The Therapeutic Alliance in Individual Resiliency Training for First Episode Psychosis: Relationship With Treatment Outcomes and Therapy Participation

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Objective: The therapeutic alliance has long been considered an essential part of treatment. Despite a large body of work examining the alliance–outcome relationship, very few studies have examined it within individuals with first episode psychosis (FEP). *Method:* The present study examined the alliance at Session 3, 4, or 5 and its relationship to 2-year treatment outcomes and therapy participation in a

sample of 144 FEP clients who received specialized FEP treatment at U.S. clinics. Furthermore, we examined between-therapist and within-therapist (client) effects of the alliance on outcomes. ***Results:*** Results indicated that a better alliance was related to improved mental health recovery, psychological well-being, quality of life, total symptoms, negative symptoms, and disorganized symptoms at the end of treatment. In addition, the between-therapist effect of the alliance was significantly related to better mental health recovery whereas the within-therapist (client) effect of the alliance was related to better quality of life, total symptoms, and negative symptoms at the end of treatment. ***Conclusions:*** A stronger alliance was related to improved treatment outcomes in FEP. Future work should consider examining mediators of the alliance-outcome relationship as well as how changes in the alliance relate to changes in outcomes over time.

What is the public health significance of this article?
This study demonstrated that a stronger therapeutic alliance was related to improved symptoms and recovery among individuals with first episode psychosis. As such, developing a high-quality therapeutic relationship should be emphasized in first episode psychosis treatment.

Keywords: first episode psychosis, early intervention, working relationship, recovery, therapist effects

Specialized early intervention services for first episode psychosis (FEP) have continued to gain support across numerous countries around the world (Alvarez-Jiménez, Parker, Hetrick, McGorry, & Gleeson, 2011; Dixon, 2017; Harvey, Lepage, & Malla, 2007; Kane et al., 2016; Malla, Norman, & Joober, 2005). Despite benefits of providing treatment early in the course of illness (Correll et al., 2018), high rates of treatment dropout (around 30%) prevent many from receiving care (Dixon, Holoshitz, & Nossel, 2016; Doyle et al., 2014; Lal & Malla, 2015; Leclerc, Noto, Bressan, & Brietzke, 2015), which can result in serious negative consequences. The majority of research examining treatment noncompliance and dropout in this population has focused on the identification of client risk factors, such as past forensic history, less severe illness severity, not having a family member involved in treatment, and substance use (Conus et al., 2010; Miller et al., 2009; Stowkowy, Addington, Liu, Hollowell, & Addington, 2012). The findings suggest that providers working with these types of clients may need to modify their therapeutic approach in order to adequately retain these individuals in treatment.

Less research in FEP has focused on the client-provider relationship, also known as the therapeutic alliance, despite its potential for facilitating participation in treatment and improved outcomes. Existing longitudinal studies have shown that a strong alliance in FEP is related to more attended therapy sessions, improved symptoms and functioning, and higher rates of medication adherence (Berry, Gregg, Lobban, & Barrowclough, 2016; Montreuil et al., 2012). Cross-sectional studies have also shown that a better alliance is related to less severe negative and disorganized symptoms, better social functioning, and better treatment adherence (Johansen, Iversen, Melle, & Hestad, 2013; Lecomte et al., 2008; Melau et al., 2015). Further, Berry and Greenwood (2015) found that therapist-rated alliance significantly predicted greater social inclusion (i.e., the extent to which someone has social contacts and experiences belonging among those contacts) at follow-up, and that this relationship was mediated by client hopefulness. This finding highlights the importance of a supportive therapist–client relationship that engenders hope and optimism about one's self and the future (Berry & Greenwood, 2015). In addition, Goldsmith and colleagues (2015) found that the benefits of receiving more CBT or supportive counseling sessions de-

pended on the quality of the alliance, with more sessions associated with greater improvement in symptoms when the alliance was positive, but a worsening of symptoms when the client-rated alliance was negative (Goldsmith et al., 2015).

Given the promising, albeit limited, evidence illustrating the value of the alliance in promoting improved outcomes in FEP treatment in tandem with high disengagement rates, additional research is warranted. As such, the present study sought to address this gap by examining the therapeutic alliance and its relationship to outcomes in a subsample of FEP individuals who participated in the Recovery After An Initial Schizophrenia Episode Early Treatment Program (RAISE-ETP) trial, the largest FEP treatment trial conducted in the United States. In addition, the present study extended prior work in two critical ways: First, by examining the alliance with an observer-rated scale (as opposed to client-rated or therapist-rated measures), which has not yet been done in FEP work. And second, it examined between-therapist effects (i.e., differences between therapists; also referred to as therapist variability) and within-therapist (client) effects (i.e., differences between clients seen by the same therapist; also referred to as client variability) of alliance on outcomes. Several studies of clinical samples without psychosis have shown that therapist variability in alliance ratings has a stronger impact on outcomes than client variability (Baldwin, Wampold, & Imel, 2007; Del Re, Fluckiger, Horvath, Symonds, & Wampold, 2012; Zuroff, Kelly, Leybman, Blatt, & Wampold, 2010), although there have been some mixed findings (Falkenström, Granström, & Holmqvist, 2014; Uckelstam, Holmqvist, Philips, & Falkenström, 2018), suggesting that therapists may play a critical role in facilitating a positive alliance, which subsequently affects client outcomes.

