were examined (Figure 1): (a) intake symptom and interpersonal distress, as well as early response in well-being and symptom reduction; (b) early self-evaluated in-session experiences of the patient (intra- and interpersonal experiences, problem-activating experiences assessed by the patients' post-session reports), (c) early post-session therapist reports about experiences and interventions made in the session (intrapersonal interventions and interpersonal experiences, problem-activating interventions), as well as (d) interactions between intra- and interpersonal patient experiences on the one hand and between patient experiences and therapist interventions on the other hand to test the robustness of each of these predictors. Outcome post treatment was assessed by a composite of seven psychotherapy outcome measures. The contribution of this study is that a broad range of indicators at an early phase of therapy, which were rated by patients as well as therapists, were used to predict outcome as assessed by a broad spectrum of measures with clinically diverse psychotherapy outpatients, underscoring the external validity of the analyses.

Methods

Participants

Patients. Data were collected between 2000 and 2011 at two university-affiliated outpatient clinics in Switzerland. Patients fulfilled the following inclusion criteria: (a) age over 16, (b) absence of acute suicidal tendency, psychosis, mania, organic dementia, or substance abuse as the main diagnosis, (c) a minimum of three completed post-session reports by patients and therapists on a session-by-session basis, and (d) completion of five out of seven outcome measures at post assessment (see measures section; Flückiger, Regli, Grawe, & Lutz, 2007). In sum, 430 patients contacted the self-selected outpatient clinics and completed psychotherapy (clinic A: $n = 318$; clinic B: $n = 112$). Overall, the sample characteristics give an impression of the cultural background of the usual range of patients at a psychotherapy outpatient clinic in the German-speaking part of Switzerland and can be described as follows: mean age = 37.0 ($SD = 12.6$; 16–75), 61.4% female, 91.0% Swiss nationality, 6.0% German, and 3.0% were from other European countries; 99% Caucasians. German was the native language of 93.7% of the participants (2.5% French, 3.8% others); 53.4% of the participants were Protestant, 26.7% Catholic, 18.1% undenominational, and 1.8% had other religious affiliations. Sixty percent of the participants were unmarried, 27.0% married, 11.8% divorced, and 1.2% widowed. We did not find statistically significant relationships between these demographics and outcome ($p > .30$). A total of 81.4% of the participants participated in a structured diagnostic interview for DSM-IV disorders (Wittchen, Zaudig, & Fydrich, 1997) and presented with the following main diagnoses: 35.0% mood disorders (28.9% depression, 4.7% dysthymia), 23.5% anxiety disorders (9.1% social phobia, 6.6% panic disorder, 3.7% specific phobia, 3.4% obsessive-compulsive disorder), 14.3% adjustment disorder, 4.9% eating disorder, 2.6% axis-IV diagnoses as major presenting problems (e.g., partner relational problem), 9.1%
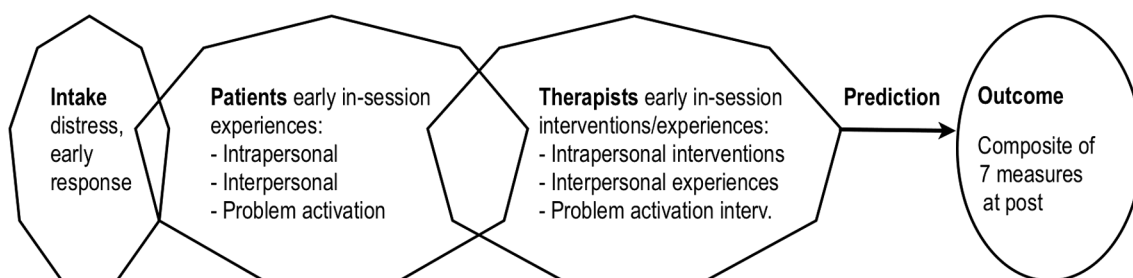

Figure 1. Overview of the early indicators that were considered to predict a composite of seven outcome measures at post ($n = 430$ patients/ 151 therapists).

other diagnoses, 10.6% no diagnoses. The average score of the global assessment of functioning (GAF, DSM-IV Axis V, ranging between 1 and 100) was 68.3 ($SD = 12.3$, ranging between 35 ["serious symptoms"] and 95 ["no symptoms"]).

