The Development of the Working Alliance and Its Ability to Predict Outcome in Emotion-Focused Therapy for Social Anxiety Disorder

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Abstract: The study focuses on the alliance of 12 patients receiving emotion-focused therapy for social anxiety. Anxiety symptoms and patient perception of the working alliance were examined weekly. The first eight sessions of each patient were coded for within- and between-sessions alliance levels (1008 segments were coded). At the sample level, the alliance shows linear development over time but high variability between individuals. More than half the patients showed alliance development consistent with the rupture-resolution pattern. Without accounting for the temporal relationship between alliance and symptoms, alliance significantly predicted symptoms across treatment. When we accounted for the temporal relationship between alliance and symptoms, we found that symptoms can predict alliance but alliance cannot predict symptoms. We obtained the same findings using patient-rated and coded alliance.

Key Words: Alliance, emotion-focused therapy, alliance-outcome association, rupture-resolution pattern, social anxiety disorder

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E motion-focused therapy (EFT; Greenberg et al., 1993; Greenberg and Watson, 2006; Greenberg, 2011) is an empirically supported experiential therapy. It integrates conceptualizations of person-centered treatment (Rogers, 1951) with therapeutic processes focusing on facilitating emotional processing with the aim of helping individuals to better deal with their emotions, accept them, symbolize them in words, make sense of them, regulate them, and transform maladaptive emotion schemes. According to EFT, emotions have an innately adaptive potential, which, if activated, can help patients change problematic emotional states or unwanted self-experiences. EFT therapists follow and guide the patient's experiential process. EFT emphasizes the importance of both relationship and directive interventions. Therapeutic change in EFT is perceived as resulting from restructuring the cognitive-affective schemes that underlie the symptoms of anxiety and depression.

The working alliance, which is commonly defined as the emotional bond between the patients and the therapists, and the agreement between them on the goals and tasks of treatment (Bordin, 1979), is perceived as an important ingredient in many treatments, and especially in EFT (Greenberg, 2014; Weerasekera et al., 2001). It has been theorized that alliance has two important complementary roles in EFT. First, the alliance is perceived as therapeutic in itself. Warm, respectful, accepting, close, with an empathically attuned therapist is perceived as an important therapeutic mechanism, serving the role of a corrective emotional experience. The alliance is perceived as curative in itself by playing an affect-regulation role, which is internalized over time by the patient. Second, the therapeutic alliance is considered to provide an optimal environment for facilitating deeper emotional processing. A strong working alliance is needed to facilitate the evocation of core painful emotions.

According to EFT, affect is much more likely to be approached, tolerated, and accepted in the context of a strong bond. A strong alliance is perceived to help patients feel safe enough to face dreaded feelings and painful memories. The perception of alliance in EFT as serving these two important roles is consistent with Bordin's (1979) conceptualization of the working alliance.

The literature on the role of alliance in psychotherapy focused mainly on two central questions: how alliance develops during treatment and whether alliance can predict outcome. Regarding the first question, although the development of alliance across treatment is generally perceived as following a linear pattern (Stiles and Goldsmith, 2010), studies have documented other patterns as well, such as rupture-resolution patterns (Safran et al., 2011; Eubanks-Carter et al., 2012). Some studies describe the differences between patients within the same study, with some patients demonstrating a linear development over time and some demonstrating other patterns (Weiss et al., 2014; Zilcha-Mano and Errázuriz, 2017). Regarding the ability of alliance to predict outcome, meta-analyses have shown that the alliance assessed at a specific point in treatment can consistently predict outcome. Much less is known, however, about the ability of change in alliance to temporally precede symptomatic change. Several recent studies suggest that at least in some instances, alliance indeed precedes symptomatic change (Falkenström et al., 2013; Zilcha-Mano et al., 2014; for review, see Zilcha-Mano, 2016), but also that this may be true only for some patient populations and only in specific circumstances (Zilcha-Mano et al., 2016, 2017a).

Consistent with the general literature on alliance, the empirical literature on alliance in EFT focuses on two main research questions: how alliance develops across EFT treatment and whether it can predict symptoms across EFT treatment. Consistent with the literature on alliance development outside EFT treatment, some of the literature on alliance in EFT supports a pattern of linear development across treatment. Paivio and Patterson (1999) assessed patient-rated therapeutic alliance of 33 patients at the 3rd, 4th, and 10th sessions and at the end of treatment (session 20) and found a linear development of the alliance across treatment. A similar pattern was observed in a sample of 74 patients who completed alliance measures at the first, third, or fourth sessions and at the end of a treatment consisting of a total of 16 to 20 sessions (Pos et al., 2009). Other studies, however, reported different patterns of alliance development across treatment. For example, in an EFT treatment of two patients, Swank and Wittenborn (2013) described a pattern of rupture-resolution development of alliance across treatment, observed in patient-rated, therapist-rated, and observer-coded alliance. The latter finding is consistent with Safran and Muran's (2000) conceptualization of episodes of tension or breakdown in the collaborative relationship between patient and therapist, which may occur between sessions and within session (Safran et al., 2011). Because of the small number of studies on alliance development in EFT and their reliance largely on patient self-report, and because of the mixed results of the existing studies, more research is needed, using additional perspectives on alliance, such as external observer coding.

