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Therapist Use of Socratic Questioning Predicts Session-to-Session Symptom Change in Cognitive Therapy for Depression

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Abstract

Socratic questioning is a key therapeutic strategy in cognitive therapy (CT) for depression. However, little is known regarding its relation to outcome. In this study, we examine therapist use of Socratic questioning as a predictor of session-to-session symptom change. Participants were 55 depressed adults who participated in a 16-week course of CT (see Adler, Strunk, & Fazio, 2015). Socratic questioning was assessed through observer ratings of the first three sessions. Socratic ratings were disaggregated into scores reflecting within-patient and between-patient variability to facilitate an examination of the relation of within-patient Socratic questioning and session-to-session symptom change. Because we examined *within-patient* variability in Socratic questioning, the identification of such a relation cannot be attributed to any stable patient characteristics that might otherwise introduce a spurious relation. Within-patient Socratic questioning significantly predicted session-to-session symptom change across the early sessions, with a one standard deviation increase in Socratic-Within predicting a 1.51-point decrease in BDI-II scores in the following session. Within-patient Socratic questioning continued to predict symptom change after controlling for within-patient ratings of the therapeutic alliance (i.e., Relationship and Agreement), suggesting that the relation of Socratic questioning and symptom change was not only independent of stable characteristics, but also within-patient variation in the alliance. Our results provide the first empirical support for a relation of therapist use of Socratic questioning and symptom change in CT for depression.

Keywords

Socratic questioning; therapeutic alliance; cognitive therapy; depression

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In the treatment of depression, cognitive therapy (CT) has considerable evidence for its efficacy (Strunk & DeRubeis, 2001). Compared to antidepressant medication, CT yields comparable response rates following acute treatment and a lower risk of relapse after discontinuation of both treatments (Hollon et al., 2005). Also, there is promising evidence for the effectiveness of CT in routine clinical settings (Gibbons et al., 2010). Nonetheless, the mechanisms of symptom change in CT remain unclear (Garratt, Ingram, Rand, & Sawalani 2007). In this paper, we evaluate one set of therapist behaviors widely thought to be critical to the successful delivery of CT: Socratic questioning. Utilizing a sample of patients treated by therapists recently trained in CT, we examine the relation between therapist use of Socratic questioning and session-to-session symptom change.

Although experts widely regard Socratic questioning as a key element of CT (Beck et al., 1979; Beck, 1995; Roth & Pilling, 2007), the role of Socratic questioning has received little empirical attention. To date, we know of only one published study that aimed to examine therapist use of Socratic questioning empirically (Calero-Elvira, Froján-Parga, Ruiz-Sancho, & Alpañés-Freitag, 2013). In a sample of seven patients that received treatment from a single cognitive behavioral therapist, verbal statements of reinforcement or punishment were associated with respective increases or decreases in treatment-specified patient verbal behavior during Socratic dialogue. Although these findings highlight the potential therapeutic value of therapists' interaction style, this study did not assess therapist use of questioning during such Socratic dialogues, nor did it assess the relation of these therapist behaviors with symptom change.

Socratic questioning involves therapists asking a series of graded questions to guide patient behavior and thought processes toward therapeutic goals. Therapists guide patients in an effort to help them develop and implement the skills emphasized in treatment (e.g., developing alternative responses to negative automatic thoughts; Beck et al., 1979; Beck, 1995; Calero-Elvira et al., 2013; Overholser, 1993). In using Socratic questioning, therapists avoid a didactic style and instead use questions to help patients develop new perspectives (Overholser, 2011; Padesky, 1993). Socratic questioning is intended to foster active engagement and critical thinking, thereby aiding in the learning process (Neenan, 2009). While evidence for the facilitation of learning is limited in the context of psychotherapy, others have suggested that styles of interaction involving a reliance on questioning and seeking input may have advantages in the context of persuasion and negotiation (Grant, 2013).