The aims of the present study were to examine the extent to which (1a) the alliance was associated with client symptomatic and recovery (including quality of life, psychological well-being, and mental health recovery) outcomes at the end of treatment, (1b) client and therapist variability in the alliance were associated with client symptomatic and recovery outcomes at the end of treatment, (2a) the alliance was associated with therapy participation, and (2b) client and therapist variability in the alliance were associated with therapy participation. Based on prior literature, we hypothe-

sized that a better alliance would be related to improved symptomatic and recovery outcomes as well as better therapy participation. In addition, we hypothesized that therapist variability in the alliance would be a stronger predictor of outcomes than client variability.

Method

Participants and Study Design

The RAISE ETP study used a cluster-randomization design with 17 clinics assigned to provide NAVIGATE, a team-based coordinated specialty care treatment, and 17 clinics assigned to provide community care (e.g., usual care). The RAISE ETP study comprised 404 participants (223 received NAVIGATE; 181 received community care) who had experienced one episode of nonaffective psychosis and had taken antipsychotic medications for 6 months or less (see Kane et al., 2015 & Kane et al., 2016, for additional study details). The RAISE ETP study received Institutional Review Board approval from the Coordinating Center and participating sites. All participants provided written informed consent or assent if under 18 years old. The present study sample, drawn from the larger RAISE ETP trial, comprised 144 FEP clients who participated in individual resiliency training (IRT), the individual therapy component of NAVIGATE.

For inclusion in the present analyses, participants must have (a) received at least three sessions of IRT (as the alliance is thought to develop over the first five sessions with its peak at Session 3; Horvath & Luborsky, 1993), (b) had at least one session from Sessions 3–5 audiotaped (as ratings were made via audiotaped sessions), and (c) had their third, fourth, or fifth IRT session with their initial IRT therapist ($n = 144$; Table 1).

Thirty-six therapists from 17 sites provided IRT to the 144 study participants; therapists provided individual therapy to multiple clients ($M = 4.00$, $SD = 2.18$, range $= 1–8$). Gender, highest educational degree, and years in the mental health field were obtained via therapist résumés (see Table 2). Therapists received initial training in delivering IRT and continued to receive fidelity monitoring and consultation throughout the study (Browne, Edwards, et al., 2018; Meyer, Gottlieb, Penn, Mueser, & Gingerich, 2015; Mueser et al., 2018).

Measures

All measures, with the exception of the alliance measure, were administered as part of the large RAISE ETP study. Specifically, self-report measures were administered at baseline, 3, 6, 12, 18, and 24 months and interview measures were administered at baseline, 6, 12, 18, and 24 months; however, the present study used only baseline and 24-month timepoints. Alliance was measured (based on audiofiles of sessions) after the RAISE ETP study had been completed. Measures used in the present analyses are described here (see Kane et al., 2015, 2016, for additional measure information).

Recovery was assessed with two self-report measures and one interview measure: The Scales of Psychological Well-Being—ETP Modification Version (SPWB; Ryff, 1989), Mental Health Recovery Measure (MHRM; Young & Bullock, 2003), and Quality of Life Scale (QLS; Heinrichs, Hanlon, & Carpenter, 1984). Modified,

Table 1

Demographic, Clinical, and Baseline Characteristics of Client Participants

Characteristic	Participants ($n = 144$)
Demographic characteristics	
Male, n (%)	110 (76)
Age (years), M (SD)	23.82 (5.56)
Race, n (%)	
Caucasian	86 (60)
African American	45 (31)
Other	13 (9)
Ethnicity, n (%)	
Hispanic	33 (23)
Education, n (%)[a]	
Completed college or higher	6 (4)
Some college, no degree	43 (30)
Completed high school	48 (33)
Some high school	41 (29)
Some or completed grade school	5 (4)
Current student, n (%)	27 (19)
Currently employed, n (%)	17 (12)
Clinical characteristic	
Diagnosis, n (%)	
Schizophrenia	80 (56)
Schizoaffective bipolar	10 (7)
Schizoaffective depressive	22 (15)
Schizophreniform	21 (15)
Brief psychotic disorder	1 (<1)
Psychotic disorder NOS	10 (7)
DUP (weeks), M (SD)[a]	196.91 (267.52)
Total number of IRT Sessions after 24 months, M (SD), range	21.62 (14.98), 3–64
Total months in NAVIGATE at VTAS Assessment, M (SD), range	3.19 (2.84), 1–16
VTAS total score, M (SD), range	17.48 (3.64), 6–24
Baseline characteristic, M (SD)	
SPWB total average[b]	3.99 (.85)
MHRM total average	4.94 (1.28)
QLS total score[a]	50.69 (18.53)
PANSS total score[a]	78.33 (15.01)
PANSS Positive[a]	12.59 (4.03)
PANSS Negative[a]	16.67 (5.45)
PANSS Disorganized[a]	8.20 (2.89)
PANSS Excited[a]	6.78 (2.88)
PANSS Depressed[a]	8.29 (3.20)
CDSS total score[a]	4.62 (4.22)

Note. NOS = not otherwise specified; DUP = duration of untreated psychosis; IRT = individual resiliency training. Resiliency training: SPWB = Scales of Psychological Well-Being; MHRM = Mental Health Recovery Measure. Measure: QLS = Quality of Life Scale; PANSS = Positive and Negative Syndrome Scale; CDSS = Calgary Depression Scale for Schizophrenia.
[a] $n = 143$. [b] $n = 141$.

briefer versions of the full self-report scales were used in the RAISE ETP study (18-item subset of SPWB and 15-item subset of MHRM). Mean total scores of the SPWB and MHRM and the QLS total score were used in analyses (higher scores are "better").