Several studies have focused also on the ability of alliance to predict treatment outcome in EFT. Paivio and Patterson (1999) conducted a study on the ability of alliance to predict outcome in a 20-session EFT treatment with a sample of 33 adults who have been maltreated in their

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childhood. The authors showed that the alliance, as reported by the patients at sessions 3, 4, 10 and at the end of treatment, predicted outcome. The ability of alliance to predict outcome was documented in three additional studies in which alliance was rated by 34 patients in the fourth session of a 20-session EFT (Pos et al., 2003), by 35 patients in the third to fifth sessions of a 16-to-20-session EFT (Goldman et al., 2005), and by 74 patients early in the treatment (one session during sessions 1–4 of treatment) and at the end of an EFT treatment of 16 to 20 sessions (Pos et al., 2009). Although these studies seem to suggest that alliance predicts outcome in EFT, in most of these studies, both alliance and outcome were reported by the same informant (the patient), raising the risk that the findings may be the result of shared variance. Even more important, none of the studies accounted for the temporal relationship between alliance and symptoms. This is a serious shortcoming in the literature on the ability of alliance to predict outcome in EFT. It has been argued that good alliances may be the result of changes in symptoms, rather than the other way around, making the case for reverse causation between alliance and outcome (*e.g.*, DeRubeis et al., 2005; Barber et al., 2009). Some support for this hypothesis can be found in studies of the alliance-outcome correlation outside of EFT treatment that accounted for symptomatic change before alliance measurement. These studies showed that early symptomatic change predicted alliance (Puschner et al., 2008) and that only early symptomatic change, and not alliance, can predict subsequent changes in symptoms (*e.g.*, Barber et al., 1999; Strunk et al., 2010a; Hendriksen et al., 2014). Other studies, however, have found that alliance makes a unique contribution to predicting outcome even after controlling for early symptomatic change (*e.g.*, Zuroff and Blatt, 2006; Crits-Christoph et al., 2009; Webb et al., 2011; Arnow et al., 2013; Huppert et al., 2014; Xu and Tracey, 2015; for a review, see Crits-Christoph et al., 2013), leaving us with mixed findings. Based on available studies on alliance in EFT, the possibility of reverse causation cannot be ruled out. In addition, based on the available literature, it is not clear whether other patterns of alliance development (*e.g.*, rupture-resolution) can better account for symptomatic change in EFT than does the commonly examined linear development of alliance across treatment.

In sum, although alliance is perceived as a core curative element in EFT, little is known about alliance development and its relationship with outcome in EFT. Available studies on alliance development in EFT show mixed results, and the studies on alliance ability to predict outcome are based mainly on alliance and outcome as rated by the patients, with a risk of shared variance and reverse causation. To assess alliance development across treatment and ability to predict outcome, in the present study, we collected alliance data as reported by patients and as coded by trained observers across EFT treatment for social anxiety disorder (SAD). To systematically examine alliance development in EFT, we examined patterns of alliance development and their ability to predict outcome both within and between sessions. To systematically examine the ability of alliance to predict outcome, we accounted for the possibility of reverse causation in the analyses.

It seems crucial to investigate the process of alliance formation in individuals with SAD because these individuals are particularly likely to have difficulties in forming interpersonal relationships (O'Toole et al., 2013). Therefore, the alliance may be especially crucial for treatment success in this population (Zilcha-Mano and Errázuriz, 2017). Researchers have attested to the importance of examining EFT for SAD (Elliot, 2013; Shahar, 2014; Elliott and Shahar, 2017; Shahar et al., 2017), and the first clinical trial testing the efficacy of EFT in the treatment of SAD showed promising results (Shahar et al., 2017). The data from this study are used here to investigate for the first time the role of alliance in EFT treatment for SAD.

Based on the literature on alliance in EFT, our hypotheses were as follows:

1. At the sample level, both self-reported and observer-rated alliances are predicted to show a linear trend over the course of treatment.

At the patient level, some patients are predicted to show a linear development, whereas others are predicted to show a rupture and resolution pattern.

2. At the sample level, the alliance is predicted to temporally precede symptom reduction.

METHODS

Participants

Twelve patients, seven men and five women, ranging in age from 18 to 65 years (mean [SD], 26.75 [5.15]), diagnosed with SAD participated in the study (Shahar et al., 2017). The patients were classified as having SAD based on a primary diagnosis of SAD, assessed by the Mini-International Neuropsychiatric Interview (MINI; Sheehan et al., 1998) and a score of over 28 on the Social Phobia Inventory (SPIN). Eight patients showed additional comorbid conditions. Three of the patients showed comorbid generalized anxiety disorders, and one also showed comorbid bulimia nervosa. Four patients showed panic disorder, and three also showed major depressive disorders and generalized anxiety disorder. One patient had a history of anorexia nervosa. Six were native speakers of Hebrew and six were native speakers of English. Their mean (SD) SPIN (Connor et al., 2000) levels at baseline were 44.55 (8.54). All participants provided written informed consent before any study procedures were performed and completed all measures in their mother tongue.

Therapists

All treatments were conducted by two clinical psychologists with PhD degrees and extensive training in EFT. Each therapist treated six patients.

