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Examining the Factor Structure of Therapist Fidelity in First-Episode Psychosis Intervention:  
Relationships with Baseline Client and Clinician Characteristics during Individual Resiliency  
Training

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### **Abstract**

Evidence-based approaches and early intervention have improved the long-term prognosis of individuals with schizophrenia. However, little is known about the therapeutic processes involved in individual therapy in first-episode psychosis. A comprehensive psychosocial/psychiatric program for this population, NAVIGATE, includes an individual therapy component, Individual Resiliency Training (IRT). Fidelity of clinicians' adherence to the IRT protocol has been collected to ensure proper implementation of this manual-based intervention. These data can provide insight into the elements of the therapeutic process in this intervention. To achieve this goal, I first examined the factor structure of the IRT fidelity scale with exploratory factor analysis. Secondly, I explored the relationships of the IRT fidelity ratings (and any derived factors) with clinician years of experience and years of education, and client's baseline symptom severity and duration of untreated psychosis. Results supported a two-factor structure of the IRT fidelity scale. Correlations between clinician years of education and fidelity ratings were statistically significant.

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Relationships with Treatment-Related Variables in Individual Resiliency Training

Schizophrenia is a chronic mental disorder that creates significant functional impairment for individuals and large-scale burdens on the health care system (Mark, Coffey, Vandivort-Warren, Harwood, & King, 2005; Mueser & McGurk, 2004). As a mental illness, schizophrenia is markedly diverse, involving a multitude of risk factors (e.g. positive family history, high expressive family style, social network discrepancies; Sullivan, 2012; Walder, Faraone, Glatt, Tsuang & Siedman, 2014) and a wide range of treatment outcomes (e.g. number of hospitalizations, use of compulsory detention, need for ongoing mental health service, detention in prison, life expectancy; Harrington, Neffgen, Sasalu, Sehgal & Woolley, 2013). As such, the treatment of schizophrenia has proven challenging due to the complexity of the underlying pathology of the disease, along with other factors such as access to care and the stigma associated with the diagnosis (Perkins, Gu, Boteva & Lieberman, 2005). Despite these challenges, early intervention following an initial psychotic episode is a promising approach for reducing relapse and ameliorating illness chronicity (Marshall et al., 2005).

Previous research has found that the prevalence of psychotic symptoms during the first two years of treatment predicts illness outcomes after 15 years (Harrison et al., 2001). Additional evidence suggests that effective early intervention can shift an individual's trajectory toward both symptomatic and functional recovery, while extended duration of untreated psychosis can worsen responses to treatment (Lee, Ahn, Park & Chung, 2012; Lieberman, Dixon & Goldman, 2013). Because early intervention is a promising recovery target, much research has focused on adapting effective treatments for individuals with chronic schizophrenia to a first-episode population.

In general, psychosocial therapies such as cognitive behavioral therapy, family intervention, community support rehabilitation, and vocational rehabilitation have proven beneficial for people with psychotic disorders (Fenton & Schooler, 2000; Shean, 2009; Villeneuve, Potvin, Lesage & Nicole, 2010). Some research suggests that psychosocial interventions are effective because they address issues beyond the traditional aims of treatment for individuals with schizophrenia. Specifically, many psychosocial interventions focus on functional goals such as improving social skills and relationships, and encouraging engagement in work and community in addition to symptom management, prevention of relapse, and re-hospitalization. As a result, psychosocial treatment approaches aid clients in achieving independence, employment, satisfying relationships, and improved quality of life (Drake et al., 2001).

Because psychotic disorders result from a confluence of biological, social, and psychological factors, interventions that focus on a single domain have limitations. For instance, interventions that focus exclusively on pharmacological treatment have shown high attrition rates (approximately 33%) (Wahlbeck, Tuunainen, Ahokas & Leucht, 2001). Studies involving first-episode populations have demonstrated greater therapeutic responses and the need for lower doses of medication, yet recovery rates remain low due to continued therapy attrition and medication non-adherence (Buchanan et al., 2010; Lieberman et al., 2013). Therefore, the most effective interventions are those that can address the specific needs of the target population while also keeping service users engaged in treatment (Villeneuve et al., 2010). Such integrated approaches that involve both pharmacological interventions and psychosocial models have proven especially useful when addressing negative symptoms, cognitive impairments, and treatment-resistant positive symptoms (Harris & Boyce, 2013). These three types of symptoms

are especially significant treatment targets because they can be most challenging to treat and are associated with significant long term disability (Murphy, Stuart & McGorry, 2008).

To adapt psychosocial treatments to a first-episode population, recent research has focused on the development of programs that have an early intervention focus (Alvarez-Jimenez, Parker, Hetrick, McGorry & Gleeson, 2011; Baumann et al., 2013; Birchwood et al., 2014; Malla & Payne, 2005). This research has revealed that, in order to promote recovery, these programs should be prompt, comprehensive, and also specialized for this specific population in (Bertolote & McGorry, 2005). Specialized comprehensive first-episode programs have proven effective in reducing symptoms, improving functional outcomes, and reducing treatment costs for this population (Alvarez-Jimenez et al., 2011; Mihalopoulos, Harris, Henry, Harrigan & McGorry, 2009). Specifically, multi-element treatment models, which incorporate an array of treatment targets and services in a single program, are especially effective in addressing the clinical needs of first-episode individuals (Uzenoff et al., 2012).

First-episode multi-element programs have proliferated and been evaluated internationally in Australia, the United Kingdom and Scandinavia. The Early Psychosis Prevention and Intervention Centre in Australia (EPPIC; McGorry, Edwards, Mihalopoulos, Harrigan, & Jackson, 1996) has yielded promising clinical results (Addington, 2007). Specifically, the EPPIC program was associated with lower levels of positive psychotic symptoms, greater likelihood of remission, a more favorable course, and significantly decreased treatment costs in comparison to standard public mental health services (Mihalopoulos et al., 2009). A randomized control trial of the Lambeth Early Onset Team (LEO; Craig et al., 2004), an intervention including assertive community outreach with evidence based biopsychosocial interventions, took place in London. Results from this study similarly showed that such

specialized care for patients with early psychosis reduced rates of relapse, hospital readmission and drop out. In addition, the Opus study (Jørgensen et al., 2000), a prospective follow-up study in Denmark found that early, specialized integrative treatment not only improved patient adherence, but also favorably changed psychotic and negative symptoms after a 1- and 2-year follow-up (Petersen, 2005).

The results of the aforementioned international studies of comprehensive, multi-element, phase-specific interventions indicate that such programs hold potential to improve clinical and functional outcomes for first-episode patients. However, comparable programs have not yet been developed in the United States. This absence in the U.S. has incentivized recent efforts to construct similar early-intervention programs that may be implemented specifically within the context of the United States mental health care system (Srihari et al., 2009). Recently, the first systematic evaluation of a United States based multi-element treatment center for early psychosis demonstrated that clients were highly engaged, and experienced significant improvements across multiple functional domains (Uzenoff et al., 2012). These promising findings underscored the need for a more elaborate investigation of multi-element first-episode programs in the United States.

In response to these findings, researchers have launched, and recently completed, a large U.S. multi-site first-episode randomized treatment trial entitled Recovery After an Initial Schizophrenia Episode (RAISE). The RAISE study sought to assess the effectiveness of the NAVIGATE program, a comprehensive, goal-oriented treatment program involving the coordination of mental health professionals who provide various sets of collaborative services to community care. Like EPPIC, the main goal of RAISE was to assess the overall clinical impact and cost-effectiveness of NAVIGATE on functional outcomes, symptom remission, recovery,

and cost. The NAVIGATE program sought to provide early and effective treatment to individuals who have experienced a first episode of psychosis with a multicomponent treatment plan including medical management, individual resiliency-focused therapy (IRT), family psychoeducation, and supported employment and education. Participating individuals worked with the team members of the NAVIGATE program to make collaborative decisions regarding the implementation of each program component.

Individual Resiliency Training (IRT) represents an integral therapeutic approach examined in the RAISE project. IRT is a manual-based psychosocial treatment that has a recovery and resiliency focus, two components of treatments that have been associated with long-term improvements in outcomes such as self-sufficiency and quality of life (Mead & Copeland, 2000). The multifaceted treatment goals of IRT include illness self-management, substance use, residual and/or emerging symptoms, trauma and PTSD, and health and functional difficulties. Along with these treatment goals, IRT takes a strengths-based approach, which focuses on how clients can identify and capitalize on their personal resilient qualities. The IRT intervention is comprised of fourteen modules<sup>1</sup>, of which the first seven are considered standard sessions (foundational modules that all clients receive as part of therapy), and the second seven are individualized (modules which are only covered if they address client-specific problems areas that may provide obstacles to recovery). See Appendix A for a detailed description of the IRT modules.