Symptoms were assessed with two interview measures: The Positive and Negative Syndrome Scale (PANSS; Kay, Fiszbein, & Opler, 1987) and the Calgary Depression Scale for Schizophrenia (CDSS; Addington, Addington, & Maticka-Tyndale, 1993). The PANSS produces a total score and five factor scores: positive, negative, disorganized/concrete, excited, and depressed (Wallwork, Fortgang, Hashimoto, Weinberger, & Dickinson, 2012), all of which were used

Table 2

Demographic Characteristics of Individual Resiliency Training (IRT) Therapists

Characteristic	IRT therapists ($n = 36$)
Gender, n (%)	
Male	10 (28)
Female	26 (72)
Years in mental health field, M (SD)[a]	11.26 (8.81)
Highest educational degree, n (%)	
Bachelor's degree	3 (8)
Master's degree	26 (72)
Doctorate	7 (19)

[a] $n = 34$.

in analyses along with the CDSS total score (higher scores are "worse").

Therapy participation was operationalized as the number of individual therapy sessions a client attended over the 24-month period.

The observer-rated short form of the revised Vanderbilt Therapeutic Alliance Scale (VTAS–R-SF; Shelef & Diamond, 2008a) was used to assess the alliance. The VTAS–R-SF includes five items that assess agreement on goals and tasks and the presence of a supportive bond (e.g., "To what extent did the therapist and client together agree upon the goals and/or tasks of the session?"). Items (and the anchor descriptions located in the rating manual; Shelef & Diamond, 2008b) are based on objective observations of the client's and therapist's speech (rather than interpretations about how a person is feeling) and do not make reference to nonverbal visual cues (e.g., body language), both of which are common in other observer-rated measures (Shelef, Diamond, Diamond, & Liddle, 2005). Items are rated from 0 (*not at all*) to 5 (*a great deal*), with higher scores indicating a more positive alliance (note: one item is reverse scored). The total score was used in analyses (Cronbach's alpha = .85; see the Appendix).

Four variables were considered as potential covariates (i.e., variables not of primary interest that could impact outcomes): (a) timing of alliance assessment (months enrolled in study when VTAS was rated, (b) permanent change in therapist (binary variable indicating whether or not change occurred over study period), (c) number of family psychoeducation sessions, and (d) number of supported employment/education meetings over the 24-month period. Analyses were conducted with and without these variables.

Intervention

NAVIGATE. NAVIGATE, a specialized FEP treatment, comprised medication management, supported employment and education, family psychoeducation, and IRT (Mueser et al., 2015).

IRT. IRT, a manual-based individual therapy, was designed to improve well-being and social functioning through focusing on a client's strengths and resiliency, while also providing education and teaching coping and interpersonal skills. IRT integrated three evidence-based treatments including illness self-management, cognitive–behavioral therapy for psychosis, and psychiatric rehabilitation and emphasized shared decision-making and support of client autonomy (Meyer et al., 2015). IRT comprises 14 modules, of which the first seven are considered standard (foundational modules that all clients receive), and the second seven are individu-

alized (modules which are covered if they address client-specific concerns). All clients were offered IRT as part of NAVIGATE but were not excluded if they declined or discontinued individual therapy (Meyer et al., 2015).

Procedure

Therapeutic alliance rating procedure. Research assistants received initial training and adequate reliability was established before rating study audiotapes (intraclass correlation [ICC] ≥ .7; Krupnick et al., 1996; see Browne, Bass, et al., 2018 for details on rater training). The 144 sessions (comprised of Session 3, 4, or 5 for each client) were then split among four trained research assistants such that each session was rated by one rater (Rater 1 = 27 sessions, Rater 2 = 38 sessions, Rater 3 = 40 sessions, and Rater 4 = 39 sessions).

RAISE ETP trial procedure. Individuals in NAVIGATE participated in at least one of its treatment components and could start or stop a program at any time. All participants were offered treatment for at least two years (Kane et al., 2016).

Data Analytic Plan

Data were analyzed using multilevel modeling given the nested data structure (Raudenbush & Bryk, 2002; Snijders & Bosker, 2012).[1] Analyses were performed using SAS (Version 9.3) and the Kenward-Roger fixed effect standard error and degrees of freedom

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[1] Prior to examining the aims of the study, we ran a series of analyses to better characterize the subsample of individuals included in primary analyses. These analyses were conducted using SPSS (Version 24.0) and SAS (Version 9.3). Specifically, we compared the full alliance sample ($n = 144$) to the remaining individuals who received at least three sessions of IRT ($n = 45$). Additionally, because of missing 24-month outcome data, sample sizes for analyses of recovery and symptomatic outcomes (Aims 1a and 1b) were smaller than the entire alliance sample used to examine analyses with therapy participation (Aims 2a and 2b; $n = 96$ for QLS, CDSS, and PANSS outcomes, $n = 95$ for SPWB, and $n = 97$ for MHRM).

