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Session-to-session effects of therapist adherence and facilitative conditions on symptom change in CBT and IPT for depression

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ABSTRACT

Objective The objective of this study was to analyze the effect of adherence to both specific technique factors and facilitative condition variables (e.g., therapists' involvement, understanding and support) in Cognitive Behavior Therapy (CBT) and Interpersonal Psychotherapy (IPT). In addition, we were interested in whether the effect of therapist adherence would depend on the level of the working alliance.

Method Three sessions each from 74 patients diagnosed with Major Depressive Disorder who were randomized to 14 sessions of IPT or CBT were rated for adherence using a modified version of The Collaborative Study Psychotherapy Rating Scale—6 (CSPRS-6). Data was analyzed using Multilevel Modeling.

Results No effects of adherence to specific factors on outcome were found in neither CBT nor IPT. Facilitative conditions were associated with better outcome in CBT but not in IPT, even after adjustment for the quality of the working alliance. No interaction effects were found.

Conclusions Our findings highlight the importance of relational factors in CBT, but do not support the need for specific adherence to any of the two treatments. Possible explanations of the findings and directions for future research are discussed.

Trial registration: ClinicalTrials.gov identifier: NCT01851915.

Keywords: cognitive behavior therapy; interpersonal psychotherapy; depression; psychotherapy process; within-patient effects; adherence; facilitative conditions; alliance; psychotherapy outcome

Clinical or methodological significance of this article: This study adds to the knowledge about the factors that contribute to a positive psychotherapy outcome in CBT and IPT for depression. It examines the effects of therapists' interpersonal behaviors and adherence to specific evidence-based psychotherapy models on the outcome, separating within- and between-patient effects. Our use of methodology makes it possible to study change over time in individual therapies by sorting out between-patient differences in stable characteristics.

Even though several therapy models with various theoretical backgrounds are effective, much is left to be understood about how psychotherapy works (Cuijpers et al., 2019; Lorenzo-Luaces & DeRubeis, 2018). How therapy works and if therapy effects are caused by specific or common factors have been debated for decades (Cuijpers et al., 2019; Wampold & Imel, 2015). In a recent review, Cuijpers et al. (2019) concluded that there is insufficient evidence for neither the common factors nor the specific factors perspectives to explain how therapy works and that the discussion of the specific and common factors perspectives as mutually exclusive descriptions of the psychotherapy process is misguided. Instead, psychotherapy is a

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complex, multifactorial process, and it is most likely that common and specific factors both play a part and work together in the processes that lead to improvement (Cuijpers et al., 2019; Lemmens et al., 2016).

One of the most important aspects in studying the outcome of empirically supported manualized treatment models is to assess treatment fidelity (Perepletchikova & Kazdin, 2006; Webb et al., 2010) The term treatment fidelity, or treatment integrity, refers to the degree to which the treatment is implemented as intended and encompasses therapist adherence and therapist competence. Therapist adherence refers to the degree to which the therapist delivers specified elements of a treatment model, while competence refers to the skill with which techniques or methods are employed (Webb et al., 2010). Both concepts are considered important for the effective delivery of a particular treatment, and to provide evidence for specific therapy models. Ratings of adherence and competence are also used in studies of to what extent specific techniques in treatment methods are used, thus assessing the "dosage" of technical interventions in a specific session. In this study, ratings of therapist adherence were used for this purpose.

Statistical and methodological developments in psychotherapy research have increasingly advanced our understanding by allowing more complex modelings of the processes that lead to clinical improvement (Lorenzo-Luaces & DeRubeis, 2018). One of the most important improvements in psychotherapy process research is studies of session-to-session assessments of both process and outcome which enables the disaggregation of within- and between-patient effects (Falkenström et al., 2017; Zilcha-Mano, 2018). Analyses of within-patient effects focus on measurements from the same therapy several times throughout therapy, whereas between-patient analyses focus on comparisons among patients. Most process-outcome studies have been conducted on the between-patient level, but lately, within-patient analyses have received much interest.

These analysis methods have two principal advantages over between-patients effect analyses (Falkenström et al., 2017). First, they make it possible to study change over time in individual therapies controlling for between-patient differences as stable characteristics. In studies of method adherence, therapists' use of different procedures depending on characteristics of the patient may be disaggregated from fluctuations in procedures over time within the same patient. Likewise, stable trait-like aspects of the patient, like openness to experience or intelligence, can be ruled out as confounders of the process-outcome predictions, since they are only related to variation on the between-patient level. Such stable characteristics could influence outcome, leading to spurious method-outcome associations (Sasso et al., 2016).

Second, clinical models are formulated on the within-patient level. For example, a therapist may adjust the intervention in a specific way in response to the patient's reaction, leading to a subsequent reduction in symptoms. Within-patient analyses make it possible to test hypotheses about associations within therapies. Such questions may be more clinically relevant and easier to translate to clinical recommendations (Falkenström et al., 2017).

The existing research on the effects of therapist adherence shows mixed results (Webb et al., 2010). An explanation for the variation in results could be that most studies include one single measure of adherence which does not capture the complexities in the association between adherence and outcome. A few studies using disaggregation of between within- and between patient effects have found an effect on the outcome for specific techniques, specifically adherence to cognitive methods (Fitzpatrick et al., 2020; Sasso et al., 2016; Schmidt et al., 2019).