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<sup>1</sup> 1-Orientation, 2-Assessment/Initial Goal Setting, 3-Education about Psychosis, 4-Relapse Prevention Planning, 5-Processing the Psychotic Episode, 6-Developing Resiliency-Standard, 7-Building a Bridge to your Goals, 8-Dealing with Negative Feelings, 9-Coping with Symptoms, 10-Substance Use, 11-Having Fun and Developing Good Relationships, 12-Making Choices about Smoking, 13-Nutrition and Exercise, 14-Developing Resiliency-Individualized

In the implementation of large-scale manual-based psychosocial interventions like RAISE, the adherence of therapists to treatment guidelines is assessed to ensure the intervention is delivered as it was designed (Bond, Evans, Salyers, Williams & Kim, 2000; Snyder, Thompson, McLean & Smith, 2002). Treatment manuals and fidelity scales (quantitative ratings of therapist performance) are standard tools used to promote proper treatment implementation. Treatment fidelity merits substantial consideration in studies of treatment outcome in order to interpret and explain the ease of implementation and effectiveness of a given treatment. The main objective of improving fidelity ratings in psychological research is to validate that variation in the treatment outcomes are indeed due to the type of intervention (Borrelli et al., 2005). In addition to improving scientific integrity, tests of treatment fidelity provide information concerning implementation, and can aid in therapist training and clinical supervision (Gearing et al., 2011; Waltz, Addis, Koerner & Jacobson, 1993). Ensuring treatment fidelity is therefore vital for increasing both internal and external validity of treatments so that connections can be drawn to clinical outcomes and treatments may be properly differentiated and replicated (Moncher & Prinz, 1991; Proctor, Powell & McMillen, 2013).

Examining fidelity to guidelines is especially crucial for treatment outcome studies involving patients with severe psychological disorders. These particular treatments can be complex and difficult to implement (McHugo et al., 2007) and tend to differ significantly from other psychotherapies constructed for non-psychotic disorders (Startup, Jackson & Pearce, 2002). In addition, the clinically complex nature of schizophrenia (e.g. symptom heterogeneity and inconsistent treatment response; Jarskog, Mattioli, Perkins, & Lieberman, 2000) can impede treatment adherence and implementation on a large scale (Perepletchikova & Kazdin, 2007). For example, strict adherence to treatment can prove effective for clients who display generally



consistent symptomology, while treatment geared towards the complex display of symptoms encountered in early psychosis may require more flexibility and individualization (Ruggeri & Tansella, 2011). Therefore, it is especially vital that fidelity of treatment for diverse populations addresses not only therapist adherence, but also competence, meaning that prescribed therapeutic activities are carried out in a manner customized to the client's particular presentation (Rollinson et al., 2008). The use of clinical supervision is a promising tool that can help identify limitations and improve subsequent applications of the model (Miller & Binder, 2002).

The IRT program ensures effective implementation through the use of fidelity scales as well as weekly group supervision of clinicians. These efforts to solidify clinician-researcher collaboration are vital for the dissemination and implementation of such interventions since clinician behaviors and characteristics could assist or obstruct the transportability of manual-based treatments (Baumann, Kolko, Collins & Herschell, 2006). For example, experienced clinicians who are unaccustomed to high levels of structure and oversight of treatment may be more resistant to adjusting and implementing programs like IRT (McGuire et al., 2014). Additionally, discontinuities between practices as described in the literature and as implemented in practice become even more problematic once practices become widely disseminated (Bond et al., 2002). Fidelity scales remedy these issues by not only providing a means to monitor implementation but also having the potential to provide important information about determinants of treatment success.

A few studies exploring the components of cognitive behavioral type psychotherapies with psychosis reveal that two or three factors can be derived from established rating scales (Rollinson et al., 2008; Startup et al., 2002). For example, Startup and colleagues (2002) found that the devised Cognitive Therapy for Psychosis Adherence Scale (CPTAS) could be divided

into 2 factor-based subscales including a Focus on Delusions factor and a Current and Future Problem Solving factor. It was also found that factor scores differed depending in engaged versus non-engaged clients (defined as those who dropped out of treatment prior to the twelfth session). A Revised Cognitive Therapy for Psychosis Scale (R-CTPAS) was formulated in more recent research, and analyses result in three suggested factors comprise this modified scale: Engagement/Assessment work, Relapse Prevention Work and Formulation/Schema work (Rollinson et al., 2008). The detailed description of therapeutic activity provided by these previous studies can contribute to future clinical effectiveness trials, process research and clinical practice.

Although previous research has revealed that ensuring fidelity to guidelines for treatment of early psychosis can enhance and improve care (Petrakis et al., 2011), less is known about the distinct components of individual therapy with a first-episode population that may be captured by fidelity scales. In addition, it remains unclear how such components are related to other treatment-related variables. Fidelity scales have been validated for evidence-based practices geared toward the severely mentally ill, including assertive community treatment (Harvey, Killaspy, Martino, & Johnson, 2012), supported employment and family psychoeducation (McHugo et al., 2007), illness management and recovery (McGuire et al., 2014), cognitive behavioral therapy (Rollinson et al., 2008), relapse prevention therapy (Alvarez-Jimenez et al., 2008), family-focused therapy (Carlson & Weisman de Mamani, 2009; Marvin, Miklowitz, O'Brien & Cannon, 2014) and exposure-based treatment of PTSD (Long et al., 2010). Although the psychosocial therapy of multi-element interventions for first-episode psychosis populations has shown to be effective (Penn et al., 2005), less is known about the fidelity of the individual therapy incorporated into such programs. Clarifying and distinguishing between treatments

specifically for a first-episode population is vital because different elements and foci of therapy can be more or less appropriate and effective for patients depending on their stage of recovery (Mander, Wittorf, Klingberg & Sammet, 2014).

Specialized first-episode psychosis services have a substantive evidence base, and recent investigations of their essential components provide important suggestions for ways to improve upon first-episode treatment (Addington, McKenzie, Norman, Wang & Bond, 2013).

Discovering the specific components involved in such evidence-based interventions is necessary to elucidate the mechanisms responsible for the achieved results (Ganju, 2003; Perepletchikova & Kazdin, 2005). In addition, components identified as essential to evidence-based treatment of this population can in turn be used to evaluate and compare programs (Addington, et al., 2012).

Identifying independent facets of IRT could help specify the distinct and crucial elements involved in successful individual psychosocial therapy for the first-episode population.

Specifically, this information could improve manual design and implementation as well as promote replication and adoption of existing program to differential settings (Bond, Becker, Drake & Volger, 1997). Further, it is necessary to provide in-depth descriptive information of the IRT program model to clarify the interpretation, reporting, and evaluation of the RAISE study.

Similarly, identifying the distinct factors underlying the IRT fidelity scale could enhance the quality and specificity of feedback for clinicians, thereby improving the treatment and implementation of IRT. Increased adherence to evidence-based services for schizophrenia is associated with improved effectiveness and lower treatment costs (Addington et al., 2012). Yet, previous research has shown significant between- and within-therapist variability in fidelity ratings of individual therapy during treatment trials along with substantial deterioration in fidelity scores over the course of treatment (Boswell et al., 2013; Imel, Baer, Martino, Ball &

Carroll, 2011). This evidence provides reason to increase insight and accuracy of continued clinical consultation throughout treatment implementation and to focus on characteristics specific to particular clinician-client dynamics.

Studies examining the broader connection between therapist manual adherence and successful symptomatic outcomes have yielded inconsistent results (Perepletchikova et al, 2005; Webb, DeRubeis & Barber, 2010). To explain these inconsistencies, in-depth studies have revealed intricate elements, which could moderate the adherence-outcome relationship (e.g. therapeutic alliance, therapist training level and years of clinical experience, patient motivation/engagement and symptom presentation/severity) (Barber et al., 2006; Brauhardt et al., 2014; Brown et al., 2013; Perepletchikova et al., 2005; Huppert, Barlow, Gorman, Shear & Woods, 2006; Startup et al., 2002). Previous research of fidelity in first-episode population has recognized the need to consider such moderators, but studies of these moderators have yet to occur (Alvarez-Jimenez, 2008). Identifying possible relations between underlying mechanisms of therapy (e.g client and therapist characteristics) and the factors of treatment fidelity could further clarify these findings.