All four subsamples were compared to the remaining individuals who received at least three sessions of IRT on basic demographics (age, race [Racial Minority vs. White], and gender). In addition, we compared the samples used in recovery and symptomatic outcome analyses (Aims 1a and 1b) to the remaining individuals who received at least three sessions of IRT on baseline values of all outcomes used in analyses (QLS, CDSS, PANSS [total and subscales], SPWB, MHRM). Categorical variables (gender and race) were examined using Rao-Scott adjusted chi-square statistics (adjusted for nesting within site) and continuous variables (age, QLS, CDSS, PANSS [total and subscales], SPWB, MHRM) were examined by fitting linear mixed models with a random intercept at the site level.

None of the results from Rao-Scott adjusted chi-square tests or linear mixed models were significant indicating that each of the four subsamples (Full Alliance sample: $n = 144$; QLS/PANSS/CDSS sample: $n = 96$; SPWB sample: $n = 95$; MHRM sample: $n = 97$) did not differ significantly from the remaining individuals who received at least three sessions of IRT (Full Alliance comparison sample: $n = 45$; QLS/PANSS/CDSS comparison sample: $n = 93$; SPWB comparison sample: $n = 94$; MHRM comparison sample: $n = 92$) in terms of gender, race, and age.

None of the results from linear mixed models were significant indicating that each of the three subsamples included in 24-month analyses (QLS/PANSS/CDSS sample: $n = 96$; SPWB sample: $n = 95$; MHRM sample: $n = 97$) did not differ significantly from the remaining individuals who received at least three sessions of IRT (QLS/PANSS/CDSS sample comparison: $n = 93$; SPWB sample comparison: $n = 94$; MHRM sample comparison: $n = 92$) in terms of baseline values of QLS, PANSS (Total, Positive, Negative, Disorganized, Excited, and Depressed), CDSS, SPWB, and MHRM.

approximation method was used (Kenward & Roger, 1997). A random intercept was included at the therapist and site levels; however, if either/both random effect(s) were zero, models was refit without the corresponding random effect(s). All analyses were run with and without the four specified covariates (i.e., timing of alliance assessment, permanent change in therapist, number of family psychoeducation sessions, and number of supported employment/education meetings).

To examine Aims 1a and 2a (referred to as the *total effect*), separate models were fit for all dependent variables and included the baseline measure of outcome (for all variables except number of IRT sessions) as well as the VTAS total score as predictors. The same procedures were followed for Aims 1b and 2b except that the alliance score was decomposed into two variables through centering to allow for estimation of between-therapist and within-therapist (or "client") effects. Specifically, we included therapist means of the alliance (averaged over all their clients) as the between-therapist measure of alliance. The within-therapist alliance variable was calculated by centering each client's alliance score around his or her therapist's average score (i.e., client VTAS score minus his or her therapist's average VTAS score). Centering in this way (and including therapist alliance means in the model) allows for the partition of between and within therapist effects (Raudenbush & Bryk, 2002; Snijders & Bosker, 2012). This approach has been successfully utilized in previous therapeutic alliance research (Baldwin et al., 2007; Zuroff et al., 2010) and is recommended as the data analytic procedure for outcome research on the therapeutic alliance (Del Re et al., 2012).

For all significant effects of alliance on outcomes, effect sizes were calculated by multiplying the unstandardized coefficient by the standard deviation of the predictor variable (i.e., alliance total score, between-therapist score, or within-therapist score) and dividing by the standard deviation of the outcome measure (Lorah, 2018; Snijders & Bosker, 2012).

Results

Effect of the Alliance on Symptomatic and Recovery Outcomes

Without covariates, the alliance total effect was significantly and positively related to Scales of Psychological Well-Being total average, $t(89) = 2.72$, $p = .008$, effect size $= .25$, Mental Health Recovery Measure total average, $t(83) = 2.60$, $p = .011$, effect size $= .22$, and Quality of Life total score, $t(92) = 2.75$, $p = .007$, effect size $= .23$ at 24 months controlling for the baseline of each measure: A better alliance was associated with greater improvements in all three measures over the course of treatment. In addition, the alliance total effect was significantly and negatively associated with the Positive and Negative Syndrome Scale total, $t(90) = -3.05$, $p = .003$, effect size $= .28$, Negative, $t(93) = -2.47$, $p = .016$, effect size $= .23$, and Disorganized, $t(83) = -2.08$, $p = .041$, effect size $= .21$ scores at 24 months when controlling for the baseline measures, indicating that a stronger alliance was associated with greater reductions in the severity of total, negative, and disorganized symptoms over the 2-year study period. The alliance total effect was not significantly associated with changes in Calgary Depression Scale for Schizophrenia total score, or Positive and Negative Syndrome Scale

scores on the Positive, Excited, or Depressed subscales over the study period. When the four covariates were added to the models, the overall pattern of results was unchanged. The most substantive reductions in effect size estimate were for the Mental Health Recovery Measure (effect size $= .16$) and the Scales of Psychological Well-Being (effect size $= .19$; Tables 3 and 4).

Without covariates, the between-therapist effect was significantly and positively associated with Scales of Psychological Well-Being total average, $t(55) = 2.19$, $p = .032$, effect size $= .22$ and Mental Health Recovery Measure total average, $t(33) = 2.56$, $p = .015$, effect size $= .22$ at 24 months controlling for the baseline measures, indicating that the clients of therapists with higher average alliance scores improved more in psychological well-being and mental health recovery over the treatment period than clients of therapists with lower average alliance scores.