Studies show that therapists vary in degree of adherence, both between patients and between sessions in the same therapy (Boswell et al., 2013; Imel et al., 2011; Owen & Hilsenroth, 2014). In the study by Tschuschke et al. (2015), adherence varied across therapeutic methods and increased with more professionally experienced therapists. Research on IPT found adherence to the treatment manual to be strongly related to outcome (Frank et al., 1991; Spanier et al., 1996).

Norcross and Lambert (2018) concluded in their review that the therapy relationship makes substantial and consistent contributions to patient outcome independent of specific type of psychological treatment. In addition, Rogers (1957) theory of facilitative therapist behaviors (empathy, unconditional regard and congruence) have found empirical support across therapeutic orientations and different clinical problems (Norcross & Lambert, 2018), including CBT and IPT for depression (e.g., Barnicot et al., 2014; Zuroff & Blatt, 2006). Moreover, therapistś interpersonal skills measured before sessions have been shown to predict outcome (Heinonen & Nissen-Lie, 2019; Schöttke et al., 2017). Even though the therapy relationship is most often considered a common factor, both clinical experience and research point to a complex interaction between interpersonal relationship and the treatment method (Norcross & Lambert, 2018; Huiber et al., 2021). In a recent review, Huiber et al. (2021) highlight the need to study generic relational processes in different therapies as well as modality-specific elements of the therapeutic interaction.

Although a large body of research is highlighting the importance of therapistś interpersonal behaviors, an important limitation is the difficulty establishing a causal relationship with actual therapist interpersonal behaviors during sessions and outcome. One reason is that most process-outcome studies of therapist interpersonal behaviors are based on observational, rather than experimental, designs. In addition, most studies assess therapist variables using post-session measures rather than observational assessments of in-session behaviors and very few studies have used methodologies allowing for separation of between- and within-patient effects (Norcross & Lambert, 2018).

The most studied relationship factor is the working alliance. Of the different definitions, the most widely accepted is Bordin's (1979) in which the working alliance is defined as consisting of (i) an emotional bond between therapist and patient, (ii) agreement on tasks, and (iii) agreement on goals. Over the years, research has consistently demonstrated that the alliance is a predictor of outcome, with stronger alliance being associated with better therapeutic outcomes (Flückiger et al., 2018). The question of possible interaction effects between adherence and alliance has only been addressed in a few studies, despite the theoretical and clinical importance of this issue. It is reasonable to assume that the effect of adherence should depend on a strong-enough alliance, but the relationship between adherence and alliance seems to be complex. Barber et al. (2006) found a curvilinear effect where moderate adherence was associated with better outcome than low or high adherence when alliance was weak, but in the presence of a strong alliance adherence did not have any effects on outcome. Webb et al. (2012) on the other hand found no interaction effects.

More studies are needed to understand the relationship between adherence and outcome, and whether it depends on the quality of the therapeutic relationship. The variation in results may be due to small sample sizes, different patient populations and treatments tested, or it may point to a complex relationship where timing also may play a role. In addition, multiple measures are necessary to capture the temporal relationship between variables (Zilcha-Mano, 2018).

As the field of psychotherapy research has developed, a one-sided emphasis on either specific factors or common factors seems overly simplistic. More complex models that consider an integration of the perspectives and the interactions between multiple variables are called for (Webb et al., 2010; 2012). Most of the studies on therapist adherence have focused on the specific techniques of a given model, and almost no attention has been given to therapists' use of both common-factor strategies *and* interventions of specific evidence-based models on the outcome, separating within- and between-patient effects.

The purpose of this study was to investigate the effect of therapists' adherence to IPT and CBT for depression, the use of facilitative conditions (e.g., the therapists' warmth, involvement and support) and the alliance on session-to-session outcome, separating within- and between-patient effects. It is based on data from a Randomized Controlled Trial comparing CBT and IPT for depression (Ekeblad et al., 2016). The following hypotheses were investigated: (1) therapists' adherence to treatment methods and therapists' use of facilitative conditions predict change in depressive symptoms to the next session: (a) CBT adherence predicts next-session symptom level in CBT, (b) IPT adherence predicts next-session symptom level in IPT, (c) facilitative conditions (FC) predict outcome in CBT, and (d) FC predicts outcome in IPT. (2) Specific-treatment adherence and patient-rated alliance interact, implying that the effect of treatment adherence on symptom change to the next session is increased by a stronger working alliance. This was predicted to be the same in CBT and IPT, i.e., CBT adherence interacts with alliance predicting next-session outcome in CBT (Hypothesis 2a), and IPT adherence interacts with alliance predicting next-session outcome in IPT (Hypothesis 2b).

Method

Participants

From 96 patients randomized to CBT or IPT at a psychiatric clinic in Sweden 74 had sufficient data to be included in the present study. All patients were diagnosed with Major Depressive Disorder (MDD) according to the DSM-IV (APA, 2000) using SCID-I (First et al., 2002). All patients had been referred to the psychiatric clinic and all patients had received previous unsuccessful treatment for depression, with no or only partial response. For more information about the participants, see the original outcome article (Ekeblad et al., 2016). The study was approved by the Regional Ethical Review Board in Linköping (2010/348-31) and was preregistered at ClinicalTrials.Gov (identifier: NCT01851915).