Knowledge of the influential elements affecting treatment fidelity could prove especially valuable for first-episode populations, given the unique array of symptom presentations. Clinician ability to adhere to treatment manuals can be mutually influenced by both client and clinician characteristics. Past research has suggested that psychiatric severity could either decrease the amount clinicians engage in suggested strategies or, alternately, elicit greater use of therapeutic materials (Imel et al., 2011). It is also possible that clinicians utilize different factors of therapy more frequently depending on client variables, such as level of motivation (Startup et al., 2002). Clients' duration of untreated psychosis and symptom severity have been associated

with poorer outcome, but it remains unclear what moderates these relationships (Norman, Lewis & Marshall, 2005). Investigating the connection between client baseline symptom severity and duration of untreated psychosis and the factors of treatment fidelity may further inform this relationship specifically in relation to the IRT therapy geared towards the first episode population.

Therapist characteristics may also relate to the fidelity of specific elements of therapy. Previous studies have found therapist experience to be positively related to adherence and competence (Barnfield, Mathieson & Beaumont, 2007). Therapists with more overall training and general experience may be able to better use feedback from supervision and apply it to a particular client. However, it has also been found that therapists with more training and supervision in a particular area may have more difficulty adjusting to the new model (Siqueland et al., 2004). This could be because therapists with less prior clinical experience are more open to training and novel theoretical orientations and are therefore easier to train (Brown et al., 2013). Examining the relationship between clinician years of experience and level of education could inform and improve how clinicians are trained and supervised in the delivery of IRT.

The present study aims to identify the factors involved in treatment fidelity for individuals in their first-psychotic episode and to examine the relationships between these potential factors and baseline clinician and client characteristics. To achieve these goals, I will first conduct an exploratory factor analysis on the IRT fidelity scale. Next, I will examine the correlations between the derived factors and baseline client characteristics, including duration of untreated psychosis and symptom severity. Finally, I will analyze the relationships between the fidelity scores and baseline clinician demographic characteristics, which involve years of experience and highest level of education.

## Method

### Participants

The RAISE study includes 34 clinical sites across 21 states in all regions of the United States. Of the sites<sup>2</sup>, half of the clinics were randomized to the NAVIGATE program after first being stratified based on racial and ethnic distribution of patients and on an urban/suburban/rural continuum in order to control for any systematic differences between the populations of various sites. The entire study includes 404 subjects between the ages of 15 and 40 ( $M = 23.65$ ,  $SD = 5$ ), with the majority (70%) between 15 and 25 years old, who all meet DSM-IV criteria for schizophrenia, schizoaffective disorder, schizophreniform disorder, brief psychotic disorder, or psychotic disorder not otherwise specified (NOS), and are recovering from their first psychotic episode.

Trained mental health center staff identified possible participants either from the clinic or the community. Participants could have experienced any duration of untreated psychosis but received no more than four months of prior treatment with antipsychotic medication. Once individuals agreed to participate, their fulfillment of the inclusion criteria was confirmed through a formal diagnostic assessment that included an on-site examination by a study coordinator who was trained by the site's research staff and a videoconference with professionally trained clinical assessors. Of these subjects, 223 received treatment from the clinics randomized to implement IRT. Fidelity ratings were collected from the sessions of 102 clients receiving IRT, which included 36 clinicians across all RAISE treatment sites. Baseline demographic data was not collected for one client.

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<sup>2</sup> Springfield, MO, Cobb County, GA, Des Moines, IO, Nashua, NH, Burlington, VT, Panama City, FL, Denver, CO, Lancaster, PA, Lansing, Michigan, Minneapolis, MN, Longview, WA, Providence, RI, Sussex, NJ, Baton Rouge, LA, Kansas City, MO, San Fernando, CA, and Albuquerque, NM

## Measures

The IRT fidelity rating scale consists of 14 items that cover all IRT treatment goals, which include setting and effectively implementing an agenda, reviewing and setting new home assignments, and focusing on resiliency and recovery (See Appendix B). Each item is rated on a Likert scale from 1 (Unsatisfactory or Unobserved) to 5 (Excellent). All of the items are designed to monitor a clinician's delivery of IRT. These ratings were provided to clinicians during weekly supervisions, along with detailed feedback to increase their competence at implementing the intervention.

The baseline clinician characteristics include the clinician's level of education and years of experience prior to entering the IRT program. The baseline client characteristics comprise symptom severity upon entering the program and the duration of untreated psychosis experiences prior to intake. For the RAISE Early Treatment Program, clients were assessed across all sites by trained interviewers using two-way video to conduct semi-structured interviews. Duration of untreated psychosis (DUP) was measured during initial assessments by determining the time between onset of first psychotic symptoms, and initiation of antipsychotic medication (Norman et al., 2005). Symptoms were measured at baseline using the Positive and Negative Syndrome Scale (PANSS; Kay, Fiszbein & Opler, 1987) and the Calgary Depression Scale for Schizophrenia (CDSS; Addington, Addington, Maticka-Tyndale & Joyce, 1992).

The PANSS is an accepted standard measure of psychotic symptoms (Kay et al., 1987). For this study, the pentagonal model of the PANSS will be used because previous studies have shown this five-factor structure of the scale more accurately describes the symptomology of schizophrenia and psychosis (White et al., 1997). This model includes 30 items rated on a 7-point scale ranging from absent (1) to extreme (7). The following subscales are included in the

five-factor solution of the PANSS: positive factor, negative factor, disorganized/concrete factor, excited factor, and depressed factor.

The CDSS is a measure of depression modified to also assess suicidality that has been developed for use specifically in individuals with schizophrenia (Addington et al., 1992). It includes nine items rated on a four-point scale ranging from 0 (absent) to 3 (severe). The four points on each item are also anchored with additional descriptors.

### **Procedure**

The IRT clinicians were required to audio-record therapy sessions in order to monitor treatment fidelity until they reached IRT certification. In order to reach certification for the standard and individualized modules of IRT, a clinician must have recorded at least 4 sessions that receive a rating of a 3 (satisfactory) or above on the final, “Overall quality of the session” item. Ten students and staff at the University of North Carolina at Chapel Hill were trained as IRT consultants to rate sessions for fidelity. To complete training, potential consultants were first introduced to the overview and main objectives of IRT. They then rated, provided feedback, and reviewed multiple standard and individual sessions that had been rated previously for fidelity by well-versed consultants. Trainees were required to reach acceptable levels of inter-rater reliability ( $\alpha = 0.70$ ) for all items on the fidelity scale for both standard and individualized sessions with all other consultants who had rated these sessions.

All IRT clinicians received detailed training and weekly group supervision provided by licensed clinical psychologists. To maximize utility, IRT clinical supervision followed a simple structure where IRT supervisors began with a brief check-in with clinicians concerning individual cases, and then focused on one of four options (planning for next module with clinicians; problem solving or giving suggestions for a problem or challenge identified during the



check-in; asking a clinician to give a case presentation; reviewing an IRT skill or strategy for advanced training) based on the clinicians' reported progress. The main goals of the clinical supervision were to aid trained IRT clinicians by monitoring their delivery of IRT, providing feedback about their implementation of IRT within the agency, creating opportunities for clinicians to practice IRT skills, and offering clinicians support while implementing IRT.

The fidelity ratings were provided to clinicians during these supervision sessions by the IRT supervisor. Fidelity ratings and feedback from IRT consultants were also used during supervision to improve clinicians' adherence to the treatment models.

For the current study, the fidelity ratings of only the standard sessions (foundational sessions that all clients receive as part of therapy) for the first twelve months of treatment will be included in all analyses, to capture earlier, rather than later therapy processes. Ratings from module one (orientation) will be excluded because its main objective is to socialize clients to IRT and the NAVIGATE program, which does not capture the treatment elements of interest to this study.

In the process of monitoring fidelity, IRT clinicians recorded between 1 and 10 total sessions (excluding sessions of module 1) with any single client ( $M = 3.09$ ,  $SD = 1.38$ ). Most clinicians conducted sessions with multiple clients ( $M = 3.23$ ,  $SD = 1.63$ ) over the course of the treatment trial. All sessions rated for fidelity were applied towards clinician certification.

The unit of analysis for the exploratory factor analysis is the clinician-client dyad. Overall, there were 102 eligible clinician-client dyads, meaning this dyad conducted at least one complete, recorded session that focused mainly on the standard modules 2 through 7. Any given dyad had between 1 and 7 completed standard sessions, excluding sessions of module 1 ( $M = 2.00$ ,  $SD = 1.38$ ).