Conversely, the within-therapist (client) effect was significantly and positively associated with Quality of Life total score, $t(69) = 2.48$, $p = .016$, effect size $= .19$ at 24 months controlling for baseline, indicating that clients who had higher alliance scores with a given therapist improved more in quality of life than clients who had lower alliance scores with that same therapist. In addition, the within-therapist effect was significantly and negatively associated with Positive and Negative Syndrome Scale total, $t(62) = -3.00$, $p = .004$, effect size $= .23$, and Negative, $t(92) = -2.21$, $p = .030$, effect size $= .20$ scores at 24 months controlling for baseline. Similar to the Quality of Life Scale total scores, clients with higher alliance scores for a given therapist improved more in total and negative symptoms at the end of treatment than clients with lower alliance scores for the same therapist.

Neither between-therapist nor within-therapist effects were significantly associated with changes in Calgary Depression Scale for Schizophrenia total score, or Positive and Negative Syndrome Scale Positive, Disorganized, Excited, or Depressed subscales. When the four covariates were added to the models, the overall pattern of results remained unchanged except that the between-therapist effect was no longer significantly related to the Scales of Psychological Well-Being total average. The most substantive reduction in effect size estimate was for the Mental Health Recovery Measure (effect size $= .16$; Tables 5 and 6).

Effect of the Alliance on Therapy Participation

Without covariates, the alliance total effect was significantly and positively related to the total number of therapy sessions attended over 24 months, $t(136) = 2.21$, $p = .029$, effect size $= .17$, with a better alliance associated with attending more therapy sessions. However, when the four covariates were included, this effect was no longer significantly related to the number of therapy sessions attended.

Neither the between-therapist nor within-therapist effects were significantly associated with total attended therapy sessions during the 24 months, with or without covariates (see Table 7).

Discussion

We examined the relationships between an observer-rated measure of the alliance during the psychotherapy component (IRT) of the comprehensive NAVIGATE program for FEP in the RAISE ETP study, and client symptomatic and recovery outcomes at the

Table 3
Therapeutic Alliance Total Effect Predicting 24-Month Recovery Outcomes

Predictor variable	SPWB total average[a]					SPWB total average[a] (with covariates)					MHRM total average[b]					MHRM total average[b] (with covariates)					QLS total score[c]					QLS total score[c] (with covariates)				
	Est.	SE	t	p	ES	Est.	SE	t	p	ES	Est.	SE	t	p	ES	Est.	SE	t	p	ES	Est.	SE	t	p	ES	Est.	SE	t	p	ES
Baseline measure	.458	.093	4.94	<.0001	—	.471	.091	5.17	<.0001	—	.556	.080	6.97	<.0001	—	.549	.075	7.29	<.0001	—	.694	.106	6.53	<.0001	—	.685	.109	6.26	<.0001	—
VTAS total score	.072	.027	2.72	.008	.25	.054	.026	2.04	.044	.19	.079	.030	2.60	.011	.22	.058	.029	2.02	.047	.16	1.70	.617	2.75	.007	.23	1.65	.651	2.53	.013	.23

Note. Est. = estimate; *SE* = standard error; ES = effect size; VTAS = Vanderbilt Therapeutic Alliance Scale; SPWB = Scales of Psychological Well-Being; MHRM = Mental Health Recovery Measure; QLS = Quality of Life Scale. Because of the missing 24-month data, sample sizes were smaller than full alliance sample (sample sizes for each outcome variable are listed below). Four covariates (months in study at VTAS assessment, permanent change in therapist [0 = did not change, 1 = changed], number of supported employment/education sessions, number of family psychoeducation sessions) were included in the indicated models (See data analytic plan for Aim 1a for detailed description of analyses). Unstandardized estimates in the table can be interpreted as "a one-unit change in X was associated with Z (estimate value) units change in Y."
[a] *n* = 95. [b] *n* = 97. [c] *n* = 96.

end of the 2-year treatment period. We found that a better alliance was related to better outcomes, including greater increases in psychological well-being, mental health recovery, and quality of life at the end of treatment. In addition, a better alliance was related to less severe total, negative, and disorganized symptoms at the end of treatment. These findings are consistent with prior work in schizophrenia and FEP populations that has reported significant associations between client-rated and provider-rated alliance and subsequent improvements in functional and symptomatic outcomes (Berry & Greenwood, 2015; Berry et al., 2016; Catty et al., 2010; Goldsmith et al., 2015; Hopkins & Ramsundar, 2006; Svensson & Hansson, 1999).

In addition to evaluating the total effect of alliance on outcomes, we examined the between-therapist alliance effects, which reflect therapists' contribution to the alliance across different clients, and within-therapist effects, which reflect clients' contribution to the alliance within therapists. The between-therapist effect of alliance was significantly related to mental health recovery at 24 months, suggesting that clients of therapists who were more effective at forging a strong alliance improved more in their perceptions of their mental health recovery. Similarly, clients of therapists who had higher average alliance scores also reported greater improvements in well-being over the study period than clients of therapists with lower alliance ratings, although this relationship was reduced to nonsignificant with covariates. The findings suggest that therapists who are more skillful at establishing strong working relationships with clients recovering from a first episode of psychosis are more effective at improving the subjective experience of their illness as well as their psychological well-being.

