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Treatment Adherence: The Importance of Therapist Flexibility in Relation to Therapy Outcomes

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Objective: The purpose of the current study was to disentangle within- and between-case variability in the adherence–outcome association. Specifically, we expected that increases or decreases in within-case adherence ratings would be positively associated with therapy outcomes. ***Method:*** Seventy clients (74% women, 26% men; M_{age} = 29.8 years, SD = 11.00) received psychodynamic psychotherapy at a university-based community outpatient clinic. Adherence to core principles of a psychodynamic treatment model were coded by independent raters at the 3rd, 9th, and termination phase sessions using a psychotherapy technique scale. Therapy outcomes were assessed at both the symptom and the broadband levels of functioning. ***Results:*** Within-case variability in adherence ratings was significantly associated with therapy outcomes (accounting for approximately 10% of the variance in outcomes), after controlling for alliance, between-case variability, and the proportion of outcomes attributed by therapists. ***Conclusion:*** The flexibility therapists demonstrate regarding the use of technique within a given treatment appears to be related to better outcomes across their caseload in relation to therapists who are less flexible with their interventions at the individual client level. The clinical implications of flexibility in adherence to a treatment model are discussed.

Keywords: adherence, psychodynamic, outcome, alliance, therapist effects

The effectiveness and efficacy of psychotherapy is well-established across a wide range of presenting conditions and treatment contexts (Lambert, 2013; Wampold, 2001). How therapy works has been a more difficult process to isolate. Yet, there have been a variety of change mechanisms proposed, broadly including common factors, such as the alliance, or empathy and theory-specific factors such as techniques (Imel & Wampold, 2008; Tracey, Lichtenberg, Goodyear, Claiborn, & Wampold, 2003; Wampold & Budge, 2012). Additionally, several of the common and theory-specific factors share common variance and/or create unique interactions that are associated with therapy outcomes (e.g., Barber et al., 2006; Boswell, Castonguay, & Wasserman, 2010; Høglend et al., 2011; Owen, Wong, & Rodolfa, 2010). Both common and theory-specific factors have their role in treatment and, given this fact, we highlight one theory-specific factor (treatment adherence) and demonstrate how variability in adherence within clients' treatment may be associated with therapy outcomes.

Treatment adherence, or the degree to which therapist–client dyads participate in the specified approach, has been one way of ensuring that treatments are delivered with fidelity (Sharpless & Barber, 2009; Webb, DeRubeis, & Barber, 2010). Moreover, as Imel and Wampold (2008) noted, "If a specific ingredient offered in a treatment is critical to the success of the treatment, the degree to which the therapist adheres to the treatment protocol should be related to the outcome" (p. 253). Testing this proposition, Webb et al.'s (2010) meta-analysis found that treatment adherence accounted for less than 1% of therapy outcomes (r = .07). This small-sized effect reflects a mix of studies, which have found that greater adherence can be detrimental, beneficial, or not significantly associated with client outcomes (e.g., Henry, Strupp, Butler, Schacht, & Binder, 1993; Luborsky, McLellan, Woody, O'Brien, & Auerbach, 1985; Piper, Azim, Joyce, & McCallum, 1991; Strunk, Brotman, & DeRubeis, 2010; Webb et al., 2012). Collectively, these results suggest that adherence does not provide a consistent linear association with therapy outcomes. However, the adherence–outcome association can be complicated. For example, the relationship between adherence and outcome has been found to be curvilinear and can be affected by other third variables, such as the alliance (e.g., Barber et al., 2006, 2008; Gaston, Thompson, Gallagher, Cournoyer, & Gagnon, 1998; Owen & Hilsenroth, 2011).

Treatment adherence can also tell a different story about the process of therapy. Variability in treatment adherence can be examined in many ways, including (a) within a clients' course of treatment (e.g., was adherence consistent across sessions), (b) between clients (e.g., was adherence consistent across clients), or (c) between therapists (e.g., was adherence consistent across ther-

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apists).[1] Most studies that have examined the adherence–outcome association were focused on variability between clients (e.g., does the variability in adherence ratings across clients predict therapy outcomes; Webb et al., 2010). These between-client estimates can mask the importance of examining within-client variability. For instance, average adherence ratings are relatively similar at early and later sessions (e.g., Ackerman, Hilsenroth, & Knowles, 2005; Hersoug, Bøgwald, & Høglend, 2003; Minonne, 2008); however, these average ratings across clients do not provide information regarding differences in adherence ratings across therapy for any given client (e.g., some clients may have received more interpretations, whereas others received fewer interpretations). We focus our attention on how to model the within-client/therapist dyad variability in adherence ratings over the course of treatment as a predictor of therapy outcomes between clients. For simplicity, we refer to *within-client/therapist dyad variability in adherence ratings* as *within-case variability* hereafter.