In order to capture as much information as possible from these ratings, the mean fidelity scores will be taken across all eligible standard sessions for each clinician-client dyad. These scores will be used in the factor analysis.

## **Results**

### **Descriptive Statistics**

Data analyses were performed using SPSS version 22. Statistical significance was defined as  $p < .05$ . Descriptive data for both clinician demographics (years of experience and level of education) and client demographics (age, gender, ethnicity, socioeconomic status, duration of untreated psychosis, and symptoms) for participants involved in the factor analysis were calculated (See Tables 1 and 2). Total scores for clients' symptoms on the PANSS and the CDSS were obtained by summing item ratings of all 30 and 9 items, respectively. Factor scores of the 5 symptom subscales of the PANSS were calculated by taking the mean scores of items. Data for one client and three clinicians were not collected, and are therefore missing from these analyses.

Insert Tables one and two about here

### **Factor Analysis**

The primary aim of this study was to identify the latent constructs within the IRT fidelity scale. An exploratory factor analysis approach was selected using iterated principal factors (ordinary least squares) method because it identifies a set of underlying factors that best account for the measured variables, such as those of the IRT fidelity scale. This method is effective in seeking a set of dimensions, each of which is common to a subset of the items of the scale in question (Fabrigar, Wegner, MacCallum & Strahan, 1999). The unit of analysis for this study was the clinician-client dyad ( $n = 102$ ).

To determine the number of factors to retain, a scree test was conducted in conjunction with the standard Eigenvalues greater than one rule, supplemented by evaluating the interpretability of the factor solution. Finally, an oblique rotation was used in this analysis to yield independent factors. Factor scores were computed by taking the mean of the IRT fidelity scale raw items that corresponded to each factor. Mean scores were used in place of raw total scores because of the potential for different numbers of items loading onto each factor.

While selecting the number of factors in this analysis, the analysis was run twice. First, the last item of the scale (Overall Quality of the Session) was retained in the analysis, and second it was removed. There was potential for this item be highly correlated with all factors because when scoring this item, raters were advised to take into account all aspects of clinician fidelity, including motivation, educational, and cognitive behavioral strategies, along with flexibility and stress reduction. As part of the second analysis (excluding Overall Quality of the Session item), the resulting factor scores were calculated and simple Pearson correlations were conducted between these factor scores and the Overall Quality of the Session item score. This information was used to explain which items were accountable for the majority of the variance, and responsible for driving this overall rating.

Results from these analyses indicated that the model of best fit for the IRT fidelity scale was a two-factor solution, which explained a total of 63% of the variance within the data (see Table 3 for factor loadings and Figure 1 for scree plot). Four items (Agenda Setting, Use of IRT Education Materials, Developing Home Assignment, Structuring the Session and Using Time Efficiently) loaded heavily onto the first factor, which accounted for 53% of the variance. Factor one was labeled “Technical” as all of these items conceptually detail the concrete, technical elements of the treatment. Conversely, the three items that loaded heavily onto the second factor

(Motivational Enhancement Strategies, Therapeutic Relationship, Recovery and Resiliency Focus) are centered on the nonspecific and relational aspects of IRT, and therefore, was labeled “Relational.” This factor accounted for 10% of the variance (See Appendix B for full descriptions of items).

Insert Table 3 about here

Three items (Goal-setting and Goal Follow-up, Review of Home Assignment, Educational Strategies) had split loadings onto both factors. This is likely because these three items involve explicit use of the technical factors of IRT, and also require more nonspecific skills that involve engaging the client. These items were therefore assigned to an appropriate factor based on theoretical rationale. As a result, the Educational Strategies item was conceptually aligned with the first, technical factor, while the Goal Setting and Goal Follow-up and Review of Home Assignment items aligned with the second, relational factor.

The Educational Strategies is mostly based on how the clinician provides, breaks down and summarizes information from the IRT materials, and therefore more heavily focuses on the technical element of IRT (factor one). The Goal-setting and Goal Follow-up item focuses on how the clinician aids the client in identifying personally meaningful goals, reinforces steps taken towards these goals, and problem-solves obstacles that arise. The Review of Home Assignment item is similarly personalized to each client as a part of IRT, and was also placed with the relational factor even though the other item on the IRT scale dealing with home assignments, (e.g. Developing Home Assignment), loaded onto the first, technical factor. Although both items focus on the homework aspect of IRT, the Developing Home Assignment item is more heavily focused on planning a specific task. On the other hand, the Review of Home Assignment item is largely based on how the clinician both reinforces efforts a client puts towards their home

assignment, and also identifies and helps to solve the problems or obstacles involved. The details of both the Goal-setting and Goal Follow-up item and the Review of Home Assignment item are specific to each client in IRT, and rely heavily on the nonspecific skills of the clinician (factor two).

The final item, Overall Quality of the Session was not included in the factor solution. Further, the correlations between this item and both the technical ( $r(100) = .83, p < .01$ ) and relational ( $r(100) = .79, p < .01$ ) factor scores were significant, indicating a strong relationship between both factor scores and the overall quality of the session. Additionally, the resulting factors (technical and relational) from this analysis were significantly inter-correlated ( $r(100) = .67, p < .01$ ).

#### **Correlates of baseline characteristics**

Simple Pearson product-moment correlations between the Technical and Relational factors and the previously described measures of client and clinician characteristics were computed. Correlations were also conducted between these characteristic measures and the Overall Quality of the Session item, as it is an integral value indicating the quality of IRT treatment fidelity. All correlations can be found in Table 4.

Insert Table four about here

Client characteristics, including DUP, PANSS total score and all five factors scores and total score on the CDSS were not significantly correlated with the technical factor score, the relational factor score, or the Overall Quality of the Session item. However, clinician years of education were significantly and positively correlated with both the relational factor score and the Overall Quality of the Session score. There were no significant correlations between clinician

years of experience and either factor score, as well as with the Overall Quality of the Session score.

### **Discussion**

The aims of the present study were to first, investigate the underlying factors of the IRT fidelity scale, and second, to explore the relations between the resulting factors and the characteristics of both the clinicians and clients involved in the IRT treatment. Results demonstrated an acceptable fit for a two-factor solution. Both factors were conceptually interpretable in that the first factor was comprised of items based on explicit use of treatment manual concepts and materials, while items of the second factor focused on the relational aspects of the therapy individual to each client.

These findings are consistent with previous research that suggests fidelity of individual therapy may be comprised of two elements: adherence and competence (Startup et al., 2002). Waltz and colleagues (1993) initially described therapist adherence as the degree to which the therapist used the specific approaches described in the treatment manual and avoided use of alternate approaches. Alternately, they described therapist competence as the skill level put forth by the therapist in conducting the prescribed intervention, and responding to relevant contextual variables in an appropriate manner. Both elements were identified as distinct, yet vital for successful tests of treatment integrity.

Previous work on fidelity for CBT for individuals with psychosis specifically emphasizes the importance of addressing both therapist adherence and competence in the treatment of this population due to the complexity of symptom presentation (Fowler, Rollinson & French, 2011). This may be especially vital when adapting therapies geared towards individuals with early psychosis because the unique treatment needs of this population involve a balance of strict

adherence with specific individuation (Ruggeri et al., 2011). The resulting factors of the IRT fidelity scale theoretically align with the concept that treatment fidelity for a first-episode population is comprised of adherence, which is captured in the first, technical factor of the scale, and competence, captured in the second, relational factor. Therefore, the results from the factor analysis of the IRT fidelity scale not only confirm that it captures the essential elements of fidelity for individual therapy in general, but also supports previous work in identifying important components of such treatment for first-episode patients.

The significant correlations between both factors and the Overall Quality of Session Rating provide support for the interconnectivity of the adherence and competence aspects of fidelity. These results buttress the IRT fidelity scale as a unified measure of therapist fidelity to the IRT treatment. Further, the two factors of the IRT fidelity scale were significantly inter-correlated with one another. This is consistent with previous research showing an overlap between adherence to and competence of cognitive therapies (Barber et al., 2006; McGlinchey & Dobson, 2003). Identifying these distinct, yet interconnected technical and relational aspects of the IRT fidelity scale can be utilized in the training of IRT clinicians, and can also inform future research on, and development of, fidelity scales for individual therapy geared towards first-episode patients.