As suggested by Zilcha-Mano (2017), two possible explanations may explain these findings. On the one hand, therapists who were more successful at forging agreements on goals and tasks and establishing stronger bonds may have been more effective at helping clients master information and skills targeted in the IRT program, and thereby making more progress toward clients' goals and promoting greater improvements in perceived recovery and well-being. On the other hand, it is possible that therapists who were better at forming a positive alliance with their clients had better overall nonspecific therapy skills, and that it is these nonspecific skills which were responsible for the observed improvements. It is also possible that both explanations are partially correct.

The within-therapist (client) effect of alliance was significantly associated with greater improvements in quality of life and greater reductions in total symptom severity and negative symptoms at 24 months. The findings suggest that client factors related to the individual's capacity to participate in a therapeutic relationship had an important bearing on these outcomes. Active participation in a therapeutic relationship by the therapist and client may be critical to improving psychosocial (Quality of Life Scale) and symptomatic (Positive and Negative Syndrome Scale) outcomes, in IRT and potentially in other psychotherapies as well. It may be speculated that most or all therapists have some capacity to form a therapeutic relationship with their clients, but not most or all clients. This would result in client-related contributions to the therapeutic relationship being the key rate-limiting factor in symptomatic and psychosocial functioning improvements. These client-related contributions could be critical to individuals more fully engaging in the IRT program, as indicated by behaviors such as

Table 4
Therapeutic Alliance Total Effect Predicting 24-Month Symptomatic Outcomes

Predictor variable	CDSS total score				CDSS total score[(with covariates)]				PANSS total score					PANSS total score[(with covariates)]				
	Est.	SE	t	p	Est.	SE	t	p	Est.	SE	t	p	ES	Est.	SE	t	p	ES
Baseline measure	.300	.066	4.52	<.0001	.293	.064	4.56	<.0001	.474	.086	5.50	<.0001	—	.483	.086	5.61	<.0001	—
VTAS total score	−.126	.087	−1.45	.150	−.030	.085	−.35	.724	−1.33	.435	−3.05	.003	.28	−1.22	.452	−2.69	.009	.26

Predictor variable	PANSS Positive				PANSS Positive[(with covariates)]				PANSS Negative					PANSS Negative[(with covariates)]				
	Est.	SE	t	p	Est.	SE	t	p	Est.	SE	t	p	ES	Est.	SE	t	p	ES
Baseline measure	.398	.091	4.37	<.0001	.367	.095	3.84	.0002	.434	.099	4.38	<.0001	—	.414	.106	3.90	.0002	—
VTAS total score	−.116	.115	−1.00	.319	−.051	.127	−.40	.687	−.426	.173	−2.47	.016	.23	−.498	.201	−2.48	.016	.27

Predictor variable	PANSS Disorganized					PANSS Disorganized[(with covariates)]					PANSS Excited				PANSS Excited[(with covariates)]			
	Est.	SE	t	p	ES	Est.	SE	t	p	ES	Est.	SE	t	p	Est.	SE	t	p
Baseline measure	.341	.079	4.32	<.0001	—	.336	.080	4.20	<.0001	—	.265	.090	2.96	.004	.249	.091	2.73	.008
VTAS total score	−.157	.075	−2.08	.041	.21	−.169	.079	−2.14	.035	.23	−.145	.085	−1.71	.091	−.127	.089	−1.43	.158

Predictor variable	PANSS Depressed				PANSS Depressed[(with covariates)]			
	Est.	SE	t	p	Est.	SE	t	p
Baseline measure	.504	.085	5.91	<.0001	.514	.086	6.01	<.0001
VTAS total score	−.033	.087	−.38	.704	.027	.089	.30	.764

Note. Est. = estimate; *SE* = standard error; ES = effect size; VTAS = Vanderbilt Therapeutic Alliance Scale; CDSS = Calgary Depression Scale for Schizophrenia; PANSS = Positive and Negative Syndrome Scale. Because of missing 24-month data, sample sizes were smaller than full alliance sample (*n* = 96). Four covariates (months in study at VTAS assessment, permanent change in therapist [0 = did not change, 1 = changed], number of supported employment/education sessions, number of family psychoeducation sessions) were included in the indicated models (See data analytic plan for Aim 1a for detailed description of analyses). Unstandardized estimates in the table can be interpreted as "a one-unit change in X was associated with Z (estimate value) units change in Y."

being more involved in discussing information and progress toward goals, practicing skills, and completing home assignments, which resulted in the observed improvements.

The present study was the first to evaluate the contributions of both between- and within-therapist effects of alliance on outcomes in FEP and just the second study to examine such effects in a schizophrenia sample (Jung, Wiesjahn, & Lincoln, 2014). A meta-analysis of 69 studies (Del Re et al., 2012), as well as work by Baldwin and colleagues (2007) and Zuroff and colleagues (2010), have reported that therapist variability in the alliance is related to

Table 5
Between-Therapist and Within-Therapist Effects of Alliance Predicting 24-Month Recovery Outcomes

Predictor variable	SPWB total average[a]					SPWB total average[a] (with covariates)					MHRM total average[b]					MHRM total average[b] (with covariates)				
	Est.	SE	t	p	ES	Est.	SE	t	p	ES	Est.	SE	t	p	ES	Est.	SE	t	p	ES
Baseline measure	.466	.094	4.96	<.0001	—	.477	.093	5.14	<.0001	—	.563	.080	7.03	<.0001	—	.555	.076	7.32	<.0001	—
VTAS—between-therapist effect	.090	.041	2.19	.032	.22	.065	.040	1.61	.112		.111	.043	2.56	.015	.22	.082	.041	2.02	.046	.16
VTAS—within-therapist effect	.058	.035	1.67	.098	—	.045	.034	1.32	.191		.049	.041	1.20	.233	—	.035	.040	.88	.379	—