The within-case adherence variability are those changes in techniques over the course of treatment for any given client–therapist dyad, relative to their own norm. To illustrate this point, we created a hypothetical adherence example in Figure 1. In this figure, the adherence rating scale ranges from 0 (*less adherence*) to 100 (*more adherence*), with a population mean of 50 and standard deviation of 10. The mean adherence score over the 10 sessions for both hypothetical client–therapist dyads is 54. However, Client–Therapist Dyad 1 has larger variability, whereas Client–Therapist Dyad 2 has rather consistent scores over the course of treatment. It could be that this within-case variability in adherence reflects something meaningful about that therapy experience, which could differentiate between more or less successful outcomes. In other words, we can use within-case variability in adherence as a potentially meaningful predictor for differences between clients in their outcomes.

Conceptually, treatment adherence is a process variable, in that therapists and clients participate in theory-specific interventions and these interventions can vary on the basis of clients' needs and can also fluctuate over the course of treatment. As is the case with other process variables, the unique client–therapist interactions and/or client factors (i.e., within-therapist effects) account for a sizable proportion of the variance in adherence ratings (e.g., 12% to 69%; Imel, Baer, Martino, Ball, & Carroll, 2011; Owen & Hilsenroth, 2011). In other words, even in treatments that are theory specific (e.g., psychodynamic, cognitive, motivational interviewing), clients may experience different levels of techniques and this variability can occur across therapy (Imel et al., 2011).

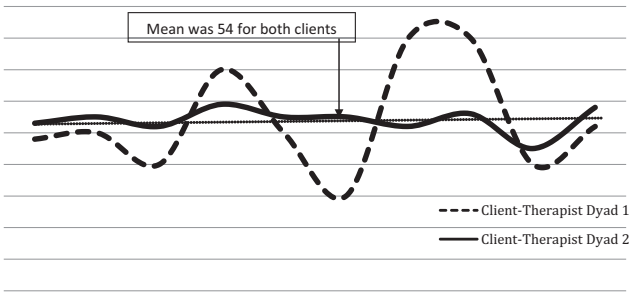

Figure 1. Hypothetical within-client variability in adherence measure with a sample mean of 50 and standard deviation of 10.

Within-case adherence variability corresponds with clinical wisdom, insofar as therapists commonly vary in their use of techniques for a variety of reasons over the course of therapy. For example, there is evidence that flexibility in treatment approaches is beneficial (e.g., Galovski, Blain, Mott, Elwood, & Houle, 2012; McCullough et al., 2003) as well as calls for therapists to be responsive to their clients' needs by adjusting their treatment approach (e.g., sometimes it might be best to increase exploration or behavioral interventions and at other times it might be best to decrease exploration or behavioral interventions with clients; Stiles, 2009; Stiles, Honos-Webb, & Surko, 1998; Wampold, 2001). Yet, within-case variability in adherence ratings may not be a positive sign in therapy. For example, within-case variability in adherence could reflect therapists' lack of skills or knowledge for how to proceed with clients, which could be more evident as therapists learn new approaches to therapy. In fact, some have suggested that the achievement of stable, uniform, and consistent adherence across many sessions is preferable (Crits-Christoph et al., 2011; Dennhag et al., 2013; Wasserman, Levy, & Loken, 2009). If true, the within-case variability in adherence is likely not intended to be beneficial and could be negatively associated with outcomes.

Additionally, fluctuations in adherence could be the result of varying levels of client motivation, receptivity, or resistance to interventions. That is, some clients may respond more quickly and positively to certain treatment techniques, ultimately leading to less focus on these areas for intervention, compared with those clients who respond more slowly and require sustained focus (Stiles, 2009, 2013). Further, the actions of some clients in session (e.g., treatment ruptures) and between sessions (e.g., dangerous acting-out behavior) may compel their therapists to appropriately adapt their focus and technique. Last, within-case variability in adherence could reflect unexpected environmental stressors (e.g., car accident, unanticipated injury or death of a loved one) or random fluctuations and thus be nothing more than noise or error in the model.