Therapists. The 430 patients were treated by 151 therapists. All therapists had at least a master's degree in psychology (73% female; mean age: 34 years). The majority (93%) were advanced psychotherapy trainees with a minimum of 2 years post-graduate training and a mean of 5.2 previous therapies at the outpatient clinic. These advanced trainees were supervised biweekly in small groups in sessions of 100 minutes. Eleven of the therapists were experienced therapists who also served as supervisors (on average 24.7 therapies at the clinic; range: 7–49).

In the present sample, 46 therapists contributed the data of one therapy, 47 therapists two therapies, 23 therapist three therapies, 14 therapists four therapies, six therapists five therapies, and 15 therapists more than five and up to 23 therapies (on average 3.1 therapies per therapist, $SD = 3.2$).

Treatments

Individual therapy sessions typically lasted 50 minutes. The therapists practiced an integrative therapy and differentially combined cognitive-behavioral, process-experiential, and interpersonal interventions following individual case formulations being completed within the first four weeks (Grawe, 1997, 2004). The number of sessions was not limited a priori. The individual treatment plans primarily combined cognitive behavioral guidelines for disorder-specific interventions, therapeutic strategies for fostering a custom-tailored therapeutic relationship based on the patient's motivational and interpersonal characteristics, and an assessment of the patient's preexisting strengths (Caspar, 2007; Grawe, 1997, 2004; Grosse Holtforth & Castonguay, 2005). The therapies were monitored by an elaborate quality management and standardized feedback system (Grawe & Baltensperger, 1998; Grawe & Braun, 1994) that included the completion of post-session reports after every session by patients and therapists. The average therapy duration was 30.1 sessions (SD 23.0, range 4–169 sessions); 77% of the treatments took less than 40 sessions, and 42% took less than 20 sessions.

Measures

Outcome measures. A composite of general outcome was computed from a broad battery of seven psychotherapy outcome measures assessed at post that are frequently used in German-speaking countries (Flückiger et al., 2007): (a) The Global Severity Index (GSI; total scores of items) of the German version of the Brief Symptom Inventory (the short version of the Symptom Check List-90) by Derogatis (Franke, 2000), which assesses various self-reported psychopathological symptoms; (b) the Global Distress score (total mean of all items) of the German version of the Inventory of Interpersonal Problems (IIP-64-D; Horowitz, Strauß, & Kordy, 2000); (c) the revised form of the Questionnaire for the Assessment of Changes in Experiencing and Behavior (QCEB; Willutzki, 1999); (d) Change Questionnaire in Life Domains (CLD; Itten & Grawe, 2003), a retrospective report on changes in important areas of daily life, such as contentment in the work situation or family environment; (e) the individualized Goal Attainment Scaling (GAS-R; Kiresuk & Lund, 1979), which includes a criterion-oriented measure of therapy progress; (f) and (g) separate, global retrospective therapy success ratings by the patient and the therapist, respectively (item example: "To what degree were your expectations of the therapy fulfilled?"; Grawe & Braun, 1994). Previous principal component factor analyses showed that these seven measures represent a general factor of psychotherapy outcome (Flückiger et al., 2007). All outcome measures were z-standardized on the basis of the long-term mean of the outcomes at both outpatient clinics (Grawe & Baltensperger, 1998) and were entered at Level 1 into the multilevel models representing a composite of general outcome. Internal consistency of this composite was Cronbach's alpha = .88 based on the present dataset.

Outcome predictors. Outcome was predicted by the following measures:

Intake distress and early response in well-being and symptom reduction: GSI and IIP-64-D were assessed at baseline. The total scores of both measures were used as measures of distress.

Early response in well-being and early symptom reduction was assessed immediately before the start of each therapy session (from sessions 1 to 5). Early response in well-being was assessed by the following item: "I feel more at ease with myself in comparison to the time at the last session." Early symptom reduction was assessed by the following item: "In the

past week, my symptoms/problems improved." Early response in well-being and symptom reduction were computed by the individual linear slopes of these repeated reports from sessions 1 to 5 using hierarchical linear models (Raudenbush & Bryk, 2002). These two indicators represent a general increase or decrease of well-being and symptom reduction during the first 4 weeks (five sessions). Early response in well-being and symptom reduction were highly intercorrelated ($r = 82$; Table I).