Treatments

All patients received EFT (Greenberg et al., 1993; Greenberg, 2011), with adaptation to social anxiety (Shahar, 2014; Elliott and Shahar, 2017). EFT is a brief, empirically supported treatment for depression. EFT is based on combining client-centered relational elements (unconditional positive regard, congruence, and empathy) with marker-guided experiential interventions designed to facilitate emotional processing. After creating a strong bond with patients, EFT therapists identify particular markers that call for specific interventions. For example, when patients are self-critical, therapists suggest a two-chair dialogue intervention, and when patients show lingering unresolved feelings toward attachment figures, therapists often suggest an empty-chair dialogue. When patients have a vague or unclear sense of what they are feeling, this calls for focusing.

The manual provided for up to 28 sessions. The number of sessions ranged from 24 to 28 (mean [SD], 26.54 [1.50]), except for 13 sessions for one patient who dropped out of treatment prematurely. Treatment adherence was assessed by sampling three sessions (one from sessions 1–10, one from sessions 11–20, and one from sessions 21 to the end of treatment) of six of the patients. Ratings were conducted on the Task-Specific Intervention Adherence Measures (Greenberg and Watson, 1998) by an expert EFT therapist and a clinical psychology doctoral student with extensive training in EFT. Because both raters were English speakers, only tapes from the English-speaking patients were reviewed (six patients). Adherence was found to be adequate (for more details, see Shahar et al., 2017).

Measurements

Mini-International Neuropsychiatric Interview

The MINI (Sheehan et al., 1998) is a relatively short but psychometrically sound structured interview used to assess 17 common axis I disorders. It has been used to ascertain a diagnosis of SAD, assess

comorbid conditions, and identify conditions that merit exclusion from the study. For each disorder, one or two screening questions rule out the diagnosis when answered negatively. Previous studies have demonstrated the good psychometric characteristic of the measure. The MINI showed good or very good concordance with the Structured Clinical Interview for *DSM-IV-TR* Axis I disorders and for Composite International Diagnostic Interview diagnoses. Interrater reliability of the measures was above 0.75 kappa, and for the majority (including SAD), interrater reliability was 0.90 or higher (Sheehan et al., 1998). The MINI was administered by a trained PhD clinical psychology student with extensive training in administering this instrument.

Social Phobia Inventory

The SPIN (Connor et al., 2000) is a 17-item, widely used, and well-validated instrument assessing core symptoms of social anxiety, such as fear and avoidance in social situations, physiological symptoms of anxiety, fear of embarrassment and authority, and fear of criticism and negative judgment. Previous studies have demonstrated the good psychometric characteristic of the measure. The SPIN showed very good convergent validity with the Brief Social Phobia Scale, the Liebowitz Social Anxiety Scale, and the social phobia subscale of the Fear Questionnaire, with highly significant correlation coefficients for the full scale and the subscales (Connor et al., 2000). Scores on the SPIN are summed and can range from 0 to 68, with higher scores reflecting more anxiety symptoms. In the current study, the mean internal reliability across time points was 0.92.

Working Alliance Inventory

The Working Alliance Inventory (WAI; Tracey and Kokotovic, 1989) is a 12-item, widely used, and well-validated instrument assessing the quality of the therapeutic alliance. Items are rated on a 7-point Likert scale ranging from 1 (never) to 7 (always). In the current study, the mean internal reliability across time points was 0.88.

Segmented Working Alliance Inventory—Observer Form

The 12-item, 5-minute interval Segmented Working Alliance Inventory—Observer Form (S-WAI-O; Berk, 2013) coding system was used to assess observer WAI. The items and anchors for the S-WAI-O were sampled directly from the Darchuk et al. measure (Darchuk A, Wang V, Weibel D, Fende J, Anderson T, Horvath AO. Manual for the Working Alliance Inventory—Observer Form, 4th revision [Berk, 2013]) and modified only to suit the nature of a 5-minute coding system. The validity and reliability of the S-WAI-O have been documented (Berk, 2013). This coding system makes possible to evaluate the development of alliance and its association with treatment outcome both within session and between sessions.

Procedure

After institutional review board approval was obtained, participants were recruited through posted announcements and e-mails sent to various listserves. Inclusion criteria were a) primary diagnosis of SAD as assessed with the MINI (Sheehan et al., 1998), b) a score higher than 28 on the SPIN, c) age 18 to 65, and d) fluency in one of the study languages. Exclusion criteria were a) imminent risk of suicide, self-harm, or other factors suggesting that immediate treatment is needed and waiting is not advised; b) current substance dependence; c) history of or current psychotic disorders; d) history of or current bipolar disorder; and e) currently receiving another form of psychological treatment. Use of psychopharmacology was allowed if already stable (>3 months) at the time of recruitment. Participants meeting inclusion criteria were enrolled in the study.

Interested participants were first asked to complete the SPIN online to ascertain whether they scored above 28. Eligible participants were telephone screened to provide initial information about the structure of the study and to provide an initial, informal assessment of SAD symptoms. Those who agreed to participate after knowing more about the study structure and who indicated anxiety in and avoidance of social situations were invited to a structured intake session that included the MINI, other self-report questionnaires, and an informed consent process. All participants signed the consent form.

Participants who met all inclusion criteria were randomized to wait 4, 8, or 12 weeks between the intake and the first therapy session. They received a weekly session of EFT for SAD, for up to 28 sessions. Twelve patients started treatment; one of them discontinued treatment after 13 sessions. Before each session, patients completed the SPIN and after each session, patients completed the WAI. All self-report questionnaires were completed online at the therapy room. In this trial, of the 11 completers, 7 did not meet criteria for SAD at the end of treatment. The mean (SD) SPIN level of the sample at the end of treatment was 28.64 (10.15).