In using Socratic questioning, experts typically emphasize the use of open-ended questions aimed at helping patients to consider new sources of information or to adopt broader perspectives (Overholser, 2010; Padesky, 1993). The importance of using a Socratic approach has been emphasized, with experts suggesting that the use of this approach helps patients to take new perspectives, use cognitive therapy skills, and experience improvements in depressive symptoms (Neenan, 2009; Overholser, 2011; Padesky, 1993). Even outside of CT, Socratic questioning is a key strategy in several psychotherapies, perhaps most notably Motivational Interviewing (Miller & Rollnick, 2012). However, not all psychotherapy developers have shared the same view on Socratic questioning. For example, relative to cognitive therapy, Rational Emotive Behavior Therapy is characterized by a particular

emphasis on the utility of a didactic approach (Beck, et al., 1979; Ellis & Dryden, 1997; Ellis & Grieger, 1977). Although the value of using a Socratic or didactic approach has been discussed in the literature since the development of cognitive behavioral therapies (Beck et al., 1979; Ellis & Grieger, 1977), there is little empirical evidence regarding the issue.

Although research on Socratic questioning has been limited, a number of studies have examined the role of other, conceptually related, therapist behaviors in a successful course of CT for depression. One closely related variable is therapist adherence to the CT manual. A recent meta-analysis suggested that adherence was not related to outcome, but that estimates of this relation exhibited considerable heterogeneity (Webb, DeRubeis, & Barber, & 2010). Key methodological differences may help to explain this variability. However, only a handful of studies have used the most informative methods (Pfeifer & Strunk, in press). In addition, this meta-analysis collapsed across all therapist behaviors that reflect adherence. Existing CT adherence measures do not include more than a single item assessing the use of Socratic questioning, and that item is summed with other adherence items. Thus, despite a number of studies examining adherence in CT, very little is known about Socratic questioning specifically.

In this study, we examine the relation of therapist use of Socratic questioning and session-to-session symptom change in CT for depression. As we detail under “Analytic Approach” in the Methods section, we use a session-to-session strategy (Strunk et al., 2010; 2012), in which we examine Socratic questioning as a predictor of depressive symptoms at the next session while controlling for depressive symptoms at the current session (i.e., a regressed symptom change approach). This approach is well suited to capture the relatively immediate (i.e., between session) effects of process variables identified in other studies of CT (Tang & DeRubeis, 1999). We focused on early sessions for two reasons. First, the rate of symptom change appears to be greatest early in treatment (Tang & DeRubeis, 1999; Kelly, Roberts, & Ciesla, 2005). Second, we suspect the causal impact of Socratic questioning would be greatest early in treatment, when establishing client engagement may be particularly critical. Following suggestions for analyzing panel data from Curran and Bauer (2011), we disaggregated the raw Socratic process scores into scores reflecting within-patient and between-patient variability (described more fully in the “Analytic Approach” section), allowing us to effectively control for all *stable* between-patient differences by focusing on the potential relation of within-patient Socratic questioning and session-to-session symptom change.

Method

Participants

Participants were 67 depressed outpatients who participated in a 16-week course of CT as part of a separate study (see Adler, Strunk, & Fazio, 2015). As our analyses require at least 3 observations (i.e., 3 sessions) per patient for each predictor variable and outcome data through session 4 (described in the Analytic Approach section), some patients were necessarily excluded. One patient discontinued treatment prior to the first session. In addition, 11 patients began treatment, but dropped out prior to session 3. Thus, the final sample size was reduced to 55 patients. These 55 patients were largely Caucasian (89%);

with 9% being African American and 2% Asian; 53% were women. Ages ranged from 18–69 years ($M = 37.1$, $SD = 13.9$).

In light of the data requirements of our analytic strategy, 12 patients had inadequate data for our primary analyses. To examine potential differences between the patients who had vs. the patients who did not have adequate data for being included in our analyses, we tested for differences across these groups on intake depressive symptoms and three process variables assessed at session 1 (where the number of dropouts was the lowest). On the basis of the Beck Depression Inventory-II scores, included and excluded patients did not differ in depressive symptoms at intake ($p = .24$). Across two facets of the therapeutic alliance and therapist use of Socratic questioning assessed at session 1, included and excluded patients did not differ (all $ps > .18$).

Inclusion criteria were: (a) diagnosis of major depressive disorder (MDD), according to DSM-IV criteria (APA, 1994); (b) 18 years or older; and (c) able and willing to give informed consent. Exclusion criteria were: (a) history of bipolar affective disorder or psychosis; (b) current Axis I disorder other than MDD if it constituted the predominant aspect of the clinical presentation and if it required treatment other than that being offered; (c) subnormal intellectual potential (IQ below 80; assessed only when clinically indicated); (d) evidence of any medical disorder or condition that could cause depression; (e) clear indication of secondary gain (e.g., court ordered treatment or compensation issues); and (f) current suicide risk sufficient to preclude treatment on an outpatient basis. All patients on medication (33%) agreed to maintain a stable dose over the course of treatment.