A second aim of the study was to examine baseline client and clinician characteristics that predict treatment fidelity. Our results showed that baseline client characteristics were not significantly correlated with factor scores or overall fidelity ratings. These findings are inconsistent with some prior research that found a significant relationship between symptomatology of patients with schizophrenia and therapist adherence and competence (Carlson et al., 2009). However, other studies conducted in both a general psychiatric population

(Brauhardt et al., 2014; Imel et al., 2011), and in a group with prodromal symptoms of psychosis (Marvin et al., 2014) didn't find an association between these factors. Because fidelity is a measure of clinician performance, it is encouraging that clinician implementation of the IRT treatment, which is specifically targeted towards the symptom presentation of a first episode population, was not significantly influenced by the symptomatology of the client. Further, because findings are consistent with those found in a group with prodromal symptoms (Marvin et al., 2014), and inconsistent with those found in a chronic population (Carlson et al., 2009), this may indicate that the symptom presentation of the current first episode group is more closely aligned with that of a prodromal population.

We also found that clinician years of education, but not experience, was significantly correlated with the relational factor score and the Overall Quality of the Session score of the IRT fidelity scale. The significant positive relationship between clinician years of education and fidelity ratings is consistent with some previous research in this area (Campbell et al., 2013). Campbell et al. (2013) focused solely on the presence or absence of a graduate degree, while the current study assessed years of education, therefore taking into account the level of education as well (e.g. Bachelor's, Master's, Doctorate). Interestingly, years of experience were not related to the technical factor score. The relational factor involves competence-related elements that require more responsiveness and skill on the part of the clinician, while the technical factor required adherence-related behavior that is more explicitly prescribed in the treatment manual (Rollinson et al., 2008). This differential relationship is supported by previous research that found higher education to significantly predict competence, but not adherence (Fals-Stewart & Birchler, 2002).



Results should be interpreted with caution, as many of the analyses were correlational and exploratory. Additionally, the sample size ( $n=102$ ) of the current study is relatively small in terms of what is generally recommended for an exploratory factor analysis of these conditions (Fabrigar et al., 1999), though recommendations set forth by prior research also vary dramatically. It is also important to note that the sample from the current study involved partially nested data, which violates the assumption of independently distributed observations. Such aspects of the sample may provide reason to expand upon the current findings to utilize a larger sample size so that data can be analyzed from a multilevel modeling framework (Sterba et al., 2014).

In addition, the range of variables considered in the analysis was limited. For example, only baseline symptom severity and duration of untreated psychosis were measured in the exploration of the relationship between client characteristics and the factors of fidelity. Previous studies have additionally explored the relationship between client engagement and motivation during session and fidelity ratings, revealing significant associations (Imel et al., 2011; Startup et al., 2002). Future research could explore these additional characteristics, as well as moderators of fidelity in relation to outcome measures.

Despite these limitations, the findings of the current study provide insight into the underlying elements of the IRT treatment and fidelity as part of the larger NAVIGATE study. This research is novel in that it focuses on the underlying elements of fidelity to manual-based individual therapy for a first-episode population. These findings support the IRT fidelity scale as a unified measure of clinician performance that involves two main dimensions: a technical factor and a relational factor. Resulting clinician competence and adherence to IRT treatment may be assessed independently from client symptoms; however, a positive relationship between clinician

years of education and fidelity exists. Such information may indicate the importance of clinician education level in the training and supervising of clinicians in IRT treatment for individuals recovering from an initial episode of psychosis.

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Table 1

*Means and Standard Deviations of Client Baseline Characteristics*

	IRT Clients n=101
Age	24.02 (5.93)
Gender	
Male	76 (74.5%)
Female	26 (25.5%)
Race	
American Indian or Alaskan Native	8 (7.8%)
Asian	4 (3.9%)
Black or African American	31 (30.4%)
Native Hawaiian or Other Pacific Islander	0 (0%)
White	59 (57.8%)
Ethnicity	
Hispanic or Latino	26 (25.5%)
Not Hispanic or Latino	76 (74.5%)
Highest Level of Education	
Complete Post-Graduate Training, Advanced Degree	0 (0%)
Some Post-Graduate Training, No Degree	2 (2.0%)
Completed College, 4 year Degree	2 (2.0%)
Some Post-Secondary School, No Degree	32 (31.4%)
Completed High School, Diploma	35 (34.3%)
Attended High School, No Diploma	27 (26.5%)
Completed 8 <sup>th</sup> Grade, No High School	2 (2.0%)
Attended Grade School, Not through 8 <sup>th</sup> Grade	1 (1.0%)
No Schooling	0 (0%)
Duration of Untreated Psychosis (Months)	169.29 (276.12)
Symptom Severity Ratings	
PANSS total	76.85 (14.50)
PANSS positive	3.07 (0.90)
PANSS negative	2.79 (0.90)
PANSS disorganized/concrete	2.70 (1.00)
PANSS excited	1.67 (0.71)
PANSS depressed	2.63 (1.05)
CDSS total	4.53 (3.97)

*Note.* Demographic data is missing for one client.

Table 2

*Means and Standard Deviations of Clinician Baseline Characteristics*

	IRT Clinicians (n=33)
Gender	
Male	9 (27.3%)
Female	24 (72.7%)
Years of Experience	7.52 (8.25)
Years of Education	18.42 (1.32)
Level of Education	
Bachelor's Degree	2 (6.1%)
Master's Degree in Psychology	10 (30.3%)
Masters of Science Degree in Psychology	4 (12.1%)
Masters of Social Work Degree	11 (33.3%)
Doctorate PhD	4 (12.1%)
Doctorate PsyD	2 (6.1%)

Table 3

*Rotated Component Matrix of IRT Fidelity Scale*

Item	Factor 1: Technical	Factor 2: Relational
Agenda Setting	<b>.818</b>	.004
Goal-setting and Goal Follow-up	.578	<b>.571</b>
Review of Home Assignment	.341	<b>.451</b>
Use of IRT Education Materials	<b>.712</b>	.360
Motivational Enhancement Strategies	.315	<b>.821</b>
Educational Strategies	<b>.579</b>	.572
Developing Home Assignment	<b>.695</b>	.351
Structuring the Session and Using Time Efficiently	<b>.728</b>	.378
Therapeutic Relationship	.033	<b>.865</b>
Recovery/Resiliency Focus	.395	<b>.671</b>

*Note.* Factor loadings of items under respective factor appear in bold.



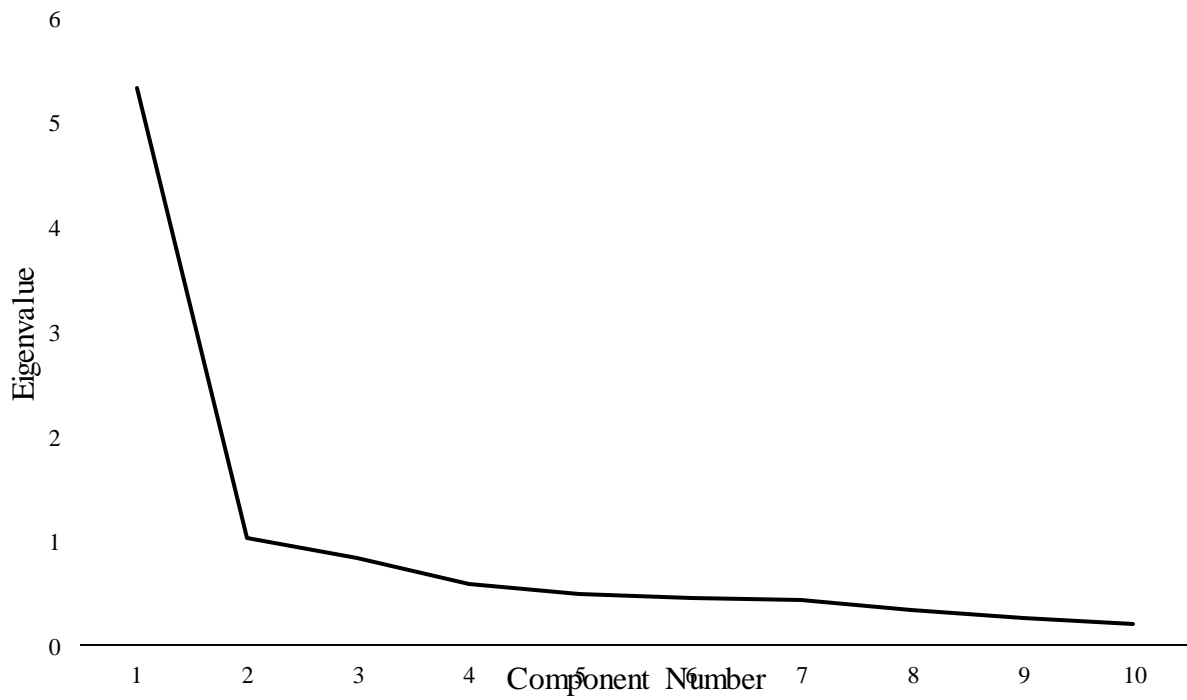
Table 4

*Bivariate Correlations among Overall Fidelity/Factor Scores & Client/Clinician Characteristics*