Bern Post-Session Reports for Patients and Therapists, short form 2000 (BPSR-Patient/Therapist; Flückiger, Regli, Zwahlen, Hostettler, & Caspar, 2010): Patients and therapists completed this measure each week immediately after each therapy session. Based on the items of previous versions of these measures (Grawe & Braun, 1994; Grawe, Ohlendorf, Retzmann, & Schröder, 1978), the scales are based on general change factors as proposed by Grawe (1997) within the dual model of psychotherapy. The BPSR-Patient/Therapist scales can be summarized by three secondary factors, which are represented in both versions (Hostettler, 2009; Zwahlen, 2009): (a) Interpersonal experiences, Patient (InterExp Patient): The patient's global alliance scale and contentment with the therapy/therapist scale (7-item scale; item example, patient version: "My therapist and I understand each other"; alpha on session level = .89) represent patient's general interpersonal change factor; (b) Intrapersonal experiences, Patient (IntraExp Patient): Mastery and clarification experiences (Grosse Holtforth & Flückiger, 2012) represent two kinds of patients' corrective experiences in a single score (6-item scale; item example, patients: "I now feel better prepared to handle situations I could not handle before";

alpha = .87); (c) Problem-activating experiences, Patient (PaExp Patient): Problem activation can be described as the patient's experience of situations, memories, activities, etc. during the therapy session that are associated with intense negative emotions (2-item scale; item example, patients: "What we did today really affected me"; alpha = .86); (d) Interpersonal experiences, Therapist (InterExp Therapist): The global alliance scale and patient's openness scale represent the therapist's general interpersonal change factor (7-item scale; item example, therapists: "The patient and I understand each other"; alpha = .88); (e) Intrapersonal interventions, Therapist (IntraInt Therapist): Therapist's self-reported contribution to enhancing/reinforcing the patient's mastery and clarification experiences (6-item-scale; item example, therapist: "Today I worked toward helping the patient feel better prepared for situations that he/she was not able to handle"; alpha = .74); (f) Problem activating interventions, Therapist (PaInt Therapist): Therapist's contribution of enhancing/reinforcing patient's problem activation (2-item scale; item example, therapists: "Today, I worked on a sore spot of the patient"; alpha = .82). The analyses are based on the early centered intercepts at session 3 of the loglinear trajectories of the reported BPSR-Patient/Therapist using hierarchical linear models (Raudenbush & Bryk, 2002). Session 3 is considered a common time-point to define early psychotherapy processes. The intercepts represent an index of the aggregated means of the BPSR-T/R from sessions 1–5, where session-specific sources of variances were rendered out as recommended by Crits-Christoph et al. (2011).

Table I. Correlation coefficients between baseline, early symptom reduction, and well-being as well as early post-session evaluations (sessions 1 to 5).

	1	2	3	4	5	6	7	8	9	10
Baseline/symptom change										
1. GSI	–	−55	−.12	−.13	−.15	−.17	−.01	−.01	−.07	.01
2. IIP-64-D		–	−.11	−.08	−.14	−.23	−.05	−.08	−.10	.04
3. Early change in well-being			–	.82	.47	.14	.16	.09	.11	−.03
4. Early symptom reduction				–	.45	.13	.15	.08	.11	−.07
BPSR-Patient /Therapist										
5. IntraExp Patient										
6. InterExp Patient					–	.49	.43	.13	.30	−.01
7. PaExp Patient						–	.36	.03	.38	−.05
8. IntraInt Therapist							–	−.01	.23	.01
9. InterExp Therapist								–	.20	.01
10. PaInt Therapist									–	−.06
										–

GSI, Global Severity Index; IIP-64-D, Inventory of Interpersonal Problems 64 – German version; IntraExp Patient, Intrapersonal experiences, Patient; InterExp Patient, Interpersonal experiences, Patient; PaExp Patient, problem activating experiences, Patient; IntraInt Therapist, Intrapersonal interventions, Therapist; InterExp Therapist, Interpersonal experiences, Therapist; PaInt Therapist, Problem-activating interventions, Therapist.