Therapists

The therapists were all employed at the psychiatric clinic. Nine therapists provided IPT. In the IPT group, there were eight women and one man, and the mean age was 57.5 years. Most of them were

nurses and social workers. Twenty-five therapists provided CBT. There were 17 women and 8 men in the CBT group and their mean age was 37.6 years. Most CBT therapists were psychologists. The IPT therapists treated on average 4.9 patients, and the CBT therapists treated on average 1.9 patients each. The therapists had basic psychotherapy therapy training and received regular supervision with trained supervisors in each method. They were also allowed to attend additional training with competent and experienced teachers in their respective therapy forms.

Treatments

For therapists delivering IPT the standard manual was used (Weissman et al., 2000). Therapists delivering CBT used two manuals for performing cognitive therapy (Beck et al., 1979) and behavioral activation (Martell et al., 2010). Some therapists also included components of mindfulness when performing CBT treatment (Segal et al., 2013). The duration of both treatments was 14 sessions.

Measures

The Beck Depression Inventory—II (BDI-II; Beck & Steer, 1996). The BDI-II is a widely used instrument for self-assessing depressive symptoms. The scale consists of 21 items, each rated from 0 to 3. The BDI-II has shown good reliability, the capacity to discriminate between depressed and non-depressed subjects, and concurrent, content and structural validity (Yang & Gorenstein, 2013). The BDI-II was completed before each session.

Working Alliance Inventory—Short form and Short form Revised (WAI-S; Tracey & Kokotovic, 1989, WAI-SR; Hatcher & Gillaspy, 2006). The Working Alliance Inventory was originally developed by Horvath & Greenberg (1989) and consists of 36 items. It is based on Bordin's (1979) definition of the working alliance consisting of bond, tasks and goals. In the present study a revised short form consisting of 12 items (WAI-SR) was used for patient assessment. This version has also shown good reliability and validity (Falkenström et al., 2015). WAI-S was used for therapists' assessment and has also shown good psychometrical properties (Hatcher et al., 2019).

Collaborative Study Psychotherapy Rating Scale—6 (CSPRS-6). Adherence was assessed by three independent raters from videotaped therapy sessions (sessions 3, 7, 11) using a shortened version of the Collaborative Study Psychotherapy Rating Scale (CSPRS-6; Hollon et al., 1984). The CSPRS-6, originally developed for the Treatment of Depression Collaborative Research Program (TDCRP; Hollon et al., 1984), consists of 96 items rated on a 7-point (1 = "not at all" to 7 = "extensively"), Likert-type scale. The original instrument includes subscales measuring specific techniques for IPT (28 items), CBT (28 items), Clinical (medical) Management (CM; 20 items), and two non-specific scales facilitative conditions (FC; 8 items) and explicit directedness (ED; 4 items). In this shortened version the clinical management subscale and the explicit directedness were omitted because no pharmacological treatment arm was included in this trial.

The facilitative condition-scale used eight items from the Beth Israel Adherence Scale (BIFS; Patton et al., 1998), which is an adaptation of the non-specific scales scale in CSPRS-6. These common factor-items have their origin in the research on common factors and are reflective of "facilitative conditions" as well as "explicit directiveness" (Hollon et al., 1984). The item "set and follow agenda" was omitted because it was derived from the CBT-scale of the CSPRS-6. In all, this shortened version consists of 63 items.

The CSPRS-6 was developed through extensive consultation with trainers in both treatment modalities and careful study of therapy interventions as prescribed in the treatment manuals (Hollon et al., 1988). In several studies, the CSPRS-6 has been shown to have acceptable and high levels of internal consistence and interrater reliability for the modality-specific scales used in this study (Hill et al., 1992; Hollon et al., 1984; Markowitz et al., 2000). The results have been replicated with different clinical samples, groups of raters and trainers. Moreover, these studies have differentiated the treatment modalities from one another. The facilitative condition-scale was originally developed to measure aspects of the therapeutic relationship traditionally considered important in describing psychotherapies (Hollon et al., 1984). The FC-scale has been demonstrated to have adequate internal consistency and acceptable levels of interrater reliability, although somewhat low in some studies (Hill et al., 1992; Hollon et al., 1984). The Beth Israel Fidelity Scale has shown sound psychometric properties (Patton et al., 1998).

It should be noted that whereas WAI and FC are self-rated, CSPRS is observer-rated.

Procedure

The adherence ratings were made by two clinical psychology program students during the final part of

their studies, and by one senior PhD psychologist. The psychology students had basic training in psychotherapy, meaning that they had seen patients under supervision for one and a half year together with theoretical studies, and were well acquainted with the CBT and IPT therapy models. The students rated the early (3 or 4) and mid-therapy sessions (7-8) and the clinical psychologist rated the late sessions (10-11). The training included independent reading of the CSPRS-6 manual and participation in a training session together with a certified psychologist and experienced CSPRS-6 rater. One session was viewed together, and the group went through and discussed the items of the CSPRS-6 Swedish shortened rater's manual with help from the supervisor. The two students rated two sessions together and five more sessions separately. These seven sessions are included in the data. Interrater reliability was calculated on these seven sessions and the ICC (single raters) for each subscale was: for IPT, 1.0 (CI .99–1.0), for CBT 1.0 (CI .99–1.0) and CF 1.0 (CI .99–1.0), which was sufficient for continued separate rating. The remaining sessions were divided between the students for separate ratings. The senior psychologist first rated 13 previously rated sessions for training purposes, before rating session 10 or 11 in each therapy.