All sessions were videotaped, with the camera focused on the dyad in such a way that both patient and therapist can be seen. The first eight sessions for each patient were coded by three coders, one graduate and two undergraduate students. Training of the coders lasted almost 3 months, until the coders established high reliability between them (intraclass correlation coefficient [ICC] = 0.93). Throughout the entire coding phase, the coders received a weekly supervision session to maintain reliability. Each session was coded by at least two coders, and 33% of the sessions were coded by three coders for calculating reliability. Sessions were randomized to coders, and coders were blinded to the session number.

Data Analyses

The data were hierarchically nested, with assessments nested within patients. To account for the resulting nonindependence of assessments and to prevent inflation of the effects, we added the patient as a random effect using the SAS PROC MIXED procedure for multilevel modeling (Littell et al., 2006). All analyses were conducted within a two-level hierarchically nested model. Given the small sample size, we did not use a three-level hierarchical model (with therapists at the third level), and analyses were conducted controlling for therapist as a fixed effect.

Development Patterns of the Alliance

To examine alliance behavior as reported by patients and as coded by observers over time, we evaluated the following trend models for each: linear, quadratic, linear in log of time, and stability over time either as fixed or random effects. We started with a model with only a fixed intercept and no random effects and added sequentially a random intercept, fixed effect of week, random effect of week, and a quadratic effect of week in therapy. Next, we examined the models with fixed and random linear effect of log of week. We used the log likelihood test and the Akaika information criterion to determine whether the inclusion of each term improved the model fit. For the S-WAI-O coded alliance, we used the aggregated score of the alliance across segments (eight to nine segments per session) within each session as the between-sessions coded alliance.

To examine whether at the patient level a rupture-resolution pattern fits the data better than a linear development of alliance across time, we identified which alliance development pattern, linear or rupture-resolution, fits the data best for each patient. We followed Berk's (2013) definition, according to which the rupture-resolution pattern fits the data best when changes in alliance from one session to the next show a decrease followed by an increase. An increase or decrease in alliance is usually defined as a change of one and a half to two standard deviations from the patients' mean alliance, depending on sample

size (Finch et al., 2001; Eubanks-Carter et al., 2012; Berk, 2013). Given the small sample size in the present study, we chose a change of one and a half standard deviations, representing a probability of 6.7% of classifying a rupture or a resolution incorrectly when it is actually a random fluctuation. Following Stevens et al. (2007) (see also Stevens, 2002), patients whose pattern of alliance development met the requirement for a rupture-resolution pattern were defined as having a rupture-resolution pattern; the rest were defined as following a linear trend. To test patterns of a rupture-resolution development of alliance, both between patients (by aggregating all segments nested within the same session) and within patient (focusing on changes from one segment to the next within the same session), the alliance as coded by the S-WAI-O was used.

Ability of Alliance to Predict Outcome

Our analyses followed the state-of-the-art statistical analyses of the association between alliance and outcome (for a review, see Zilcha-Mano, 2016). Specifically, to examine the bidirectional association between patients' self-report WAI and SPIN across the entire treatment, we introduced the alliance at the previous time point ($WAI_{(T-1)}$) and the symptoms at the previous time point ($SPIN_{(T-1)}$) at level 1 of the models (within subject) and the dependent variable at the subsequent time point (either $WAI_{[T]}$ or $SPIN_{[T]}$, depending on the model; see Collins and Sayer, 2001, for more information), across the entire course of treatment. To examine the effect of alliance development both within and between patients as coded by the S-WAI-O on outcome, we conducted analyses in a two-step process. In the first step, we calculated session and segment slopes and intercept for each patient, based on a model predicting SPIN by alliance segments, using the first eight sessions for each patient. In the second step, the session- and segment-calculated slopes and intercept were used as the independent variables in a model predicting SPIN from pretreatment to posttreatment. Given the overlap between alliance (sessions 1–8) and outcome (sessions 1 to the end of treatment), we conducted two additional analyses. In the first, we examined whether alliance in sessions 1 to 8 can predict symptoms in sessions 9 to the end of treatment, and in the second, we examined whether alliance in sessions 1 to 8 can predict symptoms in sessions 9 to the end of treatment, controlling for changes in symptoms in sessions 1 to 8.

To examine whether an association exists between specific patterns of alliance development from session to session, as coded by external observers and outcome, we sorted the patients according to their changes in SPIN from pretreatment to posttreatment, with higher positive scores representing greater symptom reduction. Based on this sorting, we divided the sample into two groups: patients with higher than the median outcome score (good outcome) and those with lower than the median (poor outcome). Next, we tested the frequency of each pattern (linear and rupture-resolution) within each group (good and poor outcomes). We repeated the same procedure for alliance development within session and between sessions. Because of the sample size, we did not conduct any statistical analyses, and results were descriptive. Finally, we conducted content analyses of sessions showing a rupture-resolution pattern to further examine alliance development in the patient with the poorest SPIN outcome and the one with the best SPIN outcome in the sample.