To estimate the interdependence of the various predictors, intercorrelations are presented in Table I. None of the predictors showed significant multi-collinearity (tolerance > .53; VIP < 1.89; Belsley, Kuh, & Welsch, 1980), except for early response in well-being and early symptom reduction (tolerance = .27, VIP = 3.66). Therefore these two items were run in separate analyses to estimate the overall proportion of the explained variance of each item.

Statistical Analyses

We used hierarchical linear modeling (HLM-6 software; Raudenbush, Bryk, Cheong, & Congdon, 2004) to estimate multilevel models. We conducted two-level as well as three-level analyses. The seven outcome measures (level 1) were nested within patients (level 2) and therapists (level 3). At Level 1,

$$r_j = \pi_{j0} + e_j$$

where r_j is the estimated outcome within each patient j; π_{j0} represents the grand-mean centered intercept of the seven outcome measures reported by each therapy that represent a composite of general outcome (Flückiger et al., 2007). Further, e_j represents the corresponding error term.

At Level 2:

$$\pi_0 = \beta_{00} + \beta_{01}\,(GSI) + \beta_{02}\,(IIP\text{-}64\text{-}D)$$
$$+ \beta_{03}\,(Early\,response\,in\,well\text{-}being)$$
$$+ \beta_{04}\,(Early\,symptom\,reduction)$$
$$+ \beta_{05}\,(IntraExp\,Patient) + \beta_{06}\,(InterExp\,Patient)$$
$$+ \beta_{07}\,(PaExp\,Patient) + \beta_{08}\,(IntraInt\,Therapist)$$
$$+ \beta_{09}\,(InterExp\,Therapist)$$
$$+ \beta_{10}\,(PaInt\,Therapist) + u_{j0}$$

where π_0 is the estimate of the true population overall outcome. Further, β_{00} is the estimated overall grand mean, β_{01} to β_{10} represent the specific estimates of the predictors on intercept π_0, and u_{j0} is the error at the patient level. Because *early response in well-being* and *early symptom reduction* were highly intercorrelated, these coefficients were reported independently of each other by excluding the opposite coefficient from the equation. Additionally, two kinds of interaction terms were tested: (a) The interaction between intra- and interpersonal experiences within patients and therapists, respectively (e.g., IntraExp Patient X InterExp Patient), and (b) interaction term between therapists and patients within intra- and interpersonal experiences (e.g., IntraExp Patient × IntraInt Therapist).

If a third level was included (three-level models), the level-2 coefficients themselves were predicted based on the overall therapists' estimates at level 3 (Raudenbush & Bryk, 2002). The advantage of three-level models in comparison to two-level models is that three-level models control for the dependencies of "nested patients" within each therapist and therefore statistically control for others than 1:1 therapist/patient ratios.[1] All predictors were considered as random to allow generalization beyond particular therapists/patients dyads (Wampold & Serlin, 2000).

In addition to single predictor analyses, four multi-predictor models were specified to test the robustness of each predictor if entered simultaneously, that is, controlled for the other predictors. Each model refers to a further source of information. Each model was tested by a separate two-level and three-level analysis:

1. To test whether outcome can be predicted by baseline distress and early response, Model 1 included the GSI, IIP-64-D, early response in well-being and early symptom reduction.
2. To test the additional contribution of the patient's session experiences, the patient's early process characteristics (BPSR-Patient) were added in Model 2.
3. To test for additional therapist contributions, the therapist's early process characteristics (BPSR-Therapist) were integrated in Model 3.
4. Model 4 additionally included the above-mentioned interaction terms between the BPSR-Patient/Therapist inter- and intrapersonal experiences/interventions to test the robustness of each of these predictors.

The reported explained variances are based on pseudo-R^2, i.e., the proportional reduction in the level-2 *variance* components of the conditional models in comparison to the unconditional model without predictors (pseudo-$R^2 = u_{j0}$ [unconditional model] minus u_{j0} [conditional model] divided by u_{j0} [unconditional model]; Raudenbush & Bryk, 2002) based on the two-level analyses. The level-2 variance component of the unconditional model was $u_{j0} = .156$ ($X^2\,[429] = 986.0$, $p < .001$).