The ICC (single raters) for ratings on these 13 sessions ranged from good (.87 for ratings of the IPT scale) to excellent (.95 for the CBT scale and .96 for the FC scale). The internal consistency of the IPT, CBT and FC items were calculated on ratings of the two first rated sessions in each therapy, since only data from this was available at the time. Cronbach's alpha for the IPT-scale was .95, for the CBT-scale .90 and FC-scale .90. Homogeneity of variances between raters was checked by descriptive statistics, and differences were deemed minor (the largest difference was SD = 0.56 vs SD = 0.45 for the IPT scale). Normality was checked by skewness and kurtosis statistics, with the largest skewness being 1.52 (but most were between −1 and 1) and the largest kurtosis was 1.45 (again most were between −1 and 1).

Rating procedures. For each session, all three subscales were used. This allows an assessment of adherence to CBT, IPT, and FC for each session. The raters were blind to which method was used in the session. Each session was divided into twenty equally long episodes. CSPRS-6 ratings were initially conducted so that every episode was viewed twice, and during the second viewing therapist behavior was noted. When all episodes had been viewed twice in this way the session was rated using the CSPRS-6 based on the notes that had been taken during the second viewing. When the authors became more skillful, notes on therapist behavior were taken down continuously during the first viewing.

Statistical Analysis

The BDI-II was filled out before each session, so a way to investigate the effect of adherence and strengthen causal inference is to test the effect of adherence in session t on BDI-II in session t+1. A multilevel model was used in which the predictor was centered within each patient to separate between-person variance from within-person fluctuations (Firebaugh et al., 2013; Raudenbusch & Bryk, 2002). This model is widely used in psychotherapy research for disaggregating within-from between-patient effects (Falkenström et al., 2017). The advantage of this model is the possibility to isolate the within-person effect and eliminate unobserved confounders that are stable over time, since only fluctuations across time are left at the within-patient level. A disadvantage is that the effect of depression level at the prior session cannot be included as covariate (Falkenström et al., 2017). This is possible in more complex models (e.g., Structural Equation Modeling), but the data for the present study was not deemed sufficient in terms of sample size for estimating those.

The effect of adherence on outcome was studied for both CBT and IPT therapies, and all therapies were assessed for adherence to CBT, IPT and facilitative conditions, making it possible to compare the effects of specific factors and facilitative conditions in both therapy models. Interaction effects between adherence to IPT/CBT and working alliance in the prediction of symptom change to the next session were also tested.

Power analyses. Statistical power for the within-patient level was approximated by estimating power for linear regression models using the observed sample sizes, 80% power and alpha = .05. In the CBT group, which had 80 observations, a standardized regression coefficient (beta) of .32 would be needed to achieve 80% power. For the IPT group, which had 95 observations, a standardized coefficient of .29 would suffice.

Results

Descriptive Statistics

Table I presents means and standard deviations for the BDI-II in the session following the session that

Table I. Means, standard deviations, and range of included variables.

	N	Mean	SD	Min	Max
BDI-II next session					
IPT	95	28.36	12.07	3	61
CBT	80	27.82	13.06	1	59
WAI-SR (patient rated)					
IPT	87	4.95	1.08	2.25	7.00
CBT	72	5.22	1.20	1.33	7.00
WAI-S (therapist rated)					
IPT	88	4.85	0.91	3.00	6.33
CBT	74	5.08	0.99	2.67	7.00
IPT adherence					
IPT	97	2.16	0.72	1.07	4.03
CBT	85	1.34	0.37	1.00	2.69
CBT adherence					
IPT	97	1.47	0.35	1.00	2.44
CBT	85	2.42	0.73	1.00	4.00
CF adherence					
IPT	97	5.03	1.23	1.57	7.00
CBT	85	5.02	0.81	3.00	6.86

is rated for adherence, WAI-S and WAI-SR, and adherence ratings on the scales for IPT, CBT, and CF, in IPT and CBT separately. Of the 96 patients that were randomized to treatment, 74 patients were included in the analysis of adherence (37 in each treatment). Alliance, both therapist-rated and patient-rated had comparable levels in IPT and CBT.

Average adherence in CBT and IPT. Therapists in both treatment conditions did more of their prescribed interventions than the interventions from the other method. IPT therapists provided significantly higher levels of IPT interventions (IPT-adherence = 2.09, CBT-adherence = 1.44, $t = 7.71$, df = 36, $p < .001$) and CBT therapists provided higher levels of CBT interventions (IPT-adherence = 1.29, CBT-adherence = 2.17, $t = -6.60$, df = 36, $p < .001$). Raters scored IPT and CBT as having highly similar levels of FC (4.97 in IPT and 4.79 in CBT, $t = -.74$, df = 72, $p = .46$).

Within- and Between-Patient Effects of Adherence to Specific Interventions and Facilitative Conditions in CBT and IPT

For each of the three CSPRS-scales, the within- and between-patient effects on subsequent levels of depression were estimated separately for IPT and CBT. No significant within-patient effect of therapist adherence to CBT on next-session levels of depression was found for patients assigned to IPT (coefficient = 1.94, se = 3.33, $z = 0.58$, $p = .56$, 95% CI [−4.58, 8.46]) or CBT (coefficient = −3.01, se = 1.77, z = −1.70, $p = .09$, 95% CI [−6.48, 0.47]), implying that Hypothesis 1a was rejected. Although a trend towards an association between higher adherence to CBT and improvement in depression was found in CBT ($p = .09$), it disappeared when adding therapeutic alliance as covariate ($p = .26$).