Measures

Diagnostic—The Structured Clinical Interview for the DSM-IV Axis I disorders (SCID-I; First, Spitzer, Gibbon, & Williams, 2002) was used to assess Major Depressive Disorder (MDD). The reliability for a diagnosis of current MDD, based on double-ratings for 12 cases, was excellent ($\kappa = 1.00$; see Adler, Strunk, & Fazio, 2015).

Depressive Symptoms—To assess depressive symptom severity, we used the 21-item self-report Beck Depression Inventory-II (BDI-II; Beck, Steer, & Brown, 1996), at the intake evaluation and at the beginning of each therapy session. The BDI-II is a commonly used measure to assess depressive symptoms and has shown to have satisfactory reliability. The mean BDI-II score at intake ($M = 27.2$, $SD = 8.6$) suggests that the sample was moderately depressed on average upon entering treatment (Beck, Steer, & Brown, 1996). While the BDI-II instructions typically ask the patient to rate their depressive symptoms over the past two weeks, we modified the instructions to inquire about the past week specifically to facilitate assessing the degree of symptom change on a session-to-session basis (see Dimidjian et al., 2006 for a similar modification). The interviewer evaluated 17-item Hamilton Rating Scale for Depression (HRSD-17; Hamilton, 1967), modified to include the assessment of atypical features, also suggested a moderately depressed sample on average upon entering treatment ($M = 20.8$, $SD = 4.7$). Reliability for total scores on the HRSD in the current sample based on double ratings for 30 randomly selected cases was excellent (intraclass correlation coefficient [ICC] = .99).

Socratic Questioning—For this study, we developed a 5-item Socratic Questioning Scale (SQS; see Appendix A). SQS items are rated on a 7-point Likert scale reflecting the amount that a therapist uses Socratic questioning in a given session, where higher scores represent greater therapist use. The five items were averaged to obtain final SQS scores that could range from 0 to 6. To evaluate the inter-rater reliability of the observer ratings, we used random effects ICCs, adjusted to reflect the reliability achieved with four raters per session (McGraw & Wong, 1996). The ICC for Socratic questioning was .77, indicating satisfactory inter-rater reliability. Additionally, the SQS showed acceptable internal consistency, yielding Cronbachs' alphas of .87 to .94 across sessions 1 through 3.

Originally, we had included a sixth item assessing overall Socratic questioning (i.e., “Did the therapist use Socratic questioning?”). Because this item lacked specificity and had considerable conceptual (and empirical) overlap with the other items, we decided to remove this item from the scale. The statistical significance of all results was the same with the item included or excluded.

Therapeutic Alliance—We used the short form of the observer-rated Working Alliance Inventory (WAI-O-S; Horvath & Greenberg, 1989; Tracey & Kokotovic, 1989), which consists of 12 items evaluated on a 7-point Likert scale. The WAI is a commonly used measure of the alliance, and has shown satisfactory reliability. Following the two-factor solution identified by Andrusyna et al. (2001), we derived two subscale scores from the WAI-O-S. The Agreement score is the total of 9 items assessing the consensus between therapist and client on the tasks and goals of treatment. The Relationship score is the total of 3 items assessing the strength of the mutual and affective bond between therapist and client. ICCs (adjusted for four raters) for the Relationship and Agreement alliance subscales were .50 and .75, respectively. Additionally, the Relationship and Agreement subscales showed acceptable internal consistency, yielding Cronbach's alphas ranging from .79 to .89, and from .92 to .98 across sessions 1 through 3, respectively.

Procedure

Four advanced graduate students, with prior clinical experience ranging from 1 to 2 years, provided cognitive therapy across 16-weeks of treatment. Therapists received approximately 100 hours of clinical training in CT, with a focus on experiential learning through role-play. The second author provided weekly individual and group supervision over the course of treatment. Therapists followed procedures outlined by Beck et al. (1979). For additional details, see Adler, Strunk, and Fazio (2015).