Results

Outcome Predicted by Intake Distress and Early Response (Model 1)

When entered as single predictors, GSI ($\beta_{01} = -.072$, $SE = .010$; pseudo-$R^2 = .22$), IIP-64-D ($\beta_{02} = -.055$, $SE = .006$; pseudo-$R^2 = .31$) early response in well-being ($\beta_{03} = -.278$, $SE = .057$; pseudo-$R^2 = .13$), and early symptom reduction

($\beta_{04} = .177$, $SE = .035$; pseudo-$R^2 = .13$) were significant predictors of outcome (for all predictors of the 2-level model: $t > 5.0$, $p < .001$). They remained significant predictors when all predictors were entered into the equation simultaneously (Table II). Taken together, baseline distress and early response explained 42.3% of the level-2 variance ($u_{j0} = .101$, X^2 [425] $= 785.8$, $p < .000$) and 35.2% when solely GSI and IIP-64 were entered simultaneously ($u_{j0} = .090$, X^2 [427] $= 742.1$, $p < .001$).

Outcome Predicted by Early Patient Session Reports (Model 2)

When entered as single predictors, patients' intrapersonal experiences (IntraExp Patient: $\beta_{05} = .332$; pseudo-$R^2 = .27$), interpersonal experiences (InterExp Patient: $\beta_{06} = .355$, $SE = .045$; pseudo-$R^2 = .23$), and problem activation (PaExp Patient: $\beta_{07} = .159$, $SE = .039$; pseudo-$R^2 = .07$) were significant predictors of outcome (for all predictors of the 2-level model: $t > 3.6$; $p < .001$). Intra- and interpersonal experiences remained significant predictors when all predictors were entered into the equation simultaneously (Table III). In Model 2, the effects on early response of Model 1 disappeared. Model 2 explained 56.4% of the outcome variance at level 2 ($u_{j0} = .068$, X^2 [422] $= 658.6$, $p < .001$).

Outcome Predicted by Early Therapist Reports (Model 3)

When entered as single predictors, therapists' intrapersonal interventions (IntraInt Therapist: $\beta_{08} = .113$, $SE = .053$, $t = 2.1$, $p < .05$; pseudo-$R^{2} = .02$), interpersonal experiences (InterInt Therapist: $\beta_{09} = .334$, $SE = .056$, $t = 5.9$; $p < .001$; pseudo-$R^2 = .12$), but not problem-activating interventions (PaInt Therapist: $\beta_{10} = .038$, $SE = .064$; $t = 0.58$, $p > 0.5$; pseudo-$R^2 = .00$) were significant predictors of outcome. Interpersonal experiences remained a significant predictor when all predictors

were entered into the equation simultaneously (Table IV). In Model 3, the effects of interpersonal experiences of Model 2 decreased. Model 3 explained 57.7% of the outcome variance at level 2 ($u_{j0} = .066$, X^2 [419] $= 648.1.7$, $p < .001$).

Outcome Predicted by Interactions of Inter- and Intrapersonal Experiences (Model 4)

To test the robustness of the relation between inter- and interpersonal experiences and outcome, we included interaction terms. When all predictors and interaction terms were entered simultaneously, no interaction term was significant (for IntraExp Patient X InterExp Patient: $\beta = -.001$; $SE = .110$; IntraInt Therapist X InterExp Therapist: $\beta = -.047$, $SE = .073$; IntraExp Patient X IntraInt Therapist: $\beta = .118$, $SE = .103$; InterExp Patient X InterExp Therapist: $\beta = .048$, $SE = .110$; β; $t > 1.6$, $p > .10$). When entered simultaneously with the interaction terms, the main effects of patients' and therapists' interpersonal experiences remained significant (InterExp Patient: $\beta = .154$, $SE = .052$, $t = 2.9$, $p < .01$ and InterExp Therapist: $\beta = .146$, $SE = .068$, $t = 2.1$, $p < .05$). The main effects of IntraExp Patient/IntraInt Therapist disappeared (IntraExp Patient: $\beta = .072$, $SE = .079$; $t = .9$ and IntraInt Therapist: $\beta = -.004$, $SE = .050$; $t = .04$; for all $p > .35$). Comparable to Model 3, Model 4 explained 57.7% of the outcome variance at level 2 ($u_{j0} = .066$, X^2 [415] $= 643.5$, $p < .001$).