RESULTS

As reported in the main outcome paper (Shahar et al., 2017), the results of the trial showed highly promising findings. Eight of the 11 patients who completed the treatment showed reliable change in SPIN scores (72.7%). Seven of the eight patients also met criteria for clinical significance (63.6%), as their posttreatment SPIN scores were lower than the cutoff of 31.1 (see Shahar et al., 2017 for the reasoning behind this particular cutoff score). One patient, who showed a reliable improvement of 16 points on the SPIN, was still above the cutoff at posttreatment, with a score of 40 (because of a high SPIN score at pretreatment).

We coded 89 sessions in 5-minute segments, for a total of 1008 segments. We coded 59 sessions by two coders and 30 by three coders. Interjudge reliability, assessed by intraclass correlations, ICC (3, 1), two-way analysis of variance fixed effect model, with an absolute agreement type, was 0.96. The correlations between self-reported and observer-coded alliance across the first eight sessions were as follows: week 1, large ($r = 0.58$); week 2, medium ($r = 0.49$); week 3, medium ($r = 0.47$); week 4, large ($r = 0.60$); week 5, medium ($r = 0.48$); week 6, very large ($r = 0.87$); week 7, medium ($r = 0.48$); and week 8, very large ($r = 0.75$).

Development Patterns of the Alliance

At the sample level, WAI alliance as reported by patients over the course of treatment showed a linear development ($B = 0.03$, $SE = 0.004$, $p < 0.0001$, 95% confidence interval [CI], 0.02–0.03; see Fig. 1). S-WAI-O alliance as coded by external observers over the first eight sessions did not show the expected linear trend ($B = -0.009$, $SE = 0.02$, $p = 0.70$, 95% CI, −0.04 to 0.03; see Fig. 2). The separate graphs for each patient reveal a large variance between patients (Fig. 3). Therefore, we proceeded to examine alliance development at the patient level. Testing whether each patient meets the requirement for defining a rupture-resolution pattern revealed that 7 of the 12 patients showed a pattern of rupture-resolution between sessions. In the rupture-resolution group, five of the patients were male and two were
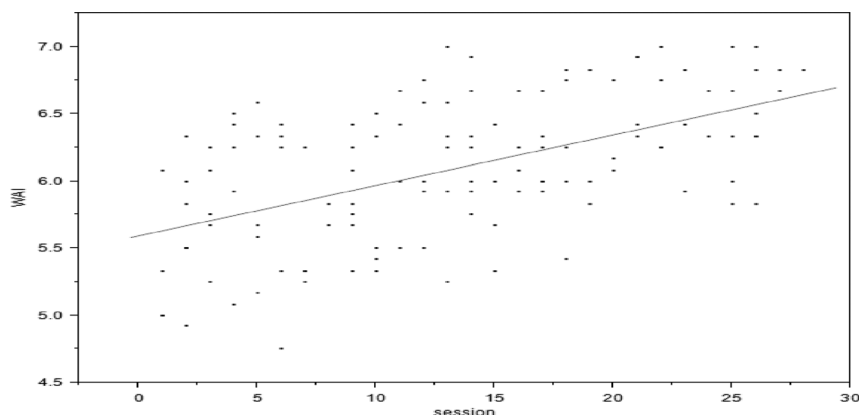

FIGURE 1. Patients' self-reported alliance development over the course of treatment.
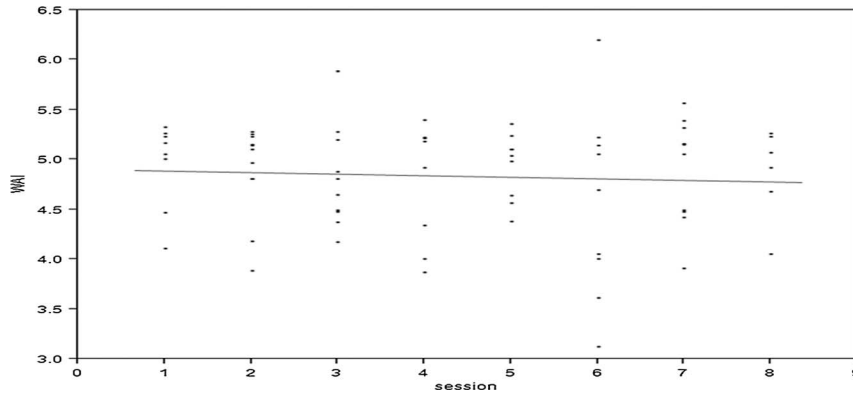
FIGURE 2. Observer-coded alliance development over the first eight sessions of treatment.

female, and in the linear group, two were male and three were female. In the rupture-resolution group, four patients were single and three were in a serious relationship or married, and in the linear group, three were single and two were in a serious relationship or married. In the rupture-resolution group, four patients were younger than and three were older than 26 years, and in the linear group, two were younger than and three were older than 26 years. In the rupture-resolution group, four patients had a comorbid disorder and three did not, and in the linear group, three had a comorbid disorder and one did not. Caution should be exercised when attempting to draw conclusions from these descriptive statistics because of the small sample size. All patients showed processes of rupture-resolution within sessions.