Seventeen advanced undergraduate students rated video recordings of sessions 1 through 3. Each rater participated in approximately 50 hours of training prior to making the study ratings, and 4 additional hours of training during the rating period to minimize rater drift. To avoid any rater bias that might be related to knowledge of a patient's other sessions, we quasi-randomly assigned session recordings to raters, with the constraints that each rater only rated one session per client and the number of ratings performed by each rater was approximately equal. Each session was rated by four raters. The average of these four

ratings (i.e., the raw Socratic questioning score for each patient and session) was then decomposed into within-patient and between-patient scores as described below.

Analytic Approach

Recently, several quantitative experts have explained inferential benefits of disaggregating raw scores in repeated measures data into scores reflecting within-and between-person variability (Allison, 2005; Curran & Bauer, 2011). With regard to repeated measures psychotherapy process data, a relation of patients' raw process scores and outcome might be accounted for by one or more stable patient characteristics; whereas, any relation of within-patient process scores and outcome could not be accounted for by such characteristics (Sasso, Strunk, Braun, DeRubeis, & Brotman, 2015). When researchers using raw process scores interpret a significant process-outcome relation as evidence consistent with a possible causal effect on outcome, such findings do not rule out potential spurious effects of stable between-patient differences. We focus our analyses on within-patient variability in Socratic questioning, ensuring that no *stable* between-patient differences can bias our estimates of the relation of within-patient Socratic questioning and outcome (Allison, 2005).

Following Curran and Bauer (2011), we decomposed the Socratic questioning raw scores into scores reflecting within-patient and between-patient variability. To do so, we conducted a series of separate regression models for each patient using ordinary least squares (OLS), in which we regressed each patient's raw Socratic questioning scores on session (mean-centered). To obtain the within-patient scores, we used the session-specific residuals from each patient's model, which reflect the deviation of a patient's observed Socratic score from the model predicted value at each session. To obtain the between-patient scores, we used the intercepts of these models. As we have noted, this method requires at least 3 observations per patient so that the number of data points exceeds the number of parameters being estimated (i.e., a non-saturated model). We detail this procedure with the equation below. Please note that equation 1 depicts a regression model examined separately for each patient (where t = session and i = a given patient).

$$\text{Socratic questioning}_{ti} = b_{0i} + b_{1i} \text{Session}_{ti} + e_{ti} \quad (1)$$

The b_{0i} term represents the model intercept and b_{1i} reflects the slope of Socratic scores across time. The session-specific residuals (e_{ti}) from these models serve as the estimates of within-patient variation in Socratic questioning. From this point forward, we refer to these intercept and residual terms by appending “-Between” or “-Within” to the process score of interest (e.g., Socratic-Within, Socratic-Between). By examining deviations from patient-specific slopes of the variable of interest, Curran and Bauer have argued that this approach removes any time trend in the repeated measures data (i.e., detrends the data). This approach also avoids violating the assumption of stationarity (i.e., the assumption of no change in the conditional mean of a repeated measures predictor across time; Falkenström, Granström, & Holmqvist, 2013).

Next, we examined Socratic-Within (e_{ti} from equation 1) as a predictor of session-to-session symptom change by using a repeated measures regression model implemented in SAS Proc

Mixed without specification of random effects (see equation 2). Thus, we entered repeated measures of Socratic-Within (e_{it} ; sessions 1–3) as a predictor of next session BDI-II scores (BDI_{t+1i} ; sessions 2–4), with BDI-II scores at the current session (BDI_{ti} ; sessions 1–3) entered as a covariate. By controlling for symptoms at the current session (BDI_{ti}), the dependent variable reflects regressed symptom change for the session-to-session interval following the Socratic-Within assessment. The symbol β_0 denotes the model intercept and ε_{ti} denotes the model error term.

$$BDI_{t+1i} = \beta_0 + \beta_1(BDI_{ti}) + \beta_2(\text{Socratic-Within}_{ti}) + \varepsilon_{ti} \quad (2)$$

Building on the model described in equation 2, we also examined a version of this model with two additional covariates: within-patient scores for two facets of the therapeutic alliance (viz., Agreement-Within and Relationship-Within). Negative t -values from these models would indicate that greater within-patient process scores predict greater symptom improvement. We examined four covariance structures (i.e., auto-regressive, compound symmetry, toeplitz, and unstructured) and determined *unstructured* to have the best model fit. For models such as those describe in equation 2, we complement our report of the statistics associated with the test of each predictive relation with an additional value: the beta obtained for each predictor when the predictor was first standardized ($M = 0$, $SD = 1$) prior to being entered in the model. These betas are notated with b^* .