	Technical Factor	Relational Factor	Overall Rating
<b>Client Characteristics</b>			
PANSS total	.05	-.02	.04
PANSS Positive Factor	-.07	-.12	-.03
PANSS Negative Factor	.12	.05	.06
PANSS Disorganized/Concrete Factor	.06	.04	.06
PANSS Excited Factor	.08	-.04	.03
PANSS Depressed Factor	-.03	-.01	.01
CDSS total	-.11	-.03	-.08
DUP	-.02	-.09	-.06
<b>Clinician Characteristics</b>			
Years of Experience	-.12	-.02	-.08
Years of Education	.15	.37*	.27*

*Note.* Correlations marked with an asterisk (\*) were significant at  $p < .01$

Figure 1

*Scree Plot of Eigenvalues*

## Appendix A

Below are descriptions of each IRT module, including how many sessions are typically allocated to each topic. (Note: for this study only ratings from sessions based on modules 2-7 are included)

### **Module #1: Orientation (1-2 sessions)**

The Orientation module is designed to familiarize clients and their relatives (or other supporters) with the NAVIGATE program and with IRT. For this reason, it is ideal if the client and family can meet together with the IRT clinician in the orientation session. The IRT clinician and Family Education Program clinician may want to meet jointly with the client and relatives to orient them together and may also want to use the orientation session as an opportunity to introduce them to other NAVIGATE staff, such as the Supported Employment and Education specialist.

The Orientation module has the following goals: 1) provide information about the different components of the NAVIGATE program, IRT, and an overview of the topics in IRT; 2) set positive expectations for active participation in IRT; 3) address immediate concerns from client and relatives; and 4) teach relaxed breathing as a strategy for clients and relatives who are feeling anxious, stressed, or overwhelmed. This module serves to orient the client to the NAVIGATE program, in general, and to the IRT program, in particular. At this point, the clinician provides basic information about session logistics (frequency, duration, involvement of relatives or other supportive individuals), the content of IRT (i.e., the standard and individualized modules), and if necessary, addresses any family/client needs (e.g., via problem solving). It is also important to set expectations regarding attendance, home practice, and the client's role in being an active participant in the IRT process. It is also during the orientation that background information is obtained from the client and relatives in terms of the problems that brought them into treatment. Finally, for clients and relatives who feel overwhelmed by the illness or even the treatment process, relaxed breathing is taught.

### **Module #2: Assessment/Initial Goal Setting (2-4 sessions)**

The goals of this module are to: 1) help client to define what recovery means to him or her; 2) define resiliency and help client think about his or her resilient qualities; 3) assess client strengths and areas for improvement; 4) review the steps of setting a goal; and 5) help the client set a long-term meaningful goal that is broken down into 1 to 3 short-term goals. This module helps the client get oriented to what recovery is and to the concept of resilience. The client is asked to consider the concept of resilience and how he or she defines it. The goal is to instill hope and have the client realize that resilience is a characteristic that can help him or her overcome an initial psychotic episode.

A few sessions are then devoted to assessment of client strengths. We have included both structured assessment measures (e.g. the Brief Strengths Test) as well as unstructured assessments (e.g., open-ended questions) to elicit information from the client.

The heart of IRT is the setting and pursuing of personally meaningful goals. Therefore, we spend a few sessions helping clients identify long-term goals, and break down these goals into shorter term goals. To aid in this process, we have provided a goal planning sheet (to track progress on goals). As some clients may not be ready to set goals at this point, we revisit goal setting/tracking at the end of the standard module set (in Module #7, Building a Bridge to Your Goals).

### **Module #3: Education about Psychosis (7-11 sessions)**

The Education about Psychosis module is designed to teach clients and their relatives (or other supporters) basic information about psychosis and the principles of its treatment. For this reason, it is ideal if the client and relatives can meet together for educational sessions with the Family Education Program (FEP) clinician. If possible, the FEP clinician will provide the bulk of the education to both relatives and clients concurrently. However, if there are no relatives available or if they choose not to participate, the IRT clinician will be the principle provider of education about psychosis to the client. In some situations, the client and relatives may attend FEP sessions together, but the client may also need to process the information independently with the IRT clinician. Or the client may miss some FEP sessions, and the IRT clinician can help him or her to catch up.

The goals of the Education about Psychosis module are to: 1) elicit information about the client's and relatives' understanding of symptoms, causes, course, medications, and the impact of stress on his or her life; 2) provide psychoeducation that addresses gaps in the client's and relative's knowledge about psychosis, substance use, medication, and strategies to cope with stress; and 3) discuss strategies to build resilience. Education about Psychosis should facilitate informed decision-making by clients, help them to develop strategies to foster medication adherence, and contribute to their understanding of how stress can affect symptoms. The client is also taught a variety of relaxation techniques for managing stress.

In addition to basic education about psychosis, this module revisits the concept of resilience. The client is asked to define resilience in his or her own words and to consider how resilience can be incorporated into his or her treatment. Finally, the client is introduced to "resiliency stories," which refer to difficult experiences that people have been able to overcome, and the client's own resilience in the face of challenges is explored. Such stories help clients to discover resilient qualities within themselves, how these qualities have enabled them deal with problems in the past, and how they may help them overcome the challenges they currently face.

### **Module #4: Relapse Prevention Planning (2-4 sessions)**

The Relapse Prevention Planning module is designed to teach clients and their relatives (or other supporters) basic information about relapses and how to prevent them. For this reason, it is ideal if the client and relatives can meet together for Relapse Prevention Planning sessions with the FEP clinician. If possible, the FEP clinician will provide the bulk of the education about this topic to both relatives and clients concurrently. However, if there are no relatives available or if they choose not to participate, the IRT clinician will be the principal provider of education about relapse prevention to the client. In some situations, the client and relatives may

attend FEP sessions together, but the client may also need to process the information independently with the IRT clinician. Or the client may miss some FEP sessions, and the IRT clinician can help him or her to catch up.

This module has two primary goals: 1) provide information on the factors that contribute to set backs or relapses, such as early warning signs and triggers; and 2) help the client develop and implement a relapse prevention plan.

Relapse is defined with the client and he or she is introduced to the idea that relapses can be prevented, which in turn, can facilitate progress towards personal goals. In addition, common early warning signs of relapse are defined and described and the concept of relapse triggers is introduced. The relationship between early warning signs and triggers is explored in preparation for developing a relapse prevention plan. Finally, clients are walked through the steps of completing their own personal relapse prevention plan, in collaboration with supportive people in their life.

### **Module #5: Processing the Psychotic Episode (3-5 sessions)**

The goals of this module are to: 1) help the client process the psychotic episode—that is, to understand how it has affected his or her life; 2) help the client identify positive coping strategies used and resiliency demonstrated during this period; 3) help the client identify and challenge self-stigmatizing beliefs about the experience of psychosis; and 4) develop a positive attitude towards facing life's challenges ahead.

As this is a sensitive area for many clients, this module begins with talking with the client about how to discuss the topic of his or her psychotic episode, as well as the pace of this discussion. For clients who are reticent to discuss their experience, personal accounts of other individuals with first episode psychosis are reviewed and discussed. Clients are encouraged to “tell their story” and to create a narrative that helps them process all aspects of their psychotic episode (i.e., precursors, triggers, and effects of the episode).

In order to better understand some of the ways that self-stigmatization may contribute to the client's distress, symptoms, and problems in social functioning, the second half of this module involves the assessment and challenging of commonly-endorsed beliefs related to self-stigma that people sometimes develop following a first episode of psychosis. Self-stigmatizing beliefs are assessed using a brief standardized questionnaire before and after the psychotic episode has been processed to evaluate change. For those clients who continue to endorse stigmatizing beliefs, a brief introduction to and practice of cognitive restructuring is provided. At the end of the module, if self-stigmatizing beliefs continue to be present and cause distress, the clinician encourages the client to continue onto the individualized module Dealing with Negative Feelings (#8) for further work with cognitive restructuring.