The within-case variability in adherence might also reflect a process in which client–therapist dyads are working collaboratively on finding the most appropriate ways to reach treatment goals. This process is commonly associated with the alliance (Goldman, Hilsenroth, Owen, & Gold, 2013; Hilsenroth, Cromer, & Ackerman, 2012; Horvath, Del Re, Flückiger, & Symonds, 2011; Owen, Reese, Quirk, & Rodolfa, 2013). For example, therapists commonly adjust their treatment approach to address a myriad of clinical situations, such as ruptures in the therapeutic relationship or lack of progress on symptom change (Constantino, Boswell, Bernecker, & Castonguay, 2013). The within-case variability in adherence could be related to, yet still distinct from, aspects of the working alliance, wherein clients and therapists work collaboratively in the use of therapeutic methods to reach clients' goals (Horvath et al., 2011; Kolden, Klein, Wang, & Austin, 2011; Tryon & Winograd, 2011). Consequently, it may be

[1] There could also be variability in adherence ratings because of the relational dynamic between the client and therapist, which is difficult to disentangle from between-client (or within-therapist) effects (see Kenny, Kashy, & Cook, 2006).

important to ensure that the within-case variability adherence–outcome association is not better accounted for by the alliance.

This prior work leads us to question whether within-case variability in adherence reflects something meaningful about the therapy experience that might differentiate between more or less successful outcomes. That is, we are interested in how therapist flexibility in the use of technique at the individual case level (within case) would predict client outcomes across therapists (between client). Would those therapists who demonstrate more technique flexibility across a given treatment also have better treatment outcomes for their entire caseload in relation to therapists who were less flexible in technique at an individual case level? Specifically, we hypothesize that within-case variability in psychodynamic interventions will be positively associated with therapy outcomes. We additionally hypothesize that within-case variability in psychodynamic interventions will predict therapy outcomes over and above client-rated alliance, between-client variability in psychodynamic intervention scores, and variability in therapy outcomes attributed to the therapist.

Method

Participants

Seventy clients (74% women, 26% men; M_{age} = 29.8 years, *SD* = 11.00) received psychodynamic psychotherapy at a university-based community outpatient clinic. Clients were included in treatment regardless of disorder or comorbidity (see Hilsenroth, 2007, for a review). Primary Axes I and II diagnoses were made in accordance with the *Diagnostic and Statistical Manual of Mental Disorders* (4th ed.; American Psychiatric Association, 1994). This sample consisted primarily of mood disordered patients (i.e., depressive syndromes; 66.5%) with relational problems manifested in either Axis II personality disorders (56%) or subclinical traits or features of Axis II personality disorders (27%), generally in the mild to moderate range of psychopathology.

Therapists

The therapists were 28 advanced doctoral students (13 men and 15 women) enrolled in an American Psychological Association–approved clinical doctoral program. Each therapist received a minimum of 3.5 hr of supervision per week (1.5 hr of individual supervision and 2 hr of group supervision) on a therapeutic model of assessment (TMA; Finn & Tonsager, 1997; Hilsenroth, 2007), clinical interventions, organization of collaborative feedback, psychodynamic theory, and review of videotaped case material. All therapists were trained in psychodynamic assessment, case formulation, and psychotherapy (see Hilsenroth, 2007). On average, therapists treated 2.5 clients (range: 1–4).

Procedure

Cases were assigned to therapists on the basis of therapists' availability. After case assignment, patients received a psychological evaluation based on the TMA (Finn & Tonsager, 1997; Hilsenroth, 2007). The TMA is a multimethod assessment that includes an initial interview as well as completion of self-report and free response measures. In this process, the therapists worked collaboratively with patients to develop an empathic connection (i.e., alliance fostering) and to develop an understanding regarding factors contributing to the maintenance of life problems (often relational). Additionally, they worked to develop treatment goals and negotiate an explicit treatment frame (i.e., scheduling session times, frequency of treatment sessions, and payment plan). Further, the therapist shared and explored the results from the assessment with patients. The final aspect of the TMA was to emphasize the prominent inter- and intrapersonal themes derived from the testing results, the therapist–patient interaction, and factors that contribute to the maintenance of life problems, as well as an opportunity to explore these new understandings and apply them to their current problems in living. The patient and therapist also reviewed a socialization interview developed by Luborsky (1984) on what to expect in psychodynamic psychotherapy, such as the patient's and therapist's roles during treatment (i.e., focusing on relational processes), interpersonal learning (i.e., insight), and outlines potential reactions (both positive and negative) to this new insight and information.