Predictor variable	QLS total score[c]					QLS total score[c] (with covariates)				
	Est.	SE	t	p	ES	Est.	SE	t	p	ES
Baseline measure	.701	.110	6.35	<.0001	—	.689	.110	6.26	<.0001	—
VTAS—between-therapist effect	1.30	.971	1.34	.193	—	1.33	.951	1.40	.168	—
VTAS—within-therapist effect	2.01	.808	2.48	.016	.19	1.89	.827	2.29	.025	.18

Note. Est. = estimate; *SE* = standard error; ES = effect size; VTAS = Vanderbilt Therapeutic Alliance Scale; SPWB = Scales of Psychological Well-Being; MHRM = Mental Health Recovery Measure; QLS = Quality of Life Scale. Due to missing 24-month data, sample sizes were smaller than full alliance sample (sample sizes for each outcome variable are listed below). Four covariates (months in study at VTAS assessment, permanent change in therapist [0 = did not change, 1 = changed], number of supported employment/education sessions, number of family psychoeducation sessions) were included in the indicated models. Between-therapist effect = average therapist VTAS scores; Within-therapist effect = client VTAS score − his/her therapist's average VTAS score (See data analytic plan for aim 1b for detailed description of analyses). Unstandardized estimates in the table can be interpreted as "a one-unit change in X was associated with Z (estimate value) units change in Y".
[a] *n* = 95. [b] *n* = 97. [c] *n* = 96.

Table 6
Between-Therapist and Within-Therapist Effects of Alliance Predicting 24-Month Symptomatic Outcomes

Predictor variable	CDSS total score				CDSS total score(with covariates)				PANSS total score					PANSS total score(with covariates)				
	Est.	*SE*	*t*	*p*	Est.	*SE*	*t*	*p*	Est.	*SE*	*t*	*p*	ES	Est.	*SE*	*t*	*p*	ES
Baseline measure	.300	.067	4.50	<.0001	.293	.064	4.54	<.0001	.473	.086	5.47	<.0001	—	.481	.086	5.57	<.0001	—
VTAS—between-therapist effect	−.150	.137	−1.09	.285	−.042	.124	−.34	.739	−.889	.700	−1.27	.217	—	−.872	.739	−1.18	.251	—
VTAS—within-therapist effect	−.111	.109	−1.02	.313	−.021	.110	−.19	.847	−1.58	.527	−3.00	.004	.23	−1.40	.537	−2.61	.012	.21

Predictor variable	PANSS Positive				PANSS Positive(with covariates)				PANSS Negative					PANSS Negative(with covariates)				
	Est.	*SE*	*t*	*p*	Est.	*SE*	*t*	*p*	Est.	*SE*	*t*	*p*	ES	Est.	*SE*	*t*	*p*	ES
Baseline measure	.398	.091	4.35	<.0001	.366	.096	3.82	.0003	.434	.099	4.36	<.0001	—	.413	.107	3.88	.0002	—
VTAS—between-therapist effect	−.049	.182	−.27	.791	−.010	.206	−.05	.961	−.336	.234	−1.44	.153	—	−.417	.275	−1.51	.141	—
VTAS—within-therapist effect	−.158	.144	−1.10	.274	−.074	.150	−.49	.623	−.516	.234	−2.21	.030	.20	−.571	.247	−2.31	.024	.22

Predictor variable	PANSS Disorganized				PANSS Disorganized(with covariates)				PANSS Excited				PANSS Excited(with covariates)			
	Est.	*SE*	*t*	*p*	Est.	*SE*	*t*	*p*	Est.	*SE*	*t*	*p*	Est.	*SE*	*t*	*p*
Baseline measure	.340	.080	4.27	<.0001	.337	.081	4.17	<.0001	.260	.090	2.88	.005	.243	.092	2.64	.010
VTAS—between-therapist effect	−.133	.122	−1.09	.291	−.163	.129	−1.26	.221	−.064	.139	−.46	.647	−.034	.140	−.24	.811
VTAS—within-therapist effect	−.173	.090	−1.91	.061	−.173	.094	−1.85	.070	−.190	.104	−1.83	.071	−.184	.110	−1.67	.100

Predictor variable	PANSS Depressed				PANSS Depressed(with covariates)			
	Est.	*SE*	*t*	*p*	Est.	*SE*	*t*	*p*
Baseline measure	.502	.085	5.88	<.0001	.513	.086	6.00	<.0001
VTAS—between-therapist effect	.013	.137	.09	.925	.093	.141	.66	.515
VTAS—within-therapist effect	−.063	.108	−.58	.562	−.013	.108	−.12	.908

Note. Est. = estimate; *SE* = standard error; VTAS = Vanderbilt Therapeutic Alliance Scale; PANSS = Positive and Negative Syndrome Scale. Because of missing 24-month data, sample sizes were smaller than full alliance sample (*n* = 96). Four covariates (months in study at VTAS assessment, permanent change in therapist [0 = did not change, 1 = changed], number of supported employment/education sessions, number of family psychoeducation sessions) were included in the indicated models. Between-therapist effect = average therapist VTAS scores; Within-therapist effect = client VTAS score − his/her therapist's average VTAS score (see data analytic plan for Aim 1b for detailed description of analyses). Unstandardized estimates in the table can be interpreted as "a one-unit change in X was associated with Z (estimate value) units change in Y."

client outcomes. Yet, because the vast majority of prior studies focused on individuals without psychosis, the present findings may represent unique relationships in FEP. The present study suggests that indeed, there are therapist effects of alliance on outcomes in FEP, but that client effects may be even more important for improving functional and symptomatic outcomes. Specifically,

these findings suggest that focusing on the building of client skills for participating in a therapeutic relationship early in treatment could improve the ability of clients to more substantially benefit from it.