Results

As reported by Adler, Strunk, and Fazio (2015), overall outcomes were generally on par with that observed in previous trials of CT. Among the 44 patients who completed treatment, patients experienced a large and statistically significant decrease in symptom severity from intake to post-treatment as assessed by the HRSD ($d = -2.27$, $t(43) = 11.14$, $p < .0001$) and BDI-II ($d = -2.11$, $t(42) = 9.49$, $p < .0001$). Most relevant to our analyses, symptom improvements from session 1 to 4 were significant and substantial ($d = 1.59$, $t = 5.58$, $p < .0001$). Among treatment completers, the change observed in this early interval accounted for 43% of the total pre- to post-treatment symptom change observed across the 16 weeks of treatment. Across the intervals we studied, the average session-to-session symptom change ranged from -1.55 to -3.17 (negative values indicate the average reduction across intervals), with the standard deviations around those means ranging from 6.64 to 8.28. In examining the raw Socratic questioning scores across sessions 1 through 3, the average therapist use of Socratic questioning ranged from 1.16 to 2.68 (out of a possible 6) on the SQS, with the standard deviations around those means ranging from .77 to .91. The means and standard deviations for the disaggregated within- and between-patient Socratic questioning scores are provided in Table 1.

In our primary analysis, we examined Socratic-Within as a predictor in a model of session-to-session symptom change. Socratic-Within significantly predicted symptom change ($b^* = -1.51$, $b = -3.13$, $SE = 1.17$, $t(54) = -2.67$, $p = .01$), such that a one standard deviation unit increase in Socratic-Within at a given session was associated with an average 1.51-point decrease in BDI-II scores in the following session.

In a second model, we examined Socratic questioning as a predictor of session-to-session symptom change while controlling for the within-patient components of two facets of the alliance (i.e., Agreement-Within and Relationship-Within). As Table 2 shows, Socratic-Within remained a significant predictor of symptom improvement, such that a one standard deviation unit increase in Socratic-Within at a given session was associated with an average 1.49-point decrease in BDI-II scores in the following session. As the table shows, neither within-patient facet of the alliance was significantly predictive of symptom change in this model.¹

Finally, in an exploratory analysis, we examined whether the interaction of Socratic-Within and the within-patient alliance scores predicted symptom change. One might expect such an interaction if the positive effects of Socratic questioning are limited to sessions with a strong working alliance. Neither facet of the alliance (i.e., Agreement-Within, Relationship-Within) yielded a significant interaction with Socratic-Within in predicting symptom change ($ps > .2$).

Discussion

This study provides the first empirical support for the relationship between therapist use of Socratic questioning and symptom change. If Socratic questioning has a true causal effect on outcome, one would expect a relation of within-patient variability in Socratic questioning and session-to-session symptom change. Consistent with this possibility, we found within-patient variations in therapists' use of Socratic questioning (i.e., Socratic-Within) predicted greater session-to-session symptom improvement across the early sessions of CT.

As the therapeutic alliance has been found to be related to symptom change in a number of studies (Horvath, Del Re, Fluckiger, & Symonds, 2011), we examined the relation of Socratic questioning and symptom change while controlling for facets of the alliance (i.e., Relationship and Agreement). In this model, Socratic-Within remained a significant predictor of session-to-session symptom change, such that greater therapist Socratic questioning predicted greater reductions in depressive symptoms. These results suggest that the relation of within-patient variability in Socratic questioning and session-to-session symptom change was not attributable to within-patient variability in the alliance.

There are several limitations to this study worth noting. First, we cannot definitively establish a causal relation of Socratic questioning and outcome without an experimental manipulation. The relation of within-patient Socratic questioning and symptom change we identified could not be attributed to stable between-patient differences (including specifically whether patients were using antidepressant medication). Our findings also suggest this relation was not accounted for by within-patient therapeutic alliance scores. However, we cannot rule out the possibility that other time varying confounding variables may have contributed to the relation we observed. Second, we focused on early sessions and session-to-session symptom change specifically. Our data do not allow us to address

¹For the sake of comprehensiveness, we also examined the between-patient components for each process variable as predictors of session-to-session symptom change. None of the between-patient variables (i.e., Socratic-Between, Agreement-Between, Relationship-Between) achieved significance (all $ps > .1$).

process-outcome relations that might be observed with assessments in later sessions or over longer time periods. Third, we focused on CT for depression; it is possible that our results will not generalize to other treatments or populations. Fourth, inter-rater reliability for the Relationship alliance scale was lower than desirable ($ICC = .50$). Because low reliability attenuates relations of interest, results involving this variable should be interpreted with caution.