No association was found between adherence to IPT and next-session BDI-II in IPT (coefficient = 1.69, se = 1.80, $z = 0.94$, $p = .35$, 95% CI [−1.84, 5.22]), indicating that Hypothesis 1b was rejected. In addition, there was no effect of IPT adherence in CBT (coefficient = −4.81, se = 4.71, z = −1.02, $p = .31$, 95% CI [−14.04, 4.43]).

Moreover, there was no significant interaction effect between CBT adherence and working alliance at the within-patient level in any of the treatments, neither for patient- (CBT: coefficient = 0.72, se = 2.52, $z = 0.29$, $p = .77$, 95% CI [−4.22,5.67]; IPT: coefficient = −15.74, se = 9.61, z = −1.64, $p = .10$, 95% CI [−34.57, 3.09]) nor for therapist-rated alliance (CBT: coefficient = 2.47, se = 4.42, z = 0.56, $p = .58$, 95% CI [−6.20, 11.13]; IPT: coefficient = −8.37, se = 9.74, z = −0.86, $p = .39$, 95% CI [−27.47, 10.73]). This means that Hypothesis 2a was rejected.

No interaction effects were found between patient-rated working alliance and IPT adherence (CBT: coefficient = 9.16, se = 10.98, $z = 0.83$, $p = .40$, 95% CI [−12.36,30.68]; IPT: coefficient = 7.87, se = 6.76, $z = 1.16$, $p = .24$, 95% CI [−5.37, 21.12]). There was a significant interaction effect between therapist-rated working alliance and IPT adherence in CBT, but this effect was in the opposite direction from expected (i.e., better adherence was related to worse outcome in the context of a better alliance), and since the estimate seemed unrealistically large (coefficient = 30.80, se = 15.28, $z = 2.02$, $p = .04$, 95% CI [0.85, 60.74]) we conclude that this finding most likely was due to random error and/or high collinearity between predictors. In IPT, the interaction between IPT adherence and therapist-rated working alliance was non-significant (coefficient = 8.37, se = 5.47, $z = 1.53$, $p = .13$, 95% CI [−2.35, 19.09]). This means that Hypothesis 2b was also rejected.

Therapist Use of Facilitative Conditions

A significant effect was found for therapist use of FC in CBT (coefficient = −4.42, se = 1.61, $z = -2.74$, $p = .01$, 95% CI [−7.59, −1.25]), indicating support for Hypothesis 1c. However, this was not the case in IPT (coefficient = 0.63, se = 1.68, $z = 0.37$, $p = .71$, 95% CI [−2.68, 3.93]), indicating rejection of Hypothesis 1d. Moreover, the difference

between treatments in the effect of FC-adherence was statistically significant (difference = 5.05, se = 2.35, $z = 2.15$, $p = .03$, 95% CI [0.44, 9.66]), and the result for FC-adherence in CBT held even after controlling for both patient- and therapist-rated therapeutic alliance (adjusted coefficient = −5.40, se = 1.95, $z = -2.78$, $p = .01$, 95% CI [−9.22, −1.59]), indicating robustness of the effect supporting Hypothesis 1c. There were no interactions between FC-adherence and adherence to IPT or CBT (all $p > .40$).

To further explore the possible meaning of this finding, we hypothesized that therapist use of facilitative conditions in CBT would affect the working alliance positively. This hypothesis was confirmed; the patient-rated alliance was significantly predicted by FC-adherence in CBT (coefficient = 0.54, se = 0.14, z = 3.94, $p < .001$, 95% CI [0.27, 0.80], standardized beta = .53), but not in IPT (coefficient = 0.03, se = 0.12, z = 0.26, $p = .79$, 95% CI [−0.20, 0.26], standardized beta = .05). The difference between the coefficient in CBT vs IPT was statistically significant ($p = .005$). As a further test, a moderated mediation model was tested using the path model shown in Figure 1. Mediation was tested as the product of the path FC → WAI-SR and WAI-SR → BDI-II, using 500 bootstrap samples to accommodate non-normality of coefficients for indirect effects. The indirect effect of FC-adherence on next-session symptom level via working alliance was −2.99 (se = 1.51, z = −1.98, $p = .048$, 95% CI [−5.96, -.03] in CBT, while in IPT it was −.10 (se = .67, z = −0.16, $p = .88$, 95% CI [−1.41, 1.20].

Between-Patient Effects

On the between-patient level no significant effect was found for adherence to IPT, CBT or FC in neither IPT therapy nor CBT therapy when controlling for BDI-II at the first session (all $p > .57$).