Consistent with prior work in FEP and schizophrenia (Berry et al., 2016; Frank & Gunderson, 1990; Lecomte et al., 2008; Startup,

Table 7
Total Effect and Between-Therapist and Within-Therapist Effects of Alliance Predicting Therapy Participation During 24 Months

Predictor variable	Total IRT sessions					Total IRT sessions(with covariates)			
	Est.	*SE*	*t*	*p*	ES	Est.	*SE*	*t*	*p*
Total effect									
VTAS total score	.713	.323	2.21	.029	.17	.118	.289	.41	.684
Between-therapist and within-therapist effects									
VTAS—between-therapist effect	1.44	.813	1.77	.080	—	.123	.706	.17	.862
VTAS—within-therapist effect	.574	.351	1.64	.104	—	.117	.312	.37	.709

Note. Est. = estimate; *SE* = standard error; ES = effect size; VTAS = Vanderbilt Therapeutic Alliance Scale; IRT = Individual Resiliency Training. There was no missing data for this outcome, thus the entire alliance sample was included (*n* = 144). Four covariates (months in study at VTAS assessment, permanent change in therapist [0 = did not change, 1 = changed], number of supported employment/education sessions, number of family psychoeducation sessions) were included in the indicated models. Between-therapist effect = average therapist VTAS scores; Within-therapist effect = client VTAS score − his/her therapist's average VTAS score. (See data analytic plan for Aims 2a and 2b for detailed description of analyses). Unstandardized estimates in the table can be interpreted as "a one-unit change in X was associated with Z (estimate value) units change in Y."

Wilding, & Startup, 2006), our results also showed that a better alliance was significantly related to accumulating more attended therapy sessions at the end of 24 months in the model without covariates. However, this relationship was diminished when covariates were added. This may have been a product of the therapy participation variable (total number of IRT sessions) in that it did not account for missed sessions or length of sessions. As such, this variable likely fails to capture a client's confidence in treatment or willingness to participate during sessions. In addition, participation in all the psychosocial treatments was correlated, thus teasing out the effect of one over the other may not have been possible. Yet, the fact that associations were diminished when covariates were added suggests that the relationships between client and therapist factors in predicting outcomes cannot be explained solely by the number of IRT sessions provided.

In terms of study limitations, the alliance was rated from audiotaped therapy sessions, which prevented raters from observing nonverbal cues that may have been relevant to ratings (e.g., body language, facial expressions, etc.). Further, the alliance was measured at only one time point such that any changes in the alliance over the course of treatment were not accounted for in the present study, which may be especially relevant given that fluctuations have been shown to be predictive of outcomes (Lecomte, Leclerc, Wykes, Nicole, & Abdel Baki, 2015; Zilcha-Mano et al., 2016). It should be noted that specific contributions to the within-therapist effects cannot be determined and could include a range of effects such as client factors, client-therapist match, or within-therapy processes. Finally, our sample was relatively small for examining between-therapist and within-therapist effects (Adelson & Owen, 2012) and our analyses were not corrected for multiple comparisons.

Despite these limitations, the present study highlights the importance of the alliance in FEP treatment delivery. Early alliance scores were related to improved symptomatic and recovery outcomes at the end of 2 years of treatment. Future work may consider examining how an observer rating of the alliance is related to client and/or therapist ratings and whether some or all of these perspectives are related to outcomes. It should also consider examining changes in the alliance over the course of treatment as well as mechanisms underlying the alliance-outcome relationship (Zilcha-Mano, 2017). Finally, future work should use larger sample sizes with a sufficient number of therapists to adequately disentangle alliance effects as well as multivariate multilevel modeling to protect against escalating alpha associated with multiple comparisons.

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Appendix

Therapeutic Alliance Scale

Vanderbilt Therapeutic Alliance Scale (VTAS) – Short Form

1. To what extent did the client indicate that he experiences the therapist as supporting and understanding?

2. To what extent did the client seem to identify with the therapist's method of working, so that he sees himself as an active participant in therapy?

3. To what extent did the client act in a mistrustful or defensive manner toward the therapist?

4. To what extent did the therapist and client together share a common viewpoint about the definition, possible causes, and potential alleviation of the client's problems?

5. To what extent did the therapist and client together agree upon the goals and/or tasks of the session?

Note. Items are rated from 0 to 5 using the associated rating manual. Item 3 is reverse scored.

Data Transparency

The present study used a portion of publicly available data (Study Title: Recovery After an Initial Schizophrenia Episode [RAISE]: RAISE Early Treatment Program; Data available through NIMH Data Archive). One related article was recently published on this topic (Browne et al., 2019). However, this present article examined unique research questions that were not addressed in MS 1. The relationships examined in the present article have not been examined in any previous or current articles, or to the best of our knowledge in any papers that will be under review soon.

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