Discussion

In various traditions, early response has been regarded as a significant contributor to a positive unfolding of psychotherapy leading to positive outcomes (e.g., Haas et al., 2002; Howard et al., 1993; Ilardi & Craighead, 1994). There is little theoretical agreement and little empirical knowledge as to what the central components of early response are and how each contributes to later outcome. Based on dual models of psychotherapy (e.g., Grawe, 2006;

Table II. Multilevel models predicting outcome from baseline distress and early change (Model 1)

	Model 1					
	Two-level model			Three-level model		
	Coefficient	SE	t (425)	Coefficient	SE	t (425)
Fixed effects						
Intercept (β_{00})	.025	.022	.6	1.1	.021	.6
GSI (β_{01})	−.030	.012	−2.6**	−.029	.010	−2.8**
IIP-64-D (β_{02})	−.041	.007	−6.0***	−.042	.007	−6.3***
Early change in well-being (β_{03}) /	.205 /	.056 /	3.7 /	.201 /	.049 /	4.0 /
symptom reduction (β_{04})	.133	.034	3.9***	.128	.032	4.2***

** $p < .01$; *** $p < .001$.

Table III. Multilevel models predicting outcome from patients' early in-session experiences (Model 2)

	Model 2					
	Two-level model			Three-level model		
	Coefficient	SE	t (422)	Coefficient	SE	t (422)
Fixed effects						
Intercept (β_{00})	.026	.021	1.2	.025	.020	1.2
GSI (β_{01})	−.029	.010	−2.7**	−.025	.008	−3.1**
IIP-64-D (β_{02})	−.034	.006	−5.2***	−.035	.006	−5.8***
Early change in well-being (β_{03}) /	.086 /	.058 /	1.5 /	.071 /	.052 /	1.4 /
symptom reduction (β_{04})	.056	.034	1.6	.012	.035	.3
BPSR-Patient						
IntraExp Patient (β_{05})	.150	.056	2.4**	.179	.053	3.4***
InterExp Patient (β_{06})	.170	.050	3.4***	.114	.045	3.2**
PaExp Patient (β_{07})	.030	.039	.67	.016	.031	.50

** $p < .01$; *** $p < .001$.

Schulte, 1996), the purpose of the present study was to determine the robustness of various indicators of the early psychotherapy process on later outcome. Taking intake patient distress and early response in well-being and early symptom reduction into account (Model 1), we examined whether outcome can be predicted by patients' session experiences (Model 2) and therapists' reports on their experiences/ interventions (Model 3), as well as the interactions of the above-mentioned experiences/interventions (Model 4). This procedure allows for examining the robustness of each predictor, if entered in the multi-predictor analyses.

Data of 430 psychotherapy completers nested within 151 therapists were analyzed using two- and three-level models (Raudenbush & Bryk, 2002). Several important results were found. First, broad-based outcome scores can be predicted to a high degree from intake distress, early response, as well as from session-reports by patients and therapists (around 58% of the explained variance at level 2). Second, large associations between interpersonal distress at intake and outcome were replicated (Grosse Holtforth et al., 2006). Third, early response in well-being and early symptom reduction were highly intercorrelated (Table I). Fourth, patients' intra- and interpersonal session experiences were robust predictors of outcome (above and beyond baseline distress and early response). The predictive effects of early response disappeared, when analyzed simultaneously with the patients' experiences (Model 2, Table III). Fifth, therapists' interpersonal experiences predicted outcome (above and beyond baseline distress, early response, and patients' session experiences; Model 3, Table IV). Sixth, neither therapist interventions fostering intrapersonal experiences nor problem activation contributed to outcome prediction (Model 3, Table IV).