Treatment consisted of once or twice weekly sessions of psychodynamic psychotherapy treatment organized, aided, and informed by the technical guidelines delineated in the treatment manuals cited below. Key features of the psychodynamic treatment model used in these sessions included (a) focus on affect and the expression of emotion; (b) exploration of attempts to avoid topics or engage in activities that may hinder the progress of therapy; (c) the identification of patterns in actions, thoughts, feelings, experiences, and relationships; (d) emphasis on past experiences; (e) focus on interpersonal experiences; (f) emphasis on the therapeutic relationship and alliance; and (g) exploration of wishes, dreams, or fantasies. In addition to these areas of treatment focus, any relational patterns, case presentations, and symptoms are conceptualized in the context of cyclical patterns (e.g., Luborsky, 1984; McCullough et al., 2003; Strupp & Binder, 1984; Wachtel, 1993). Also, the Safran and Muran (2000) model of intervention was used for treatment ruptures and their repair as they occurred in the therapeutic relationship.

Treatment was open-ended in length rather than of a fixed duration. All sessions of these treatments were videotaped. Patients included in the present analyses had attended a minimum of nine sessions and had completed, at least, a ninth session reassessment battery. Mean number of sessions attended by these 70 patients was 27.5 sessions over an average of nine months (*Mdn* = 21). In all cases, the therapist who carried out the psychological assessment also conducted the formal psychotherapy sessions. The study was approved by a university institutional review board.

Measures

Brief Symptom Inventory (BSI). The BSI (Derogatis, 1993) is a patient-rated symptomatic checklist addressing issues such as somatic complaints, obsessive-compulsive behaviors or thoughts, interpersonal sensitivity, depression, anxiety, hostility, phobic reactions, paranoia, and psychotic thought processes using a 5-point scale ranging from 0 (*not at all*) to 4 (*extremely*). This measure contains a summary score, the Global Severity Index (GSI), that is considered the best single indicator of the current level of symptomatic distress. Patients' baseline scores on the GSI were adjusted

to control for the effects of regression to the mean. To control for baseline scores' regression to the mean, we calculated adjusted baseline scores using the formula suggested by Speer (1992): Adjusted baseline score = $[r_{xx}(X - M)] + M$, where r_{xx} represents the test–retest reliability of an assessment instrument, X represents a patient's individual score on the assessment instrument at the baseline measurement point, and M represents the mean score for all patients on the assessment instrument at the baseline measurement point. These adjusted baseline scores were then used to calculate a reliable change index score (RCI; Jacobsen & Truax, 1991) for the GSI:

$$\text{GSI-RCI} = [\text{Adjusted baseline GSI} - \text{Last session-GSI}]/\text{Standard difference},$$

where the standard difference = $\sqrt{[2^*(\text{standard error}^2)]}$. The RCI is a continuous variable that represents the amount of change accounting for measurement error and regression to the mean. The pre- and posttreatment GSI means for the sample were 1.40 (SD = 0.58) and 0.70 (SD = 0.62), respectively (t = 4.40, $p < .001$, d = 1.2), reflective of significant, large effect changes in global symptomatology during the course of treatment.

Patient Estimate of Improvement (PEI; Hatcher & Barends, 1996). The PEI is 16-item questionnaire assessing improvement during psychotherapy across a broad range of patient functioning (i.e., beyond only symptomatic change). This measure is modeled after items developed by Alexander and Luborsky (1986) to assess the degree of the patient's change that was due to psychotherapy. Questions assess change in one's general functioning, symptom distress, intimate and social relationships, work or school, feelings about oneself, behavior, control of life, and tolerance for and ability to share painful feelings, as well as the helpfulness, benefit, productivity, and satisfaction resulting from psychotherapy. Fourteen of these items were rated on a 9-point bipolar scale ranging from 1 (*very much worse*) to 9 (*very much better*), with 5 representing *no change*; one item ("To what extent have your original complaints or symptoms improved?") was rated on a 7-point scale ranging from 1 (*not at all*) to 7 (*very much*), with 4 representing *moderately*; and one free-response item (not analyzed here) asked the participant about the treatment. This measure has demonstrated internal consistency estimates over .90, and there have been positive associations with pre- and postchange measures of symptom functioning in therapy (e.g., Hook, Davis, Owen, & Worthington, 2013; Owen & Hilsenroth, 2011). Patients' posttherapy ratings on this measure were M = 104.72, SD = 13.04.

Combined Alliance Short Form–Patient Version (CASF-P). The CASF-P (Hatcher & Barends, 1996) is a patient-rated alliance measure created from a factor analysis the responses of 231 outpatients at a university-based community clinic from three widely used measures of alliance. The CASF-P consists of 20 items rated on a 7-point scale ranging from 1 (*never*) to 7 (*always*). Previous research has supported the reliability (e.g., α = .91 for the total score) and validity of this measure using a subset of the current participants (Ackerman, Hilsenroth, Baity, & Blagys, 2000). Patients were informed, both verbally and in writing, that their therapist would not have access to their responses on any psychotherapy process measure (i.e., alliance). We used the ninth session CASF-P scores as a control variable.