Discussion

The main aim of this study was to examine the effects of within- and between-patient effects of therapist adherence to treatment model, of facilitative therapist behavior, and of the patient-rated alliance on next-session symptom change in IPT and CBT for depression. Our results did not indicate any effects of therapists' use of specific techniques on outcome. Different patterns of associations were found across the two treatment models, with facilitative conditions predicting better outcome in CBT on the within-patient level, whereas no such association

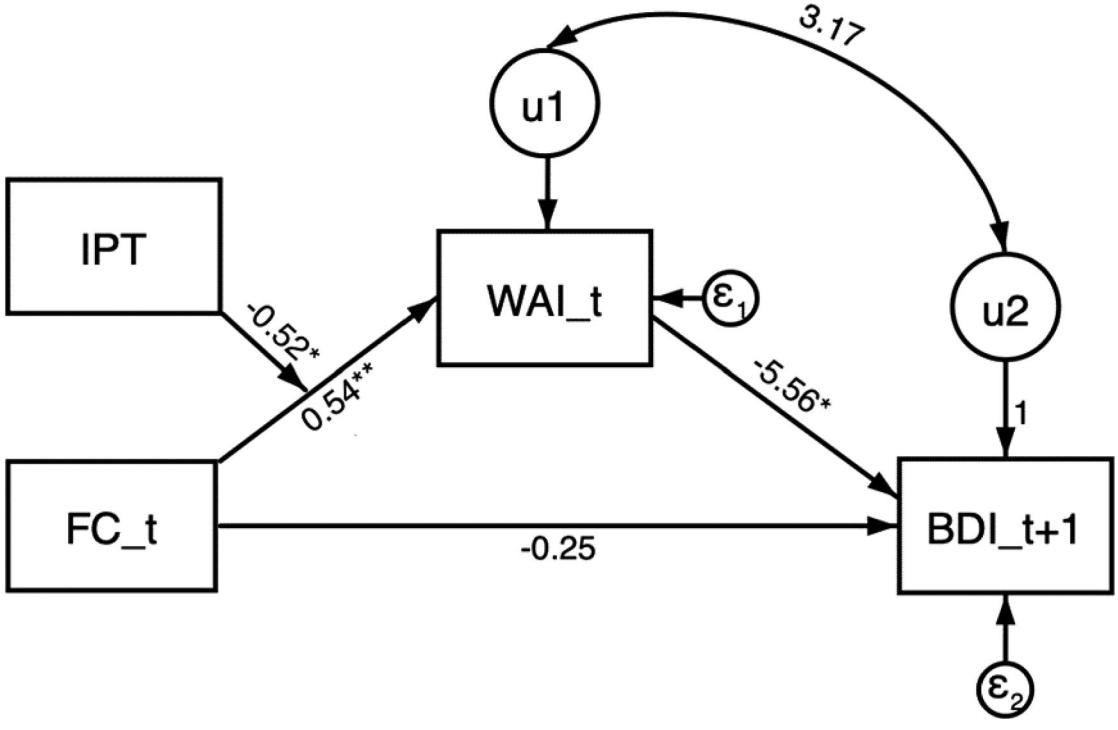

Figure 1. Moderated mediation model testing the indirect effect of FC adherence on next-session BDI-II via working alliance on a within-patient level. FC adherence (FC_t) was person-mean centered. $u1$ is the random intercept for WAI_t, $u2$ is the random intercept for BDI_t +1; ε_1 is the error term for WAI_t and ε_2 is the error term for BDI_t+1.

was found in IPT. We found no interaction effect between treatment adherence and alliance on symptom change.

Our first hypothesis was not supported; method adherence did not lead to symptom improvement in neither CBT nor IPT. The meta-analysis by Webb et al. (2010) found a near-zero effect for adherence, but with great variability between studies. Most process-outcome studies have been conducted on the between-patient level, and we know of only the study by Sasso et al. (2016) that separated within- and between-patient levels for adherence-outcome associations. The findings in the present study did not replicate the results of Sasso et al. (2016), which showed a significant association between adherence and outcome in CBT.

Most of the studies finding a positive association between adherence and outcome are from analyses of cognitive therapy (DeRubeis & Feeley, 1990; Feeley et al., 1999; Sasso et al. 2016; Schmidt et al., 2019; Strunk et al., 2010). One possible explanation for the difference in results could be that the therapists in this study used CBT in a more flexible way than in previous studies. The therapists were allowed to mix cognitive, behavioral, and sometimes mindfulness interventions, which is a common way of providing CBT in Sweden. Studies finding effects for cognitive therapy adherence (e.g., Sasso et al., 2016) have usually used more specific manuals where therapists are instructed to follow a single cognitive therapy manual. In addition, some therapies in our study included the use of interventions such as mindfulness that are not included in the adherence scale. This may have led to a relatively low adherence score while the therapists still performed CBT in a way that represents how it is done in clinical practice and could be an explanation to the lack of effect for adherence on outcome in CBT in this study.

CSPRS-6 ratings are based on the overall mean of a broad adherence scale (assessing therapists' adherence to the entire treatment package), rather than particular techniques or subsets of techniques. This is highlighted in earlier studies as a possible explanation for the inconsistent findings of the associations between adherence and outcome (Webb et al., 2010). Effects of specific techniques or a subset of techniques may be missed because analyses were based on a combination of ratings of different techniques.

Another important factor to consider is the sampling of sessions. Although it makes conceptual sense to sample sessions across the whole span of the therapy process (i.e., early, middle and late phases), studies on CBT for depression show that both rapid early response (e.g., Ilardi & Craighead, 1994) and sudden gains (e.g., Tang & DeRubies, 1999) are common trajectories of change in outcome. Given these findings, it is possible that our sample of sessions was unfit to find an effect of adherence as large proportions of the change in outcome might have occurred already before the middle and late phases or between sessions.