Although this study provides the first evidence for a relation of therapist use of Socratic questioning and therapeutic gains, important questions remain regarding the mechanism of this relation. While we suspect that Socratic questioning exerts its effects partly through cognitive change (Beck et al., 1979; Beck, 1995), this was not tested in the current study. It is an important issue to address in future research. Additionally, Socratic questioning is also thought to help the patient to be more active in the process of treatment, and thus practice and better learn the skills emphasized in therapy (Neenan, 2009). Thus, Socratic questioning might impact symptoms by facilitating client engagement in treatment or fostering therapy skill acquisition. Identifying the mechanism by which Socratic questioning may lead to symptom improvement will help us to understand how CT achieves its effects. Such work holds the promise of aiding our efforts to improve the efficacy of CT. While this study focused on the treatment of depression, we encourage future work examining the role of Socratic questioning in CT for other conditions and in psychotherapies other than CT.

Conclusion

This study offers the first empirical test of a relation of therapist use of Socratic questioning and symptom change in CT for depression. If additional research continues to suggest the therapeutic importance of Socratic questioning, efforts to disseminate CT can be better informed as such efforts can include appropriate emphasis on, and training in the use of Socratic questioning.

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Appendix A. Socratic Questioning Scale (SQS)

- How frequently did the therapist ask questions of the client in the service of using (any) cognitive behavioral strategies?

0	1	2	3	4	5	6
Not at all		Some		Considerably		Extensively

- How frequently did the therapist ask questions of the client in the service of using cognitive strategies focused on developing alternative perspectives?

0	1	2	3	4	5	6
Not at all		Some		Considerably		Extensively

3. When the therapist worked with the client to develop alternative perspectives, was this work focused on key cognitions (cognitions central to strong emotional reactions)?

0	1	2	3	4	5	6
Not at all	Some		Considerably		Extensively	

4. When dealing with a specific automatic thought, how many questions did the therapist typically ask?

0	1	2	3	4	5	6
Very few questions/no A.T.s		Some questions		Several questions		Many questions

5. Did the therapist ask open-ended questions that require thoughtful reflection (related to developing alternative responses)?

0	1	2	3	4	5	6
Not at all	Some	Considerably		Extensively		

Highlights

- First study to examine Socratic questioning as a predictor of symptom improvement.
- We focus on within-patient variability in ratings of Socratic questioning.
- Therapist use of Socratic questioning predicts next-session symptom improvement.
- This relationship remains significant controlling for the therapeutic alliance.

Table 1

Means and standard deviations of within-and between-patient scores for Socratic questioning and the alliance.

Process Components	Mean	SD
Socratic-Within	.00	.48
Socratic-Between	2.03	.62
Relationship-Within	.00	1.32
Relationship-Between	12.90	1.76
Agreement-Within	.00	.51
Agreement-Between	40.90	5.41

Note: For each process variable, the mean and average standard deviations were calculated for both of the within-and between-patient process variable scores. By definition, the within-patient scores each have a mean of 0.

Table 2

Within-patient Socratic scores as a predictor of session-to-session symptom change on the BDI-II controlling for within-patient facets of the therapeutic alliance.

Variables	<i>b</i> *	<i>b</i>	SE	<i>t</i>
Socratic-Within	-1.49	-3.10	1.21	-2.57*
Agreement-Within	.14	.09	.45	.21
Relationship-Within	-.26	-.47	1.2	-.39

Note: Socratic-Within was entered as a predictor into a repeated measures regression model, which also included several covariates: (1) the BDI-II scores at the current session, (2) two facets of the alliance (i.e., Relationship-Within and Agreement-Within).

*b** reflects the beta obtained in a comparable model in which predictors were standardized ($M = 0$, $SD = 1$).

* $p = .01$, all remaining $ps > .7$.