Comparative Psychotherapy Process Scale (CPPS). The CPPS is based on the findings of two empirical reviews of the comparative psychotherapy process literature (Blagys & Hilsenroth, 2000; Hilsenroth et al., 2005). It is a brief descriptive measure designed to assess therapist activity and techniques used and occurring during the therapeutic hour. On the basis of these reviews, a list of interventions was developed from the empirical literature that represents characteristic features of psychodynamic-interpersonal (PI) and cognitive-behavioral (CB) treatments. The measure consists of 20 randomly ordered techniques rated on a 7-point scale ranging from 0 (*not at all characteristic*) to 6 (*extremely characteristic*). Ten statements are characteristic of PI interventions (CPPS-PI; e.g., "The therapist focuses discussion on the relationship between the therapist and patient") and 10 statements are characteristic of CB interventions (CPPS-CB; e.g., "The therapist suggests specific activities or tasks [homework] for the patient to attempt outside of session").

The reliability and clinical validity of the CPPS has been well established (see Hilsenroth, 2007). We have recently reported (Hilsenroth et al., 2005; Stein, Pesale, Slavin, & Hilsenroth, 2010) on the excellent interrater reliability and internal consistency of the CPPS, as well as validity analyses conducted across several different contexts and samples. The CPPS data we use in the current study is derived from these reports, follows procedures detailed there, and is rated by trained external raters who have demonstrated the ability to rate these individual techniques in the good (intraclass correlation coefficient = .60–.74; Fleiss, 1981) to excellent range (.75; Fleiss, 1981). Several sets of external raters demonstrated good to excellent reliability on the CPPS for the sessions used in the current study (Stein et al., 2010). Videotapes of treatment sessions for each patient were arranged in random order and entire sessions were independently viewed and coded by two raters who were graduate students in clinical psychology. Immediately after viewing a videotaped session, judges independently completed the CPPS; each subscale (PI and CB) was coded in random order. Regular reliability meetings were held during the coding process to prevent rater drift (for a more detailed description of this rater training process, see Stein et al., 2010).

In the current study, we used the CPPS-PI subscale, which was based on independent clinic ratings of videotape from the third, ninth, and termination phase sessions (where 90% of the treatment was completed). The means for PI and CB at Session 3 were, for PI, M = 32.72, SD = 6.97, and for CB, M = 12.44, SD = 5.46; at Session 9 were, for PI, M = 34.74, SD = 8.25, and for CB, M = 10.52, SD = 4.35; and at the termination phase session were, for PI, M = 33.65, SD = 7.93, and for CB, M = 11.04, SD = 5.17. The differences between PI and CB at all time points were statistically significant, ts > 18.00, ps < .001, ds > 4.0. Accordingly, the treatment was characteristically psychodynamic in focus and scores on the CPPS-PI were approximately at the midpoint of the rating scale. Coefficient alphas for the CPPS-PI and CPPS-CB scales in this study were .80 and .72, respectively, at the third session; .83 and .73, respectively, at the ninth session; and .80 and .75, respectively, at the termination phase session.

Analytical Considerations

First, to determine the variability within cases in PI scores, we calculated variance around the predicted regression line for each

client, when PI scores were regressed over time.[2] In other words, this score reflects the amount of variability in PI scores over the course of therapy (third, ninth, and termination phases) for each client. We refer to this score as the *PI within-case variability* hereinafter.

Second, we tested whether PI within-case variability was associated with therapy outcomes. Multilevel models were conducted to address the interdependency in the data. That is, some clients (at Level 1) were treated by the same therapist (at Level 2). In Models 1 and 2, we predicted GSI-RCI and PEI scores by PI within-case variability (at Level 1, grand mean centered), with no other predictors. Specifically, the combined equation was

$$\text{GSI/PEI} = y_{ij00} + y_{ij10}(\text{PI within-case variability}) + [e + u_0],$$

where y_{ij00} is the intercept for client i treated by therapist j, y_{ij10} is the association between PI within-case variability and therapy outcomes for client i who was treated by therapist j. The brackets denote error terms wherein therapy outcomes were allowed to vary across therapists (random intercept).