Table IV. Multilevel models predicting outcome from therapists in-session experiences and interventions (Model 3)

	Model 3					
	Two-level model			Three-level model		
	Coefficient	SE	t (419)	Coefficient	SE	t (419)
Fixed effects						
Intercept (β_{00})	.025	.020	1.2	.022	.020	1.1
GSI (β_{01})	−.028	.010	−2.7**	−.021	.008	−2.6*
IIP-64-D (β_{02})	−.034	.007	−5.3***	−.035	.006	−5.8***
Early change in well-being (β_{03}) /	.088 /	.057 /	1.5 /	.080 /	.053 /	1.5 /
symptom reduction (β_{04})	.055	.033	1.6	.034	.033	1.1
BPSR-Patient						
IntraExp Patient (β_{05})	.137	.057	2.4*	.179	.053	3.4***
InterExp Patient (β_{06})	.138	.052	2.7*	.116	.048	2.4*
PaExp Patient (β_{07})	.025	.038	.67	.017	.029	.6
BPSR-Therapist						
IntraInt Therapist (β_{08})	.020	.048	−.43	−.018	.040	−.4
InterExp Therapist (β_{09})	.135	.051	2.7**	.148	.046	3.3***
PaInt Therapist (β_{10})	.015	.051	.29	−.010	−.042	−.2

* $p < .05$; ** $p < .01$; *** $p < .001$.

Seventh, interpersonal experiences, but not intrapersonal experiences, predicted outcome if the interactions were entered into the analyses (Model 4). Overall, the results corroborate the dual model of psychotherapy by highlighting the robust contributions of both intrapersonal as well as interpersonal experiences during therapy sessions to a favorable therapy outcome (e.g., Caspar, 2007; Grawe, 2006; Norcross, 2011; Wampold & Budge, 2011).

Fifty-eight percent of explained outcome variance is a relatively high percentage of explained variance in comparison to the proportion of explained variance in other analyses of early process-outcome relationships (Crits-Christoph et al., 2011; Lutz et al., 2005; Norcross, 2011; Webb et al., 2010). This high percentage of explained variance might be co-determined by (a) the simultaneous examination of a broad range of early indicators; (b) patients' and therapists' process evaluations being based on aggregated early processes (sessions 1–5), that is, session-specific sources of variances were rendered out as recommended by Crits-Christoph et al. (2011); and (c) the examination of a composite of seven outcome measures at level 1 highlights the common variance of these measures and minimized the outcome-measure specific components of the outcome variance (Flückiger et al., 2007).

Previous findings regarding the prediction of final outcome by early symptom reduction were partially replicated in this study. Early symptom reduction was predictive of outcome at post when entered as single predictor or together with intake level of distress. These results underscore the importance of early symptom reduction in psychotherapy. Nevertheless, as the high correlations between early response in well-being and symptom reduction indicate, an early response to treatment might indicate a broader phenomenon than merely symptom reduction (Stulz & Lutz, 2007; Wampold, 2001). Further, these results question the hypothesis that the predictive value of interpersonal session-experiences (that are highly connected with patient's and therapist's global alliance) was a consequence of symptom reduction (e.g., DeRubeis et al., 2005; Strunk et al., 2010). On the contrary, interpersonal session-experiences remained predictive even when early response in well-being and symptom reduction, intrapersonal patient experiences, and problem activation were controlled for.

Our results are based on general outcomes of a heterogeneous naturalistic sample of outpatients. While this study design enhances external validity, it may also blur more specific pathways of change that could be uncovered in more specific research designs, e.g., by examining more standardized treatments and that focus on target-specific outcomes

(e.g., Crits-Christoph, Wilson, & Hollon, 2005). However, in a recent moderator analysis that tested the robustness of the alliance-outcome relationship within a broad international database of 201 study reports, the alliance-outcome relationship was not moderated by study design, the kind of manualized treatment or disorder-specific outcome measures (Flückiger, Del Re, Wampold, Symonds & Horvath, 2012).