Ability of Alliance to Predict Outcome

At the sample level, patients reporting strong alliance at one time point in the course of treatment also reported lower symptomatic levels at the next time point ($B = -11.39$, SE = 2.10, $p < 0.0001$, 95% CI, -15.50 to -7.27), but only when we did not control for previous symptomatic levels. When controlling for previous symptomatic levels, however, alliance was no longer a significant predictor of subsequent symptomatic levels ($B = -0.43$, SE = 1.27, $p = 0.73$, 95% CI, -2.91 to 2.05). Examining reverse causation, symptoms at one time point in the treatment significantly predicted alliance at the subsequent time point ($B = -0.02$, SE = 0.003, $p < 0.0001$, 95% CI, -0.02 to -0.01). The ability of symptoms to predict subsequent alliance levels remained significant even after controlling for previous alliance levels ($B = -0.01$, SE = 0.004, $p = 0.002$, 95% CI, -0.01 to -0.002]).

Focusing on the S-WAI-O alliance, as coded by external observers, the alliance intercept (*i.e.*, the aggregated alliance levels across the first eight sessions) could almost significantly predict pretreatment to posttreatment symptom change ($B = -14.51$, SE = 7.25, $p = 0.07$, 95% CI, -28.72 to -0.03), but not the slope of alliance development between sessions ($B = -45.13$, SE = 40.56, $p = 0.29$, 95% CI, -124.62 to 34.36) or within sessions ($B = -32.40$, SE = 139.61, $p = 0.82$, 95% CI, -306.03 to 241.23). To assess the ability of alliance, as coded by external observer, to predict outcome when no overlap exists between alliance and outcome, we repeated our analyses, this time focusing on outcome from session 9 to the end of treatment. Findings were very similar and suggest an almost significant ability of aggregated alliance across the first eight sessions to predict outcome ($B = -29.50$, SE = 15.36, $p = 0.08$, 95% CI, 0.02–0.03), whereas the slope of alliance development between sessions and within sessions remains nonsignificant ($B = -35.54$, SE = 42.94, $p = 0.42$, 95% CI, -119.70 to 48.62, and $B = -8.40$, SE = 149.36, $p = 0.95$, 95% CI, -301.14 to 284.34, for the slopes between sessions and within session, respectively). However, when controlling for previous symptomatic levels, we obtained the same pattern of findings as in the case of self-report alliance: neither aggregated alliance ($B = -9.83$, SE = 8.58, $p = 0.28$, 95% CI, -26.64 to 6.98) nor the slopes of change ($B = -12.84$, SE = 22.10, $p = 0.57$, 95% CI, -13.97 to -11.70, and $B = -44.99$, SE = 74.58, $p = 0.56$, 95% CI, -191.16 to 101.18, for the slopes between sessions and within sessions, respectively) were found to significantly predict outcome.

The sample was then divided into two groups as measured by presymptom to postsymptom change in the SPIN, good outcome, and
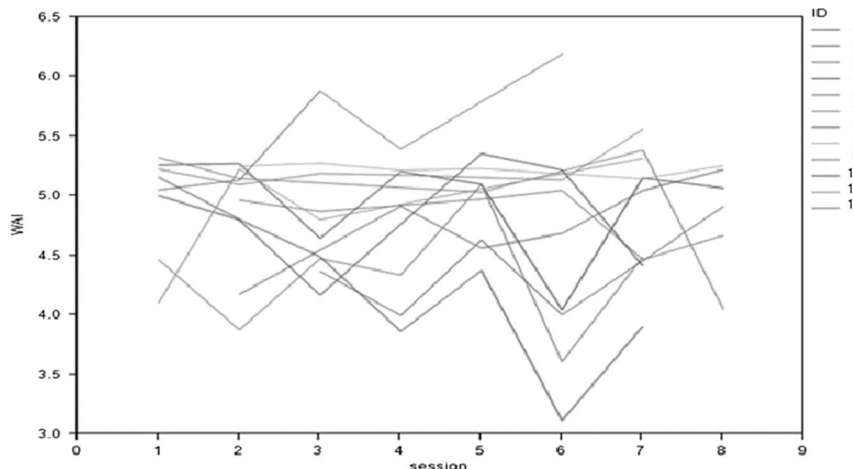

FIGURE 3. Observer-coded alliance development of individual patients over the first eight sessions of treatment. ID, patient ID.

TABLE 1. Means and Standard Deviations of Alliance, as Coded by External Observers, Frequency of Rapture-Resolution Patterns for Each Patient in the Sample, and Patients' Pretreatment to Posttreatment Symptomatic Change

Patient ID	WAI Mean	WAI SD	Frequency of Rupture-Resolution Pattern	Pretreatment to Posttreatment Symptomatic Change	Reliable Change for SPIN	Clinical Significance for SPIN
1	52.5	5	0	−3	No	No
2	57.25	4.5	0	−1	Yes	Yes
3	58	2.6	1	13	No	No
4	59.6	5	1	7	Yes	Yes
5	52	5.7	2	19	Yes	Yes
6	61	4.2	1	4	No	No
7	51	8	1	40	Yes	Yes
8	62.7	0.5	0	6	Yes	Yes
9	59.8	6.5	1	19	Yes	Yes
10	58.3	5.2	0	−7		
11	58.3	6.6	0	12	Yes	No
12	66.4	5.9	1	20	Yes	Yes

WAI = the working alliance, as coded by external coders in the first eight sessions of treatment. Frequency of rupture-resolution pattern = how many between-sessions rupture-resolution patterns were identified in the first eight sessions for each patient. Pretreatment to posttreatment symptomatic change = as measured using the SPIN, with higher positive scores representing greater symptom reduction.

poor outcome. The mean (SD) SPIN for the good outcome group was 20.5 (5.54) and for the poor outcome group was 6 (10.13). Seven of the 12 patients showed rupture and resolution patterns of alliance development. Examining whether patients who demonstrated a rupture-resolution pattern of alliance development (as manifested using the S-WAI-O) showed better outcomes, we found that five of seven such patients showed good outcomes (as defined by higher than median outcome), whereas two showed poor outcomes (as defined by lower than median outcome) (Table 1). Because of the small sample size, we were not able to use statistical tests to examine the significance of these differences. We also were not able to examine whether patients who demonstrated rupture-resolution patterns of alliance development within sessions showed better outcome because all patients in the sample demonstrated a rupture-resolution pattern within sessions.