Next, we wanted to account for the general level of PI techniques clients received. To do so, we added the aggregate level of PI techniques experienced over the course of therapy (at Level 1, grand mean centered). Thus, the combined models for Models 3 and 4 are

$$\text{GSI/PEI} = y_{ij00} + y_{ij10}(\text{PI within-case variability}) + y_{ij20}(\text{PI average score}) + [e + u_0].$$

In this model, the y_{ij20} reflects the association among the average PI client score and therapy outcomes for client i who was treated by therapist j. Accordingly, this model tests whether the PI within-case variability scores were related to therapy outcomes after accounting for the average amount of PI techniques over the course of therapy.

Last, we conducted two final models, in which we added ninth session alliance scores (at Level 1, grand mean centered) to the equation. This was done to determine whether PI within-case variability scores were related to therapy outcomes after accounting for alliance scores. Specifically, the combined equation was

$$\text{GSI/PEI} = y_{ij00} + y_{ij10}(\text{PI within-case variability}) + y_{ij20}(\text{PI average score}) + y_{ij30}(\text{alliance}) + [e + u_0],$$

where y_{ij03} is the association between alliance scores at ninth session and therapy outcomes for client i who was treated by therapist j. We also calculated the changes in pseudo-R^2 for Level 1 variance by [Level 1 variance in Model A (Baseline Model, no predictors) − Level 1 variance in Model B (PI within-client variability only predictor)/Level 1 variance in Model A] (Raudenbush & Bryk, 2002). Analyses were conducted using HLM 6.0 (Raudenbush, Bryk, Cheong, & Congdon, 2005).

Results

Table 1 presents the bivariate correlations for PI within-case variability, average PI, and alliance and therapy outcomes, without accounting for the nested structure of the data. The bivariate correlations demonstrated that PI within-case variability was significantly correlated with GSI-RCI (r = .414) and PEI scores (r = .317), suggesting that PI within-case variability accounted for approximately 10%–17% of the variance in therapy outcomes. However, the average amount of PI over the course of treatment was not significantly associated with GSI-RCI (r = .214) or PEI (r = .173). Client-rated alliance was significantly associated with PEI (r = .547) but not GSI-RCI (r = .110).

Table 1
Bivariate Correlations for PI Within-Client Variability, PI Average Techniques, Alliance, and Therapy Outcomes

	GSI-RCI		PEI	
	r	*p*	*r*	*p*
PI within-client variability	.414	.001	.317	.009
Average PI	.214	.079	.173	.153
Client alliance, 9th session	.110	.371	.547	<.001

Note. PI = psychodynamic-interpersonal techniques; GSI-RCI = reliable change estimate score on the Global Severity Index; PEI = Patient Estimate of Improvement. N = 70 clients, 28 therapists.

Next, we tested our models in a multilevel modeling context.[3] The results demonstrated that PI within-case variability was a significant predictor of GSI-RCI and PEI, after controlling for the variance in therapy outcomes attributed to therapists (see Table 2). We examined the reduction of variance in the Level 1 random effects from the baseline model to the model where PI within-case variability was added to model. The variance explained in GSI-RCI was 10.09% and in PEI was 11.24%. These estimates are consistent with those found above in the bivariate correlations.

When we added PI average score to the model, the results for PI within-case variability were still significantly associated with both outcomes (i.e., GSI-RCI or PEI). Moreover, PI average score was not significantly associated with therapy outcomes with either GSI-RCI or PEI. Last, when ninth session alliance was added to the model, the results showed that PI within-case variability continued to be significantly associated with GSI-RCI, which is likely due to the nonsignificant association between alliance and GSI-RCI.[4] Yet, the association between PI within-case variability and PEI remained to be significant when alliance was entered into the model.[5]

Discussion

We tested the association between treatment adherence and therapy outcomes in a novel way, wherein within-case variability in adherence was disentangled from the average amount of techniques used in treatment. To date, most studies examine only the degree to which adherence is associated with therapy outcomes (Webb et al., 2010). More specifically, the results supported the positive association between within-case variability in PI ratings

[2] There was no significant linear change in PI scores (b = 0.46, p = .48).
[3] The therapist intraclass correlation coefficients for therapy outcomes, PEI and GSI-RCI, were .37 and .17, respectively.
[4] The results were consistent when third session alliance scores were used.
[5] The results were consistent when we predicted GSI posttreatment symptomatic distress scores after controlling for GSI pretreatment symptomatic distress scores.