Our hypothesis concerning the significance of FC was supported for CBT. The effect of therapist facilitative behaviors on outcome in CBT is consistent with our hypothesis and underlines the importance of relational aspects of therapies for the outcome (Norcross & Lamberts, 2018). The results did not, however, confirm our hypothesis concerning the effect of facilitative conditions on outcome in IPT. The difference between the two treatments in this regard was significant and the result remained even after adjusting for the therapeutic alliance. Post-hoc mediational analyses indicated that the effect of FC on depression in CBT was mediated by the working alliance. This would mean that CBT therapists' use of facilitative conditions led to a better working alliance in the session, which in turn led to more improvement of symptoms to the next session.

Few earlier studies have studied the FC-scale from the CSPRS-6 and its relation to outcome in IPT and CBT. Markowitz et al. (2000) studied CBT and IPT for HIV-positive patients with depressive symptoms and found no significant association between therapists' facilitative behaviors and outcome on the between-patient level, neither did DeRubeis and Feeley (1990) in their study of CT for depression. In contrast, Minonne (2010), using data from the National Institute of Mental Health Treatment of Depression Collaborative Research Program (Elkin et al., 1989), found that early FC adherence was associated with patient-rated alliance and predicted outcome in both treatments. In addition, IPT adherence was also significantly related to early patient alliance and was a significant predictor of later patient alliance. To our knowledge no earlier studies have used methodologies allowing for separation of the between- and within-patient effects in the study of the effects of therapist facilitative behaviors and outcome. Our use of this methodology demonstrates that the within-patient effect of therapists' facilitative behaviors in CBT is not likely to be explained by stable differences between patients.

The fact that therapist facilitative behavior had a significant effect in CBT but not in IPT is surprising, since IPT is explicitly associated with the common factor perspective (Markowitz & Weissman, 2004). The finding is, however, congruent with the results in Markowitz et al. (2000). One obvious explanation for the difference could have been that the variation in FC was greater for CBT compared to IPT, thus

Table II. Within-patient effects of adherence to CBT, IPT and FC on next-session BDI-II.

	Coeff.	se	*z*	*p*	95% CI
CBT adherence					
IPT	1.94	3.33	0.58	.56	−4.58, 8.46
CBT	−3.01	1.77	1.70	.09	−6.48, 0.47
IPT adherence					
IPT	1.69	1.80	0.94	.35	−1.84, 5.22
CBT	−4.81	4.71	1.02	.31	−14.04, 4.43
CBT adherence × patient-rated working alliance					
IPT	−15.74	9.61	1.64	.10	−34.57, 3.09
CBT	0.72	2.52	0.29	.77	−4.22, 5.67
CBT adherence × therapist rated working alliance					
IPT	−8.37	9.74	−0.86	.39	−27.47, 10.73
CBT	2.47	4.42	0.56	.58	−6.20, 11.13
IPT adherence × patient-rated working alliance					
IPT	7.87	6.76	1.16	.24	−5.37, 21.12
CBT	9.16	10.98	0.83	.40	−12.36, 30.68
IPT adherence × therapist rated working alliance					
IPT	8.37	5.47	1.53	.13	−2.35, 19.09
CBT	30.80	15.28	2.02	.04	0.85,60.74
FC adherence					
IPT	0.63	1.68	0.37	.71	−2.68, 3.93
CBT	−4.42	1.61	−2.74	.01	−7.59, −1.25
IPT—CBT	5.05	2.35	2.15	.03	0.44, 9.66

increasing the possibility to find a significant result. However, on the contrary, as shown in Table II both treatments showed comparable levels of adherence, alliance and FC and the variation in FC was greater in IPT than in CBT.

A plausible, although highly speculative, the explanation is that our result could be understood as showing a difference regarding the interplay between FC and the specific treatment method. In CBT, an agenda is created for the session, the interventions are structured and more distinctive during the session, and the patient is expected to do homework. In IPT, the interventions are less explicit and specified, may be perceived as less "instrumental", and there is no explicit use of homework. It could be that aspects of CBT such as a more directive and educational stance of the therapist, and more "demanding" tasks/therapeutic activities lead to the increased importance of the therapist being warm, supportive and engaged (high FC) for the patient to feel understood and supported, and maybe lessen the interpersonal strain caused by the demanding tasks. In contrast, it may be less crucial for therapists in IPT to be high in FC because the relational focus of the treatment itself could be enough for the patient to develop a good alliance that has an effect on the outcome. Ackerman & Hilsenroth (2003) have shown the positive effects on the therapeutic alliance of various therapeutic techniques such as facilitating the expression of affect and the exploration of interpersonal themes, both central techniques in IPT.

The facilitative conditions scale is a broad-spectrum scale of therapist behaviors considered important in the therapeutic process (Hollon et al, 1984). The breadth of interpersonal behaviors in the scale makes it likely that the ratings are affected by several relational processes in addition to the experiences caught by alliance ratings. In a recent study of CBT for depression, Impala et al. (2022), also used a session-to-session framework, and showed that competence in the first session (but not in mid-treatment) predicted improved levels of depression to the next session, and that this prediction was mediated by the working alliance. They argue that therapist relational competence might be especially important in the beginning of CBT to facilitate a strong alliance, which in turn reduce subsequent levels of depression. The FC-scale likely has similarities with elements of competence, and especially skills in relational processes.