Finally, session content analysis of the best and poorest outcome cases in the sample revealed that the best outcome case showed a pattern of rupture-resolution development of alliance both between and within sessions. Ruptures were confrontational in nature: the patient expressed negative feelings about the treatment, questioned the therapist's ability to help him or her, and several times rejected the therapist's suggestions in an overly noncollaborative manner. It seems, however, that the confrontational ruptures promoted a curative processes, in which patient and therapist were able to discuss their alliance and resolve the problems emerging between them. The poorest outcome case did not show any rupture-resolution processes between sessions, only within sessions. Ruptures within sessions were mostly of a withdrawal type, characterized by the patient disengaging from the therapist and the treatment and adopting an abstract language when talking about difficult interpersonal situations. Some of the within-session withdrawal ruptures were not resolved.

Post hoc Power Analyses

Given the small sample size, we conducted *post hoc* power analyses. We calculated the power of the significant findings using simulation study. Synthetic data were generated 1000 times using the obtained parameter estimates, and the initial analysis was performed again. The power was computed by comparing *p*-values from the simulated data, with $\alpha = 0.05$. The analyses revealed that patients reporting strong alliance at one time point in the course of treatment also reported lower symptomatic levels at the next time point ($B = -11.39$, SE = 2.10, $p < 0.0001$, power = 0.83), but only when we did not control for previous symptomatic levels. When controlling for previous symptomatic levels, however, alliance was no longer a significant predictor of subsequent symptomatic levels ($B = -0.43$, SE = 1.27, $p = 0.73$). Examining reverse causation, symptoms at one time point in the treatment significantly predicted alliance at the subsequent time point ($B = -0.02$, SE = 0.003, $p < 0.0001$, power = 0.86). The ability of symptoms to predict subsequent alliance levels remained significant even after controlling for previous alliance levels ($B = -0.01$, SE = 0.004, $p = 0.002$, power = 0.79). At the sample level, WAI alliance, as reported by patients over the course of treatment, showed a linear development ($B = 0.03$, SE = 0.004, $p < 0.0001$, power = 0.84; see Fig. 1). Therefore, although the sample size is small, the power seems sufficient to conduct such analyses.

DISCUSSION

The working alliance is thought to play an important role in EFT. The alliance is conceptualized as serving a dual purpose in EFT: therapeutic in itself and the foundation for other therapeutic processes to take place (Greenberg, 2014). This is the first study to examine alliance development in EFT for social anxiety and its ability to predict outcome. The study focuses on two main questions regarding alliance in EFT: a) How does alliance develop in EFT for social anxiety, and b) does alliance temporally precede symptoms reduction in EFT for social anxiety?

Consistent with previous studies on the working alliance, self-reported alliance demonstrated a linear development across treatment at the sample level. At the same time, focusing on alliance as coded by external coders, we were unable to identify a linear development pattern in the first eight sessions of treatment, and individual patient graphs revealed a large variability between patients. Focusing on alliance at the patient level revealed that more than half the patients demonstrated a rupture-resolution pattern of alliance development rather than a linear one.

These findings are consistent with a growing literature suggesting that different development patterns can be identified across treatment for different subgroups of patients in the same cohort, in both

treatment outcome (Lutz et al., 2014; Zilcha-Mano et al., 2017c) and mechanisms of change (Stiles and Goldsmith, 2010; Zilcha-Mano et al., 2015). The present findings can help explain the inconsistency in the literature, in which some studies found a linear development of alliance and others found a rupture-resolution pattern. Specifically, our findings suggest that different subpopulations of patients can be identified in the same cohort, some demonstrating a linear development and others demonstrating a rupture-resolution pattern. This finding is consistent with progress in recent years toward personalized treatment, which identifies subgroups of patients with distinct patterns of development of mechanisms of change (DeRubeis et al., 2014). This is also consistent with the EFT theory, which expects some patients, but not all, to show a marker for alliance rupture.

The working alliance was a significant predictor of outcome when we did not control for previous symptomatic level. When controlling for previous symptomatic levels, however, alliance was not a significant predictor of outcome. Rather, symptomatic levels were found to significantly predict alliance across treatment, even when controlling for previous alliance levels. This pattern supports reverse causation, in which symptoms predict alliance rather than the other way around. Importantly, the findings regarding the inability of alliance to predict outcome when controlling for previous symptomatic levels was found both when self-report and when external observer alliance coding were used. These findings are consistent with several recent findings suggesting that early alliance may no longer predict outcome when accounting for the temporal relationships between alliance and symptomatic levels (Strunk et al., 2010b; Sasso et al., 2015) and for therapist's use of Socratic questioning (Braun et al., 2015) and improvement in coping skills is controlled for (Rubel et al., 2017). Thus, the findings support the claim that alliance may fulfill the role of active ingredient in some treatment but not in others (Zilcha-Mano, 2017; Zilcha-Mano et al., 2017b), and are consistent with studies demonstrating when and for whom alliance predicts outcome (Falkenström et al., 2013; Lorenzo-Luaces et al., 2014; Zilcha-Mano et al., 2017a, 2017b).