Table 2
Summary of Multilevel Models Predicting Therapy Outcomes by Within Variability, Average PI, and Alliance

Predictor	GSI-RCI				PEI			
	Model 1	Model 2	Model 3	Model 4	Model 1	Model 2	Model 3	Model 4
Fixed								
Intercept	1.46*** (.29)	1.43*** (.28)	1.44*** (.28)	1.44*** (.28)	104.85*** (1.98)	104.62*** (1.96)	104.58*** (1.86)	104.26*** (1.50)
PI-within		0.03*** (.01)	0.03*** (.01)	0.03*** (.01)		0.12** (.04)	0.12*** (.03)	0.08*** (.02)
PI-average			0.07† (.04)	0.07† (.04)			0.28 (.22)	0.33† (.17)
Alliance ninth session				0.21 (.34)				11.14*** (1.52)
Random								
Level 1	4.26	3.83	3.60	3.72	109.06	96.80	101.06	74.78
Level 2	0.64	0.41	0.46	0.44	66.23***	66.84***	56.85***	32.71***

Note. PI = psychodynamic-interpersonal techniques; GSI-RCI = reliable change estimate score on the Global Severity Index; PEI = Patient Estimate of Improvement. Values reported in the table are estimates; standard errors appear in parentheses. $N = 70$ clients, 28 therapists.
† $p < .10$. ** $p < .01$. *** $p < .001$.

and therapy outcomes, both symptom change (i.e., GSI) and a broad range of patient functioning (i.e., PEI). These associations were evident even after controlling for alliance scores, the general levels of PI techniques across treatment, and the variability in therapy outcomes attributed to the therapist. In particular, PI within-case variability accounted for approximately 10%–11% of the variance in therapy outcomes. These estimates are larger than the aggregate association between adherence and outcome found in Webb et al.'s (2010) meta-analysis (<1%) and larger than the average level of PI techniques in the current study (i.e., 3%–4.5%). Moreover, the PI within-case variability estimates are generally more consistent, and slightly larger in some cases, with the variance accounted for in therapy outcomes by common factors, such as the alliance, congruence, and collaboration (Crits-Christoph, Gibbons, Hamilton, Ring-Kurtz, & Gallop, 2011; Horvath et al., 2011; Kolden et al., 2011; Tryon & Winograd, 2011).

These findings raise the question, "Why is within-case variability in adherence associated with better therapy outcomes?" Although our study does not allow for firm conclusions, we propose *adherence flexibility* as a potential explanation. That is, adherence flexibility could reflect therapists' efforts to be responsive to the emerging context of the therapy session as well as the needs of clients by increasing or decreasing theory-specific techniques (e.g., Constantino et al., 2013; Frank & Frank, 1991; Stiles, 2009, 2013; Stiles et al., 1998; Wampold, 2001). Additionally, it could be the hallmark of effective therapist–client dyads that they need to adjust their approach in treatment (Castonguay, Goldfried, Wiser, Raue, & Hayes, 1996; Goldfried, Raue, & Castonguay, 1998; Schut et al., 2005).

How and why might the therapist be flexible in a given session? One possibility is that interventions from different therapeutic approaches may be integrated within the predominant treatment model of the therapist. For instance, Gold and Stricker (2001, 2012) suggested that integration and an assimilative use of cognitive–behavioral techniques within a psychodynamic framework can indicate an important responsiveness that may lead to beneficial treatment process and outcomes. In overlapping samples with the current data, we found support for this assimilative model in that psychodynamic therapists who were more collaborative in identifying specific goals and explicitly defining the focus of the treatment with their patients, as well as providing a clear rationale for their model, facilitated a stronger therapeutic alliance specific to patient confidence in and agreement with the treatment process (Goldman et al., 2013). In addition, it seems as though clients with comorbid depression and borderline pathology benefitted from the integration of more structure and CB interventions at the beginning of treatment (i.e., third session) with increasing amounts of psychodynamic technique through the ninth session (Hilsenroth, DeFife, Blake, & Cromer, 2007; Hilsenroth & Slavin-Mulford, 2008; see also Yeomans et al., 1994).

Another possible explanation for the flexibility of technique in the current data could be related to the therapist training and use of the Safran and Muran (2000) model to address treatment resistance, rupture, and repair. Key to this model is a focus on the in-session, here-and-now therapeutic relationship (i.e., *therapeutic immediacy*), and research on this sample has demonstrated important insights into this process (Kuutmann & Hilsenroth, 2012). Related, therapist flexibility in technique may have to do with different client characteristics or presenting problems. For instance, with some clients, more techniques may be needed because they are less motivated or more distressed, whereas other clients may need fewer techniques as they are more motivated, are more insightful, or are doing better (Høglend et al., 2011; Imel et al., 2011; Stiles, 2013). Kuutmann and Hilsenroth (2012) found that clients within this sample who had a cold/distant interpersonal style or low levels of self-esteem received more here-and-now focused interventions discussing the patient–therapist relationship across two early treatment sessions and experienced subsequent improvements in these same interpersonal and self-esteem outcomes. Likewise, Mullin and Hilsenroth (in press) have identified different aspects of client object representations (cognitive–affective schemas) from this project data that correspond with higher or lower levels of psychodynamic and cognitive-behavioral technique across early treatment. While the reasons for therapist flexibility in technique are undoubtedly multifactored and complex, we suspect that technique integration across different therapeutic models, greater engagement or ruptures in the treatment process, as well as client characteristics, will offer fruitful avenues to further explain why such shifts in adherence may ultimately benefit treatment outcome.