### **Module #6: Developing Resiliency--Standard Sessions (3-4 sessions)**

This module has the following goals: 1) to provide information about resiliency and help client identify with the resiliency process; and 2) to help the client build resiliency through using strengths and paying attention to the good things that happen.

This module is broken down into two sections that include topics for both the standard sessions and the individualized sessions. In the standard resiliency sessions, the following three topics will be covered with all clients: “Exploring your Resilience,” “Using Your Strengths,” and “Finding the Good Things Each Day.” During the standard sessions, the process of developing resiliency is reviewed. In addition, the client is helped to identify personal qualities that he or she sees as resilient and reviews personal resiliency stories. The client is asked to review the top character strengths that represent him or her the most, which were originally identified in the Assessment/goal setting module. By finding new ways to use their strengths in their daily life, clients can learn to capitalize on their strengths more in different situations. In the home assignment follow-up, clients reflect on how it felt to use their strengths and how they may use their strengths more often in the future.

The client is also introduced to strategies for paying attention to the good things that happen in his or her life. This is designed to help clients notice, pay more attention to, and remember positive events that occur throughout their day. Clients also are prompted to think about why good things happen to them and who is responsible for the good things that happen.

### **Module #7: Building a Bridge to Your Goals (2-3 sessions)**

This module has the following goals: 1) help the client identify a personal goal (if one was not been set earlier) or review the goal that was set in Module 2; 2) review progress towards his or her goal and make modifications if necessary; and 3) help the client decide whether he or she will continue in treatment, and if so, which individualized modules she or he will follow.

This module provides a structure to use collaborative decision-making to help the client decide how to proceed in his or her treatment. The clinician discusses the client’s progress towards goals, barriers the client has faced or could potentially face when working towards goals, strengths, and helpful strategies from the standard modules. The clinician also works with the client to identify areas of functioning or distress that the client can address in the Individualized modules. At the end of the module, the clinician helps the client develop a Personalized Treatment Plan in which the client decides what modules he or she wants to learn, and the next steps in making progress towards his or her goal(s).

### **Module #8: Dealing with Negative Feelings (7-12 sessions)**

This module has two general goals: 1) teach the skill of cognitive restructuring (CR) as a self-management tool to help the client deal with negative feelings; and 2) help the client use this skill to deal with negative feelings (such as depression and anxiety), including negative feelings related to self-stigmatizing beliefs, psychotic symptoms, non-psychotic symptoms, suicidal thinking and behavior, and PTSD symptoms. Incorporated within the self-management model for conducting cognitive restructuring is a step-by-step approach to developing “action plans” for addressing problems in which a careful evaluation of the client’s concerns indicates that they have realistic basis.

In this module, the clinician provides information about different areas of emotional distress and specific approaches to targeting and decreasing emotional distress (i.e., cognitive

restructuring). The client is first taught about the relationship between thoughts and feelings (i.e., emotional responses to different situations are mediated by the person's thoughts or beliefs about those situations, themselves, other people, and the world in general). Clients are then taught how to recognize when they are engaging in "Common Styles of Thinking," or common, inaccurate ways that people reach conclusions that lead to negative feelings (such as catastrophizing" or "all-or-nothing thinking"), and how to examine, challenge, and change these beliefs. Teaching clients how to recognize and change Common Styles of Thinking serves as an introduction to the skill of cognitive restructuring, and provides a basis for beginning to practice the skill for dealing with negative feelings.

The client is then taught the "5 Steps of Cognitive Restructuring (CR)," which is a step-by-step approach to dealing with and resolving any negative feeling. Negative feelings based on thoughts or beliefs that are judged to be inaccurate after a close examination of the evidence are modified, leading to a reduction in the negative feeling. Negative feelings based on thoughts that are judged to be accurate are followed up by developing an action plan for dealing with and resolving the problem situation. The client is given opportunities to practice the 5 Steps of CR in session and at home. Clients are encouraged to continue to use the 5 Steps of CR on a regular basis as a self-management tool for dealing with negative feelings.

The 5 Steps of CR are used to address negative feelings that the client has. This includes negative feelings related to specific persistent symptoms, including depression, suicidal thinking or behavior, anxiety, paranoia, auditory hallucinations, posttraumatic stress disorder (PTSD) due to either the experience of the psychotic episode and upsetting treatment experiences, or due to lifetime traumatic experiences (e.g., sexual abuse or assault, sudden and unexpected loss of a loved one), and self-stigmatizing beliefs that have persisted despite completing the Processing the Psychotic Episode module.

### **Module #9: Coping with Symptoms (2-4 sessions for each symptom selected)**

This module has the following goals, to: 1) assist clients in identifying persistent symptoms that interfere with activities or their enjoyment of life; 2) help the client identify the symptoms that interfere the most, and select relevant handouts to address these symptoms; 3) assist the client in selecting coping strategies that he or she is most interested in learning; 4) teach coping strategies in sessions, using modeling and role playing whenever possible; and 5) assist clients in practicing coping strategies in their own environment, using home practice assignments, and, in some instances, conducting sessions at off-site locations.

This module is recommended for clients who experience persistent symptoms that interfere with activities, goals, or enjoyment, but who do not report significant distress, or for clients who have completed the "Dealing with Negative Feelings" module and have learned the 5 Steps of CR model of cognitive restructuring, but continue to experience significant distress from specific symptoms. The symptoms that are addressed in this module include depression, anxiety, hallucinations, sleep problems, low stamina and energy, and worrisome or troubling thoughts (e.g., thoughts related to paranoid ideation or delusions of reference). A range of coping strategies is taught for each symptom, including such strategies as relaxation techniques,

cognitive restructuring, distraction, exercise, and mindfulness. Clients are encouraged to learn to use at least two coping strategies for each of their targeted symptoms.

### **Module #10: Substance Use (11-20 sessions)**

This module does not require that the client be motivated to become sober—only that he or she is willing to talk about substance use and to explore its effects. The module is recommended for clients whose substance use has resulted in significant problems, such as precipitating symptoms, problems in social or role functioning (e.g., school, work), money problems, legal problems, family conflict, or victimization. In addition, because clients with a first episode of psychosis are vulnerable to developing a substance use disorder, the module is recommended for clients who use substances regularly but have not yet developed a clear substance abuse problem. The goals of this module are to: 1) provide basic information about substances, common reasons for using, and negative effects of substances on psychosis and personal goals; 2) enhance motivation to reduce or stop using substances; 3) teach skills for managing urges to use substances, coping with symptoms that precipitate substance use, and dealing with social situations involving substances; and 4) develop a personal substance abuse relapse prevention plan.

In this module, clinicians provide an open and accepting atmosphere for clients to discuss substance use and whether or not the client is comfortable sharing that information with his or her family. In addition, information is provided about the effects of using different psychoactive substances, common reasons for using substances, and negative effects of using substances. Clients are also asked to share their experiences with using substances. Next, clients are engaged in a decisional balance to weigh the advantages and disadvantages of using vs. not using substances in order to increase the person's motivation to quit or cut down substance use. Clients are taught strategies to increase social support for not using substances and skills for avoiding use in high risk situations. Lastly, for clients who have achieved abstinence, the clinician helps the client develop a substance abuse relapse prevention plan.

### **Module #11: Having Fun and Developing Good Relationships (composed of three sub-modules: Having Fun [3-6 sessions], Connecting with People [5-9 sessions] and Improving Relationships [5-9 sessions])**

This module is recommended for clients who are looking for fun activities and experiences and/or who would like to form new connections with people or improve current relationships. The goals of this module are to: 1) help the client renew old fun activities and develop new fun activities; 2) get the most enjoyment out of fun activities by learning how to appreciate the “3 Stages of Fun”; 3) connect with people by contacting old friends and meeting new people; 4) improve the quality of relationships by developing skills to better understand other people, communicate more effectively, manage disclosure, and understand social cues.

This module is broken into 3 sub-modules: Having Fun, Connecting with People and Improving Relationships. The Introduction to the module provides an overview of the sub-



modules and includes questions designed to help the client decide which sub-modules he or she would like to work on and in what order. Clients can choose one, two, or all three of the sub-modules, which can be done in any order. If a clear preference does not emerge for which sub-module to start on, Having Fun is recommended as the one to begin with. Helping clients renew old interests and develop new ones often provides natural social opportunities to meet people with similar interests. By working on increasing the fun in their life, clients often encounter new social situations that they are motivated to be successful in. This can lead to moving from the Having Fun sub-module to one or both of the two other sub-modules, which focus more directly on social relationships.