The inability of alliance in the present sample to predict outcome when controlling for previous symptomatic levels suggests that alliance is not a *predictor* but rather a *product* of symptomatic change in EFT treatment for social anxiety. It can be suggested that the nature of EFT treatment for social anxiety may have contributed to the present findings. Specifically, in the present study, with most patients, two-chair work for self-critical and anxiety splits was implemented right from the second or third session. Two-chair work in SAD is designed to address the anxiety split that directly creates the symptoms (Shahar, 2014). It is possible that this has led to a quick symptom reduction right at the beginning of treatment, even before a secure emotional bond was established, which then predicted better alliance. This post hoc explanation is consistent with the fact that all participants (except the one who dropped out) started the therapy highly distressed (average SPIN score of 44.55), so perhaps they needed to experience an initial relief, either because of symptomatic reduction due to the use of effective techniques or because the two-chair work simply provided an atmosphere of productivity and hopefulness before experiencing a strengthening in their alliance with their therapists.

A complementary explanation can be suggested for the present findings, according to which for some subpopulations of patients, alliance is the result rather than the cause of symptomatic change. This explanation can find support in the small sample size of the present study, suggesting that it was a specific subpopulation of patients with specific characteristics that enrolled in the study. This explanation may also garner support from a growing literature about significant moderators of the alliance-outcome association (Falkenström et al., 2013; Lorenzo-Luaces et al., 2014; Zilcha-Mano and Errázuriz, 2015, 2017; Zilcha-Mano et al., 2017a, 2017b). These studies suggest that whereas the alliance can significantly predict outcome for some subpopulations of patients, it is not a significant predictor of outcome for others. In the

context of the present study, it might be that for patients with especially severe social anxiety symptoms (as in the present study), the formation of a type of alliance that is therapeutic in itself can take place only after a reduction in symptoms has occurred and has enabled the formation of a close, authentic, and intimate relationship with the therapist. Consistent with this assumption and with the findings of Crits-Christoph et al. (2011), it can be argued that the temporal relationship between alliance and symptoms may change at different stages of the treatment. The present study did not examine whether at distinct phases of EFT treatment for SAD alliance predicts symptoms, whereas in others, symptoms predict alliance, because the sample size did not provide the power needed for such examination. Future studies should build on the present findings to formulate theoretically based distinct phases in treatment, which, using a larger sample size, are expected to show different roles of alliance. Furthermore, based on the descriptive observation of patients who demonstrated rupture-resolution pattern, it is also possible to suggest that an alternative rupture-resolution pattern of alliance development may be related to better outcomes, at least for some subsets of patients.

The present study has several important strengths. First, the rich data collected on each patient (1008 segments were coded by two experienced coders, and questionnaires were completed after each session) enabled us to perform sophisticated analyses that can compensate for some of the disadvantages of the small sample size. Second, the population (patients with SAD receiving EFT) is an important one and has received little empirical attention to date; therefore, it may justify our focus even with a small sample. Third, the recent literature on working alliance focuses not only on the average patient, for which a large sample size is crucial, but also on variability in the alliance-outcome association, seeking to identify the cases in which alliance is a predictor of outcome and those in which it is not. For the latter, even small samples can be beneficial in formulating hypotheses on when alliance may not predict outcome.

The present study has several important limitations. The most important limitation of the present study is the small sample size. Although our post hoc power analyses provide some support for the reliability of our findings, caution should be exercised in interpreting such post hoc analyses. Future studies using larger sample sizes could decide between the alternative explanations we offered for the inability of alliance to predict outcome when controlling for previous symptomatic levels. These studies can also look at clinical significance and reliable change indices to qualify for symptomatic change. The results of the present study are restricted also by the fact that alliance was coded session by session only in the first eight sessions. Future studies should code alliance throughout the entire treatment to determine whether different patterns of alliance development can be identified in different stages of treatment. Future studies should also incorporate the perspectives of therapists and external observers on patients' symptomatic change. Finally, other traditional definitions of ruptures can also be used in future studies (Aguirre-McLaughlin et al., 2014).

Alliance is perceived as an important therapeutic ingredient in EFT. The present study suggests that whereas some patients demonstrate a process of steady strengthening of alliance over the course of treatment, others may exhibit a rupture-resolution pattern of alliance development. Furthermore, although strong alliance was found to predict better outcome when not accounting for the possibility of reverse causation, when accounting for the possibility of reverse causation, alliance was found to be the product rather than a predictor of effective treatment. This finding opens an important path for future studies to examine whether it can be generalized to the entire population of patients with social anxiety receiving EFT treatment, whether it is typical of a subpopulation of patients who should be further defined and characterized, or whether an alternative, rupture-resolution pattern of alliance development may be more

beneficial for this population than a steady strengthening of alliance over the course of treatment.

DISCLOSURE

The authors declare no conflict of interest.

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