Our results also suggest caution should be used when interpreting within-case variability in adherence as a lack of technical skills or knowledge on the part of the therapist, and that such variability will be negatively associated with outcomes. We suggest that

greater care be given to the conceptual meaning offered by aggregation analyses of psychotherapy session process (i.e., complex relational-affective interactions between two people), the implications of which may be somewhat different from reliability estimates of measurement scales (i.e., item-level analyses) or individual personality trait evaluations. It may not be the case that asymmetrical fluctuations in session process ratings are problematic, and such differences across sessions may even be quite important with regard to eventual outcomes (Aderka, Nickerson, Bøe, & Hofmann, 2012; Flückiger, Grosse Holtforth, Del Re, & Lutz, 2013). Thus, even within the same therapist–client dyad, all psychotherapy sessions may not be created equal, nor should they be expected to be. However, we do not mean to suggest that the assessment of minimum levels of adherence is unimportant in determining requisite levels of training. Rather, it may be best to consider optimal levels of adherence of a particular therapist, from a particular treatment model, with a particular client in regard to outcome as a bandwidth (i.e., confidence interval) rather than assuming that greater adherence to a given treatment model will lead to better outcomes. On a related note, we believe the concept of therapist competence would be best reconceptualized, operationally defined, and subsequently coded as the ability of the therapist to most appropriately and effectively guide this within-case adherence flexibility (i.e., tact and timing) and look forward to future research that might examine this issue further.

When considering the merits of the study, it is important to take into consideration some methodological contexts. First, the therapists were in training, which may have increased the variability in adherence scores. However, in other studies, the variability within case for adherence ratings was of similar magnitude (Imel et al., 2011). Nonetheless, this is the first study to explore treatment adherence in this manner and, like all hypotheses, needs replication. Additionally, the current study reflects one treatment approach, psychodynamic, and adherence was rated according to one measure. As such, it is unclear whether our results would generalize to adherence variability in other treatment approaches or with other measures of adherence. Also, PI within-case variability scores were based on three observations across the course of therapy; thus, we do not know whether these sessions are representative of changes in adherence at different points in therapy. Clearly, there is a balance between the number of ratings and the resources needed to adequately code this many sessions. Most adherence studies do not have more than two ratings of adherence, with a large majority only having one (Webb et al., 2010). Additionally, the variability of the adherence within the sessions and the timing of the in-session adherence were not addressed in this study. Although we had 28 therapists in this study, the number of clients per therapist was low. This inhibited our ability to test whether between-therapist variability in adherence scores was also associated with therapy outcomes. Further, as with the alliance at the ninth session and the ratings of techniques, these are only snapshots of a larger therapeutic process, and many things can change that are not reflected in these scores. Last, the current sample consisted only of those who completed treatment (i.e., had more than nine sessions). This was done to have at least three ratings of technique to calculate the within-client variability. Future studies may want to code more sessions and do so earlier in treatment to determine whether within-case variability in adherence is associated with treatment dropout.

In summary, our study demonstrated that within-case variability in adherence ratings was positively associated with therapy outcomes in psychodynamic treatment. Accordingly, adjusting the intensity of technique use in therapy may be beneficial to treatment outcomes. Yet, many other questions remain that could be helpful in guiding future studies. Do therapists intentionally provide more or less active focus on techniques? Are they compelled to do so by patients' in-session narratives and behavior? It is likely that the answer is an interaction of the two, that affect each other continuously in a cyclical manner. Nonetheless, therapists may want to (a) be mindful of the stability and fluctuations in their use of techniques over the course the treatment, (b) consider whether the intensity of techniques may need to be increased or decreased to help clients, and (c) be flexible in their approach with techniques regardless of any mandate from a specific treatment model. Simply put, a responsive ebb and flow of techniques over the course of treatment can be a positive sign leading to good therapy outcomes.

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