We also hypothesized that a positive effect of adherence on next-session depression level would be stronger in the presence of a stronger alliance. A strong relationship between alliance and outcome was previously shown using the same data as in this study (Falkenström et al., 2016). However, our study did not support the hypothesis of an interaction effect between alliance and adherence. Our results are in line with Webb et al. (2012), who did not find any interaction effects between alliance and adherence. A possible explanation for the lack of support in this study could be that adherence only matters to a certain minimum level which is achieved by most experienced therapists. Alternatively, the therapists with lower levels of adherence in the study may have compensated for this with a therapeutic setting and relational factors or other interventions enough to mask a potential true relationship between adherence and outcome.

Strengths and Limitations

To our knowledge, no previous study has explored the effect of adherence using a repeated measures design on a psychiatric sample. In addition, the use of a well-defined sample of patients, therapists trained in the respective methods, the randomization of patients to treatments, and the use of within/between patient disaggregation, are also strengths of this study.

One limitation in this study is that the statistical analysis method does not allow controlling for the previous level of depression on the within-patient level. This means that pre-existing differences in depression levels at the time when adherence was rated may have been confounded with the effect of adherence on next-session depression. Moreover,

our study had power to find medium-sized effects for single predictors, but tests of interactions were likely underpowered.

A methodological limitation in this study is the fact that ratings of adherence were performed by undergraduates for the first two rated sessions and a senior psychologist for the third-rated session in each therapy. The undergraduates' limited experience in psychotherapy work could have affected their understanding of the therapeutic techniques and their ratings. Interrater reliability was high but was only calculated for the first rated sessions, not periodically during the ratings, so rater drift when gaining more experience is a potential risk. Other potential risks are misunderstandings in concepts or definitions of therapeutic behaviors caused by limited therapy experience, or limited education and pre-training in the specific rating scale.

Another limitation is that the broad-spectrum scale that was used does not allow any conclusions about which specific behaviors in each scale that were responsible for the effect on outcome. It is possible that adherence to some specific interventions in CBT or IPT has an effect on outcome but cannot be analyzed in this study design. The aspects of the FC-scale in CPSRS-6 and the working alliance in WAI are not entirely separable; furthermore, different findings could have been obtained if an observer-rated measure of the alliance had been used. It is clear in our data that these measures capture somewhat different aspects of the relationship and since we found a mediation effect in CBT and not in IPT. But it remains to investigate further in what specific ways these measures are separate and how they interact. Our study confirms that the field needs clearer definitions of the relationship constructs and a continuing discussion on how to understand information about interpersonal relationships from different sources (Horvath et al., 2011; Norcross & Lamberts, 2018).

It is worth noting that there are differences in the number of participating therapists between the groups as there were 25 CBT-therapists and 9 IPT-therapists. The IPT-therapists were older and had more professional experience. Most of them were nurses and social workers. The CBT-therapists were on average about 20 years younger. Most of them were psychologists. Average therapist differences might have affected between-patient effects but not findings on the within-patient level (Falkenström et al., 2020).

Implications for Future Research

Understanding how therapies work is important both from a scientific and from a public health perspective. As highlighted in Cuipers, Reijnders and Huibers (2019), further research needs to focus on both the procedures (i.e., common and specific interventions), as well as the treatment processes (i.e., the change mechanisms). In many studies, researchers assume that effective treatments are effective because of the interventions or therapeutic approaches that are implemented. The realization that there may be other mechanisms of change needs to be emphasized (Kazdin, 2007). Regarding the therapeutic relationship, the proposal from Horvath et al. (2016) to arrange the relational elements in a conceptual hierarchy could help provide greater organization and clarity of relational concepts and formulate further hypotheses about how the therapeutic relationship works to bring about change.

Zilcha-Mano and Webb (2021) recently suggested that successive changes in state-like variables might differ among therapeutic models, implying that processes of change might differ between methods. The surprising role of FC in CBT, but not in IPT, in our study could potentially suggest different mechanisms of change in these two treatments. Studies of changes in state-like variables might increase understanding of the mechanisms of change in different therapies. It may also provide useful information about optimal timing for using a specific technique or interpersonal behaviours that target a specific mechanism of change.

Further study of competence in delivering the treatments, alongside adherence to those procedures is warranted. Barber et al. (2003) use of the Cognitive Therapy and Competence Scale is an interesting example of how to conceptualize the distinction between conducting CT intervention and skillfully delivering the intervention. As suggested by Impala et al. (2022), the process literature would be strengthened by the specific assessments of competence (state competence) as well as general therapeutic skills (trait competence) and their interrelations to both alliance and outcome.

Our result that facilitative therapist behavior influences outcome in CBT needs to be replicated, preferably in a larger study with more power. Cuijpers et al. (2019) noted the lack of studies with sufficient power to estimate the significance of specific components in treatment packages and regarding non-specific factors.

Conclusion

In summary, our study shows that, at least within the assessed range, more adherence to CBT or IPT did not contribute to symptom reduction. However,

our results highlight the importance of facilitative conditions in CBT. This effect seemed to be mediated by the working alliance. Why this was not true in IPT is unclear. One explanation for the stronger association between FC and symptom reduction in CBT could be that aspects of the method, such as the use of an agenda that is often written down and negotiated, and the use of forms to fill out in each session, leads to the increased importance of FC for the patient to feel understood and supported. The structure and focus in IPT may not need further focus on facilitative behaviors to develop a good alliance.

Disclosure Statement

No potential conflict of interest was reported by the author(s).

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