This study has various limitations. First, the present study is based on a completer sample. The lack of information on the rest of the intent-to-treat group may bias the results. For example, it may be that patients with low process evaluations dropped out of treatment before regular termination, which may lead to an underestimation of the process-outcome relationships (Sharf & Primavera, 2009). Second, external factors such as changes at the patient's workplace, troubling domestic circumstances, or the effects of homework assignments and systematic diaries are not accounted for in these analyses although processes occurring early in the psychotherapy sessions may be intimately connected with these out-of-session experiences (Davies et al., 2006; Hardy et al., 2005). Third, therapist characteristics such as therapists' interpersonal skills that could have been integrated into the analyses (at level 3) had not been assessed. Fourth, intra- and interpersonal experiences represent two secondary factors of the post-session reports that are intercorrelated. Whereas the interaction terms did not significantly contribute to outcome prediction, the study does not provide more detailed information on how intra- and interpersonal in-session experiences may be interrelated during the sessions. Fifth, personality disorders were not routinely assessed in the two clinics providing data for the present study. However, the relative independent predictive value of interpersonal problems and in-session experiences extend the meta-analytical findings that the percentage of personality disorders was not a mediator of the alliance-outcome relationship (Del Re, Flückiger, Horvath, Symonds, & Wampold, 2012). Yet, further research needs to take a more precise look at the potential moderation of the relation between early in-session evaluations and outcome by personality disorders (e.g., Strauss et al., 2006). Sixth, in the present study the therapists were presumably committed to an integrative cognitive-behavioral approach based on an individual treatment plan (Grawe, 2004; Caspar, 2007). Whereas this commitment to a single approach may limit the generalizability of the present findings, such a commitment is fairly common in clinical practice and might speak for the external validity of the study results (e.g., Norcross, Karpiak, & Santoro, 2003). As generally the responsiveness of

the therapist to the individual patient, which is an imperative for this approach, might reduce the correlations between patient properties and outcome, the present results found in this study can be considered to be rather conservative (Caspar & Grosse Holtforth, 2009).

Notwithstanding these limitations, our results have implications for clinical practice. Our results indicate that various aspects of the early therapy and their interplay each contribute to later treatment outcomes. Consequently, therapists need to be on a constant quest to simultaneously manage various psychotherapy processes and handle multiple intercorrelated processes in parallel, without losing sight of the overall picture. The following aspects to be monitored/managed simultaneously are suggested by our data: First, while patients report symptom distress, they are also burdened with multiple other distress factors at the same time (high association between IIP-64-D and outcome). Second, therapists need to work both on the reduction of psychopathology as well as on the increase of well-being. Whereas these two processes often go along with each other (e.g., Stulz & Lutz, 2007), they are far from being synonymous (overlap of early response in well-being and early symptom reduction). Third, whereas therapists are well advised to be attentive to early responses, at the same time they need to be aware to monitor collaborative qualities for the therapeutic work (relative independence of patients' early in-session experiences and early response). Fourth, skillfully implementing specific interventions needs to go along with an understanding of the patients' in-session experiences in response to these interventions (see the predictive value of patients' process evaluations in respect to therapists' evaluations). Fifth, understanding the patients' intrapersonal experiences (such as understanding patients' behavior, thoughts, feelings, or needs) is optimally accompanied by an understanding of the patients' interpersonal in-session experiences and by carefully monitoring the quality of various aspects of the therapeutic relationship (predictability of interpersonal in-session experiences). Overall, a continuous challenge is to keep seeing the wood *and* the trees, i.e., working on specific aspects of therapy at the same time as being aware of the holistic/contextual picture of the whole therapy imbedded in the patient's life conditions (e.g., Caspar, 1995, 2007; Grosse Holtforth & Castonguay, 2005; Wampold & Budge, 2011).

The present study was designed to simultaneously examine various indicators at an early phase of therapy as predictors of treatment outcome. Later therapy phases were not integrated into the current analyses. Keeping the responsiveness of time-

unlimited psychotherapy within a mixed sample of outpatients in mind, heterogeneous individual trajectories over the course of the whole therapy are expected (e.g., Caspar & Grosse Holtforth, 2009; Norcross, 2011; Stiles, 2009). As proposed by dual models of psychotherapy (e.g., Grawe, 2006; Schulte, 1996), the present study underscores the importance of simultaneously assessing and analyzing intrapersonal as well as interpersonal in-session experiences of patients and therapists to determine the unique and interrelated contributions to psychotherapy outcome taking intake distress and early response of treatment into account. Studies such as the present study might help to close the gaps between symptom and process world (Norcross, 2011).

Note

[1] The proportion of therapists with less than two therapies was relatively high in the present sample (30%; 46 of the 151 therapists) and therefore this sample was basically not qualified to disentangle level-2 from level-3 contributions (for a further discussion see Baldwin, Wampold, & Imel, 2007). Crits-Christoph et al. (2011) requested 60 patients by 50 therapists to separate these two levels from each other. Baldwin et al. (2007) proposed the probably better applicable inclusion criterion of two patients by each therapists.

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