In all three sub-modules, there is a strong emphasis on actively practicing skills, using methods such as role plays in and out of the session to help clients get familiar with the skills, and helping clients understand the relevance in their life and feel more comfortable using the skills.

### **Module #12: Making Choices about Smoking (2-4 sessions)**

This module walks clients through the steps of identifying their personal benefits and concerns about smoking and quitting. Concerns about quitting are normalized and suggestions are provided for coping with these concerns throughout the handouts. Clients are presented with information about available treatment options. The clinician then helps clients take stock of their willingness to make changes to their smoking behavior. Clients who are willing then work with the clinician collaboratively to develop a plan for tobacco reduction or abstinence.

### **Module #13: Nutrition and Exercise (2-4 sessions)**

This module provides a rationale for and identifies skills to improve nutrition and increase exercise. Concerns about changing diet and increasing activity level are addressed and some possible solutions identified. Clients are presented with information about specific ways of increasing activity and improving diet. The clinician then helps the client take stock of his willingness to make changes to his eating and exercise behavior. Clients who are willing then work with the clinician to collaboratively develop a plan for making some changes in diet and activity level.

### **Module #14: Developing Resiliency--Individualized Sessions (2-10 sessions)**

This module helps clients learn additional skills to build resiliency with the following goals: 1) learn strategies to build positive emotions and facilitate resiliency; and 2) help the client build resiliency through the skills of gratitude, savoring, active/constructive communication, and practicing acts of kindness.

In addition to information about resiliency and its characteristics, there are a variety of exercises in this module. These exercises (e.g., a gratitude visit; savoring; practicing acts of kindness) are meant to increase positive mood, well-being, and a sense of purpose, factors which should facilitate recovery and strengthen resilience. Such exercises may also help clients “get back on track” in terms of helping them achieve important personal goals.

This module can be used either as a stand-alone module or as a source of single resiliency exercises that can be integrated into the first session or two of each of the individualized modules chosen by the client. In Module #7, clinicians should discuss with the client his or her preference for resiliency exercises available in the individualized Developing Resiliency module. When clients have chosen to complete one or more individualized modules they should also complete one resiliency exercise at the beginning of each module. For example, if a client chooses to complete the “Substance Use” module, he or she would be encouraged to do a resiliency exercise of his or her choice at the beginning of that module. If the client chooses not to complete any of the individualized modules, he or she has the option of doing Developing Resiliency as an individualized stand-alone module, including the opportunity to do all of the resiliency exercises.

Appendix B

Below are the general guidelines and items of the IRT Fidelity Scale. (Note: items 7-Positive Reinforcement and Shaping, 8-Cognitive Restructuring and 9-Skills Training Strategies, can be module-specific and therefore do not receive a rating for most standard sessions.)

**IRT Fidelity Scale**

Fidelity ratings are based on observation of an IRT session or listening to an audiotape of a session.

Clinician: \_\_\_\_\_ Site: \_\_\_\_\_  
 Date of Session: \_\_\_\_\_ Module & Topic: \_\_\_\_\_  
 Date of Rating: \_\_\_\_\_ Name of Rater: \_\_\_\_\_  
**Client ID:** \_\_\_\_\_ **Overall Session#:** \_\_\_\_\_

**General Guidelines for Scale**

<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>NA</b>
Unsatisfactory or not Observed	Needs Improvement	Satisfactory	Very Good	Excellent	Not Applicable

\_\_1. Agenda Setting:

- Set specific agenda at the beginning of session
- Elicit other issues from client for agenda (e.g., “Is there anything specific/any particular issue you would like to talk about today?”)
- Agree on order of agenda items
- Implement specific agenda

Comments:  
**STRENGTHS:**  
**AREAS FOR IMPROVEMENT:**

\_\_2. Goal-setting and Goal Follow-up

- Explore client’s desired areas of change or possible goals
- Help client set a personally meaningful goal
- Help client break down goal into smaller sub-goals and steps
- Reinforce steps taken towards goal
- Problem-solve obstacles to steps, including need for other skills/supports

Comments:

STRENGTHS:

AREAS FOR IMPROVEMENT:

\_\_3. Review of Home Assignment

- Review prior home assignment
- Reinforce any efforts to complete home assignment
- Identify and problem solve obstacles to completing home assignment
- Complete Home Assignment in session with client if needed

Comments:

STRENGTHS:

AREAS FOR IMPROVEMENT:

\_\_4. Use of IRT Educational Materials

- Utilize handouts and worksheets to guide the session
- Answer and elicits questions
- Stay focused on topic

Comments:

STRENGTHS:

AREAS FOR IMPROVEMENT:

\_\_5. Motivational Enhancement Strategies

- Connect material and session to client's goals
- Promote hope and positive expectations
- Explore pros and cons of change
- Reinforce "change" talk
- Reframe experiences in positive light

Comments:

STRENGTHS:

AREAS FOR IMPROVEMENT:

\_\_6. Educational Strategies

- Provide information
- Elicit client's experience related to presented material
- Adapt language to client's preferences
- Break down information into manageable chunks
- Provide interim summaries
- Ask questions to check for understanding

Comments:

STRENGTHS:

AREAS FOR IMPROVEMENT:

7. Positive Reinforcement and Shaping

- Praise successive approximations (small steps) towards completion of home assignments, progress towards goals, and learning of skills
- Give positive, specific feedback about learning information or skills
- Celebrate completion of modules
- Reinforce on-topic comments and ignore off-topic comments

Comments:

STRENGTHS:

AREAS FOR IMPROVEMENT:

8. Cognitive Restructuring

- Explain relationship between thoughts and feelings
- Teach commons style of thinking to help client catch and change inaccurate thinking related to upsetting feelings
- Teach clients how to identify thoughts relating to upsetting feelings
- Discuss nature of “evidence”
- Teach clients how to evaluate supporting and/pr not supporting upsetting thoughts and beliefs
- Help client identify more accurate thoughts or beliefs when one is not supported by evidence
- In “Dealing with Negative Feelings Module,” teach the 5 steps of Cognitive Restructuring to examine accuracy of thoughts/beliefs underlying upsetting feelings: 1) identify troubling situation, 2) identify upsetting feeling, 3) identify upsetting thought underlying the feeling, 4) examine evidence for and against the thought, 4) take actions (if evidence does not support the thought, develop a more accurate thought; if evidence does support the thought, make an action plan to address situation)

Comments:

STRENGTHS:

AREAS FOR IMPROVEMENT:

9. Skills Training Strategies

- Establish/elicite rationale for skill
- Discuss steps of skill
- Model (demonstrate) the skill
- Help client practice the skill in one or more role plays (or other exercise such as deep breathing)
- Provide feedback, starting with positive

- Help client develop plan to practice skill outside the session, including anticipation of obstacles and problem-solving around those obstacles

Comments:

STRENGTHS:

AREAS FOR IMPROVEMENT:

#### \_\_10. Developing Home Assignment

- Help client develop specific home assignment to practice or review material covered in session or take steps towards personal goal
- Help client identify specific days, times, and places for completing the assignment
- Identify and problem solve potential obstacles
- Practice assignment in session if indicated
- Enlist help of significant others if indicated

Comments:

STRENGTHS:

AREAS FOR IMPROVEMENT:

#### \_\_11. Structuring the Session and Using Time Efficiently

- Follow standard structure for IRT session (informal socializing, identification of major problems, set agenda, follow up on goals, review previous session, discuss past home assignment, teach new material, summarize progress in current session, develop home assignment collaboratively)
- Cover the content of the session at a pace that's comfortable for the client
- Tactfully limit peripheral or unrelated discussion

Comments:

STRENGTHS:

AREAS FOR IMPROVEMENT:

#### \_\_12. Therapeutic Relationship

- Convey warmth and empathy
- Express understanding and compassion about unpleasant experiences
- Show flexibility in responding to client's concerns

Comments:

STRENGTHS:

AREAS FOR IMPROVEMENT:

#### \_\_13. Recovery/Resiliency Focus

- Express hope and optimism for the future
- Support or enhance client's self-efficacy
- Use of recovery and resiliency language when appropriate

- Help client take an active role in shared decision-making
- Expression of confidence client can make progress towards recovery goals
- Help client identify and build own resiliency skills

Comments:

STRENGTHS:

AREAS FOR IMPROVEMENT:

\_\_14. Overall Quality of Session

- Materials taught effectively using combination of motivational, educational and cognitive behavioral strategies
- Flexible and responsive to emergent needs, issues, or unexpected challenges
- Reduces client distress as needed

Comments:

STRENGTHS:

AREAS FOR IMPROVEMENT: