TESTING THE RECIPROCAL RELATIONSHIP BETWEEN ATTITUDINAL AND BEHAVIORAL COMPONENTS OF ENGAGEMENT AMONG CAREGIVERS IN A MULTIPLE FAMILY GROUP INTERVENTION FOR CHILDREN WITH BEHAVIORAL PROBLEMS

by

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A dissertation submitted to the School of Graduate Studies Rutgers, the State University of New Jersey In partial fulfillment of the requirements For the degree of Doctor of Philosophy Graduate Program in Social Work Written under the direction of N. Andrew Peterson, Ph.D. And approved by

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ABSTRACT OF THE DISSERTATION

Testing the Reciprocal Relationship Between Attitudinal and Behavioral Components of Engagement Among Caregivers in a Multiple Family Group Intervention for Children with Behavioral Problems

by LYDIA M. FRANCO

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N. Andrew Peterson, Ph.D.

This dissertation examined the relationship between caregivers’ attitudes and participation in a multiple family group treatment model (MFG) for children with behavioral problems. Research is clear that engaging caregivers in addressing children’s behavioral problems is vital for more positive child outcomes. However, engaging caregivers in mental health services, especially those who are more disadvantaged, can be challenging. Staudt (2007) attempted to better explain the process of engagement through the development of a conceptual framework that proposed that caregivers are first engaged attitudinally and then they are more likely to be behaviorally engaged. This dissertation explored the role of attitudinal engagement through caregiver attitudes of program satisfaction, positive change, relationship with facilitator (provider), and relationship with other group members within the MFG. Being that research has shown linkages between attitudes and behaviors and that behaviors can precede or influence attitudes, this dissertation explored the role of reciprocal causality between attitudinal and behavioral engagement within this MFG approach using longitudinal data.
First, the underlying structure of each of the four scales that comprise the attitudinal component were examined using exploratory factor analyses to determine if they represented the first order construct. An adequate structure was found for each of the four scales. Across the four scales, nine dimensions or subscales were identified (one for relationship with facilitator, two for relationship with group members, four for program satisfaction, and two for positive change). Next, the four attitudinal scales were examined to determine if they represented a superordinate, aggregate, or a set of distinct constructs. Confirmatory factor analyses showed that they indeed are four distinct attitudinal engagement constructs. The obtained data did not match our theoretical prediction of a primary four factor attitudinal engagement construct.

Lastly, this dissertation explored the relationship between these four distinct attitudinal engagement constructs with behavioral engagement (attendance) and the direction of causality using cross-lagged panel analyses. The findings provided some support for Staudt’s original framework and did not show a reciprocal relationship. Caregivers’ attitudes towards program satisfaction did predict behavioral participation through attendance. However, caregivers’ attitudes towards the relationship with the facilitator showed an inverse relationship with attendance. Additional analyses were conducted to further evaluate these findings and only program satisfaction predicted attendance in the MFG. This dissertation expands upon the current literature by affirming the strong relationship between satisfaction and participation in treatment. Future research can further examine the connection between the relationship with the facilitator and attendance more closely to confirm or refute the findings of this dissertation. A clearer understanding of engagement processes in mental health services can support better caregiver participation and, in turn, child behavioral outcomes.
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Chapter I: Statement of the Problem

Introduction

Disparities in Mental Health Service Use and Access

According to recent research, approximately half of children who meet criteria for mental health disorders received any form of treatment in the past year with less than half of the children with conduct disorder receiving treatment in the same time period (Merikangas, He, Brody, Fisher, Bourden, & Koretz, 2010; SAMHSA, 2010). In terms of race and ethnicity, African American and Latino children have been shown to be less likely to have their mental health needs met (Bringewatt & Gershoff, 2010; RAND, 2001), with Latino children being 2.6 times less likely to have their needs met than white children (Kataoka, Zhang, & Wells, 2002).

Further, children in low-income families have been found to have the lowest rate of utilization of services; and, once in treatment, they were more likely to end treatment early or drop out (Bringewatt & Gershoff, 2010; SAMHSA, 1999). The disparities that exist for low income, minority families between the high need for services and low access and utilization of services are of great concern to researchers and practitioners in social work and other disciplines.

Unique to child mental health treatment is the matter of attending to multiple participants. In child treatment, particular attention has to be paid not just to the primary client, the child, but to the parent or caregiver as well. This is further highlighted by the fact that almost half of evidence-based treatments for youth include parents in sessions (Weisz, Jensen-Doss, & Hawley, 2006). While engaging these multiple clients is often important for effective treatment, the literature shows that it can be a challenge (Bringewatt & Gershoff, 2010; Ingoldsby, 2010; Gopalan et al., 2010). There are a number of personal, organizational, and policy challenges that serve as barriers to accessing and utilizing mental health care (Bringewatt
& Gershoff, 2010). On the family level, parents may experience challenges in identifying and accessing care due to lack of information about available services or lack of understanding of the mental health problem (Bringewatt & Gershoff, 2010; Huang et al., 2005; Palmer, Courtot, Howell, 2007). Organizationally, we may find a shortage of providers and inefficient services (Pfefferie, 2007). Further, broader policy issues, such as poor mental health parity and inadequate insurance coverage for children’s mental health, inhibit access and use of services (Bailey & Davis, 2012).

When families are able to get into services, we find that there are a number of challenges that exist in continuing to engage and retain them for the length of their treatment. Recent literature on engagement, attrition, or retention have identified both concrete barriers (e.g., transportation challenges, competing appointments) and perceptual barriers (e.g., stigma, concerns about confidentiality, lack of cultural relevance, expectations and beliefs about treatment, poor therapeutic alliance) that contribute to early dropout of treatment (Gopalan et al., 2010; Ingoldsby, 2010; Staudt, 2007; McKay & Bannon, 2004). The more challenges that a family endures and the more complex their social circumstances, the less likely they are to engage in needed outpatient child mental health services (McKay & Bannon, 2004). Particularly for low income, minority children, difficulty in connecting those with serious mental health needs with the necessary services may further distance them from participating in protective family and community-level resources (Garland et al., 2005; Hurlburt et al., 2004). Due to the difficulty in accessing services, it is imperative to provide services that are effective at engaging children and their families in addition to providing evidence-based treatments that attend to their various mental health needs.

The Need for Engaging, Family-Focused Treatment for Children with Behavioral Problems
Effective and engaging treatment for children with disruptive behavior disorders and their families is particularly important as they are some of the most prevalent mental health disorders among children in the United States. Among community samples, prevalence rates for children and adolescents with Oppositional Defiant Disorder (ODD) range from 2.6% to 15.6% (Boylan, Vaillancourt, Boyle, & Szatmari, 2007; Kimonis & Frick, 2010) and 2-16% for Conduct Disorder (CD) (Kimonis & Frick, 2010; Loeber, Burke, Lahey, Winters, & Zera, 2000). Based on a retrospective study of adults, lifetime prevalence rates for CD is 9.5% and ODD is 10.2% with males having higher rates than females for both (Nock et al. 2006; Nock et al. 2007). Rates are significantly higher in clinical settings where behavioral disorders account for 1/3 to 1/2 or more of youth mental health referrals (Kazdin, 2011; Kimonis & Frick, 2010; Boylan, Vaillancourt, Boyle, & Szatmari, 2007).

Family factors are some of the most powerful predictors for the development and maintenance of disruptive behavior disorders (Dishion, French, & Patterson, 1995; Kilgore, Snyder, & Lentz, 2000; Loeber & Farrington, 1998). More specifically, parental child management skills, discipline practices, family communication and interactional patterns have been repeatedly linked to the development and maintenance of childhood disruptive behavioral difficulties (Caples & Barrera, 2006; Caughy, Nettles, & O'Campo, 2007; Keiley, 2002; Loeber & Stouthamer-Loeber, 1987; Tolan & Henry, 1996). In addition, children may develop behavioral difficulties in the presence of family conflict, lack of parent-child bonding, stressors, and inadequate behavioral limits (Morrison Gutman, McLoyd, & Tokoyawa, 2005; Hanlon, Carswell, & Rose, 2007; Keiley, 2002; Kumpfer & Alvarado, 2003; Patterson, Reid, & Dishion, 1992). Kazdin and Whitley (2003) also emphasize specific family factors tied to urban living, such as socioeconomic disadvantage, social isolation, high stress and lack of social support, which may
undermine parenting and contribute to the development of childhood conduct problems (Kazdin, 1995; Kotchick, Dorsey, & Heller, 2005; Wahler & Dumas, 1989).

The use of family-based interventions for children exhibiting serious behavioral difficulties and their families has gained substantial empirical support (Bank et al., 1991; Kratochwill, et al., 2009; Lee et al., 2009; Webster-Stratton, 1985; 1990; Sexton & Alexander, 2002). Many of these evidence-based family interventions focus on parent management training or parenting skills (Bywater et al., 2009; Carr, 2000; Farmer, Compton, Burns, & Robertson, 2002; Keiley, 2002; Roberts, Mazzucchelli, Studman, & Sanders, 2006; Cottrell & Boston, 2002). Oftentimes, these interventions focus on strengthening parenting skills, such as through rehearsal, modeling, and coaching, and teaching parents to better monitor and supervise their children (Prinz & Jones, 2000; Chorpita et al., 2002; Bank et al., 1991; Sexton & Alexander, 2002). In addition, reviews of the literature have found that family-level interventions, such as behavioral parent training, family skills training and family therapy can significantly improve child outcomes (Sexton & Alexander, 2002; Kumpfer & Alvarado, 2003).

Without effective treatment, children with behavioral disorders are at risk for a variety of behavioral, academic, and psychological problems throughout childhood, adolescence, and adulthood. Behavior disorders are associated with anxiety and mood disorders, substance use, and antisocial personality disorder (Boylan et al., 2007; Nock et al. 2007; Rowe et al., 2010; Loeber et al., 2000; Reef et al., 2007). These children are more at risk for engaging in violent behavior, dropping out of school, and developing substance abuse issues (Biederman et al., 2008a). They are further at risk for developing occupational difficulties and marital and family dysfunction as adults (Biederman et al., 2008a; Biederman et al., 2008b; Goldstein & Morewitz, 2011; Bloomquist & Schnell, 2002; Handwerk, Field, Dahl & Malmberg, 2012). Due to the associated problems, behavioral disorders are among the most expensive mental health
problems as these youth interact with a variety of social services, as well as the mental health, special education, and juvenile justice systems (Kazdin, 2011; Foster & Jones 2005; Dretzke, Frew, Davenport et al., 2005)

Adult caregivers play a crucial role in ensuring access to and retention in child mental health services for youth in need. Therefore, successfully involving parents as treatment collaborators is a prerequisite for ensuring that children receive mental health care. This is of particular importance for children with behavioral problems as inclusion of parents in treatment is vital for successful outcomes. Because of the challenges that exist to engaging and retaining caregivers in the treatment of children with behavioral problems, a primary focus of this research will be to better understand the process of engagement in services.

**Theoretical Rationale for the Problem**

**Engagement Framework**

Despite the high need for services and the importance of the family in the treatment of children with behavior problems, the process of engaging families can often be elusive. Staudt (2007) attempted to better explain the engagement process of caregivers of at risk children through the development of a conceptual framework. Based on a review of the literature, Staudt hypothesized that specific behaviors of providers (i.e., efforts to reduce barriers, improve the therapeutic alliance, attend to clients’ daily stress, support relevance of treatment, and attend to clients’ beliefs about treatment) have the potential to facilitate clients’ positive attitudinal experience, which she labeled as the attitudinal component of engagement. In addition, Staudt hypothesized that those clients with more positive attitudinal experiences (i.e., clients who are more engaged attitudinally) would be more likely to keep their appointments, participate in sessions, and complete treatment-related tasks, activities which she labeled as the behavioral component of engagement. Staudt further hypothesized that the attitudinal
component of engagement would influence treatment outcomes directly as well as indirectly through its effect on the behavioral component of engagement. Staudt’s framework brings some conceptual clarity to the complex process of engagement and highlights the importance of the role of the provider in attending to these factors at the beginning of treatment.

Staudt’s framework focuses on provider behaviors that attend to a variety of issues both within the treatment relationship (e.g., relevance of treatment) and external factors (e.g., barriers and stresses). However, it is the client’s attitudes that one would be measuring or their experience of treatment and its relevance. When assessing individual’s internal dimensions, such as attitudes, Drieschner, Lammers, and van der Staak (2004) recommend that self-report is the optimal method, whereas provider report would work best for what can be observed, such as attendance. Therefore, the focus in this dissertation is on the client’s attitudes towards treatment relevance, beliefs about treatment, and relationship with the provider (i.e., alliance). Attitudinal Engagement essentially becomes a construct representing each of these client attitudes. Being that caregivers are integral to supporting children in receiving mental health services, a better understanding of the process of engaging caregivers and their attitudinal experiences can not only help in attendance but overall successful outcomes and maintenance in the home environment. Despite its potential utility, Staudt’s (2007) framework has not been tested empirically and has been primarily used to guide the understanding of engagement within qualitative studies (Miller, Smith, Klein, & German, 2010; Pullman et al., 2013; Slovak & Singer, 2012).

In Staudt’s approach, the interactions are occurring between the provider, caregiver, and child. However, in some treatment modalities, such as group treatment, others are participating in treatment as well, which adds another layer to potential experiences one can have. In group therapy, there is not only alliance with the therapist but also group cohesion and
dynamics that takes place with the group members. For example, it is possible to have a good helping relationship with the therapist but not with other members of the group or vice versa. Furthermore, each group member may also have different engaging experiences (e.g., some may be more satisfied than others or think that it is beneficial). Therefore, in this dissertation, the role of Attitudinal Engagement will be explored through caregiver attitudes of program satisfaction, positive change, relationship with facilitator (provider), and relationship with other group members within a multiple family group approach for children with behavioral problems and their families.

More specifically, program satisfaction focuses on beliefs about treatment and includes the caregiver’s positive feelings towards the group and its helpfulness to the child and family. Attitudes about positive change in the child attend to the relevance of treatment and include the caregiver’s belief that the child's behavior and the family relationships have improved during group treatment. The other two components of Attitudinal Engagement in this dissertation focus on the relationships with the provider (or group facilitator) and relationship with other group members. The caregiver attitudes about the relationship with group facilitators focuses on the caregiver’s positive feelings towards the facilitators, mutual trust and understanding, and helpfulness. Finally, the relationship with group members is the caregivers' belief that the other members are helpful, understanding, and supportive.

Once the Attitudinal Engagement construct has been defined, one can then examine the relationship between attitudes and behaviors within engagement. Staudt hypothesizes that clients and caregivers need to express positive attitudes towards services before behavioral engagement (e.g., attendance, completing tasks). However, social psychological research on the linkages between attitudes and behaviors has found that behaviors sometimes precede attitudes or that behaviors can influence attitudes (Fabrigar, Wegener, & MacDonald, 2010;
Festinger, 1957). Within mental health services, social workers can acknowledge that this process of engagement, behaviors vs. attitudes, can be complex to differentiate as oftentimes, there is pressure from agency and external sources (e.g., the school requires counseling before returning to class) for clients to attend services whether they want them or not. A key purpose of this research will be to assess the direction of the relationship between attitudes and behaviors as a unidirectional or reciprocal process of engagement. By clarifying the relationship between these two constructs, social workers may be able to better focus engagement efforts on the appropriate, most effective targets.

**Context for the Present Dissertation: A Multiple Family Group Approach**

The multiple family group practice model utilized in this dissertation incorporates many of the key constructs identified by Staudt (2007) as provider behaviors that are important for engagement. Group facilitators are trained to identify and problem solve barriers to treatment upon introduction of the model to families and throughout participation. The first two sessions focus on orienting families to the model, its key core concepts, and how these core areas assist in improving child behaviors and family functioning. Families are given ample opportunities to voice questions and concerns both individually with the facilitator and through the group environment. Parent advocate co-facilitators are key in engaging families as their lived experiences within the mental health system supports families in understanding the role of the group, reducing barriers, and building parent empowerment and self-advocacy. Management of stress and building of social support systems are two of the six core concepts within the model that helps improve organization of families and reduce parental stress. Reminder calls between sessions by the parent advocate facilitators help to alleviate any issues that may arise outside of
the group and support Behavioral Engagement through encouragement of attendance and homework completion. Each of these practices by both the clinician facilitator and the parent advocate facilitator help to create a positive therapeutic alliance. Further, facilitators’ active group management skills support group cohesion and relationship building across group member families.

This multiple family group approach (MFG) was created by McKay and colleagues in an attempt to address the significant challenges that urban, low income families with children with behavioral problems have in engaging in care and receiving effective treatment (McKay, Harrison, Gonzales, Kim, & Quintana, 2002; McKay, Gonzales, Quintana, Kim, & Abdul-Adil, 1999; McKay, Gonzales, Stone, Ryland, & Kohner, 1996; Stone, McKay, & Stoops, 1996; Franco et al., 2008; Gopalan & Franco, 2009). The MFG approach is grounded in the evidence highlighting the primary family factors that contribute to child behavioral problems in a treatment modality that attends to the high levels of stress and low levels of support often experienced by these families (e.g. Wahler & Dumas, 1989; Webster-Stratton, 1985; Brunk, Henggeler et al., 1998; Pumariage, Rogers & Rothe, 2005). MFG is defined as “1) a mental health service that involves 6 to 8 families; 2) an intervention that is facilitated by trained clinicians or a clinician and parent advocate; 3) a treatment where at least two generations of a family are present in each session and; 4) psychoeducation and practice activities that foster both within family and between family learning and interaction” (O’Shea & Phelps, 1985; as cited in Franco, Dean-Assael, & Mckay, 2008, p. 548). It was primarily developed for children between 7 to 11 years old who meet diagnostic criteria for Oppositional Defiant Disorder or Conduct Disorder and their families (i.e., adult caregivers and siblings) (Chacko et al., 2014; Franco, Dean-Assael, & Mckay, 2008). Families meet weekly for 16 weeks to discuss, practice, and learn new ways of managing and addressing six target areas related to family functioning,
improvement of behavioral problems, and stress reduction: Rules, Relationships, Responsibilities, Respectful Communication, Stress, and Social Support (4 Rs and 2 Ss).

In its development, particular attention was paid to ensure that the approach was relevant to the concerns of families and providers, including focusing on significant engagement challenges. Using a collaborative research model, McKay and colleagues partnered with parents and providers to develop the treatment manual and approach and tested the model in an effectiveness study in urban community child outpatient mental health clinics. Parent consumers were integral to the development of the focus of each session and helped to define session activities and language used in explaining core content areas. Further, providers and parents provided feedback and collaborated in revising the manual and process (McKay, Gonzalez et al., 1996). In this approach, clinicians provide the therapeutic expertise and peer parent advocates provide the lived experience and are often better able to engage parents and attend to the realities of their day to day life having been through it themselves. Therefore, a number of steps were taken to focus on attending to family’s needs and supporting engagement and participation in services. Data from the effectiveness study will be used to explore caregiver attitudes towards satisfaction with the multiple family group, child and family improvement during the group, and relationships between participants and with the facilitator that is thought to support Attitudinal Engagement and, in turn, increase attendance, through Behavioral Engagement.

Conceptualization of the Problem

Research is clear that engaging caregivers in addressing children’s behavioral problems is vital for more positive child outcomes. However, engaging caregivers in services, especially
those who are more disadvantaged, can be challenging. The MFG approach for children with behavioral problems is a program model that attempts to be engaging, strength-based, relevant to clients, and encourages stress management and building of social supports. Based on the extant literature, the MFG strategy attends to key areas for supporting engagement, yet the process of engagement within this model has yet to be studied. By adapting Staudt’s (2007) conceptual framework for engagement, this dissertation will explore the role of Attitudinal Engagement and its progress to Behavioral Engagement within MFG. Staudt’s model suggests that first there must be an attitudinal process that occurs before you see participants attending sessions regularly. However, it is possible that, in some cases, participants may attend sessions but are not necessarily fully participating, or that by attending, one’s attitudes begin to change from a negative to more positive experience. In effect, there is the potential here for a reciprocal process, where Behavioral Engagement can contribute to Attitudinal Engagement. This dissertation will explore the role of reciprocal causality between Attitudinal and Behavioral Engagement within this multiple family group approach using longitudinal data. Prior to testing this relationship, the measures of the attitudinal component, which have not been used in previous research, will be examined. The underlying structure of each of the four scales (caregivers’ attitude towards the relationship with the facilitator, relationship with the group members, program satisfaction, and positive change) will be analyzed to ensure that they represent the first order construct indicated as these scales work in combination to represent the second order latent construct of Attitudinal Engagement. Additionally, the model of measurement for Attitudinal Engagement will be explored to determine if it represents a superordinate, aggregate, or whether, in fact, they are a set of distinct constructs.

Based on this conceptualization, this dissertation is guided by the following research questions:
1. What is the first order factor structure of the scales used to assess variables (i.e., relationship with the facilitator, relationship with group members, program satisfaction, and positive change) that comprise the attitudinal component of engagement?

2. What is the second order factor structure of the scales used to assess variables (i.e., relationship with the facilitator, relationship with group members, program satisfaction, and positive change) that comprise the attitudinal component of engagement?

3. What is the relationship between Attitudinal Engagement and Behavioral Engagement (i.e., attendance)? Will Attitudinal Engagement predict Behavioral Engagement of caregivers or will there be reciprocal causality?
Chapter II: Literature Review

What is Engagement?

Generally, engagement, or lack thereof, has referred to client participation in treatment and has been represented in the literature by a variety of terms, such as attrition, retention, adherence, drop out, and show or no show rates, with much of the literature measuring it through attendance or non-attendance of appointments and a few others also focusing on task completion (e.g., homework assignments) (Becker et al., 2013; Littell, Alexander, & Reynolds, 2001; Miller et al., 2008; Nock & Ferriter, 2005). Studies varied as to when attendance related rates were gathered with some focused on initial appointments (e.g., intakes and evaluations), while others focused on ongoing appointments, or number of appointments missed or cancelled (Becker et al., 2013; Baker, Arnold, & Meagher, 2011). Fewer studies have also identified a cognitive or perceptual aspect of engagement that typically consists of assessing attitudes, attributions, expectations, or perceptions of treatment (Becker et al., 2013; Lindsey et al., 2013). Further, engagement is sometimes only viewed as the initial effort put into working with the client with subsequent contacts focusing on retention (Gopalan, 2010; Staudt, 2007). Others have identified engagement as an enduring connection with the client throughout treatment (essentially encompassing retention) (McGinty et al., 2003).

In response to the lack of consensus on a clear definition and operationalization of engagement, some have attempted developing conceptual frameworks ranging from exploring the role of barriers to treatment, to attributions and motivation. Kazdin and colleagues were some of the first researchers to examine the role of engagement in child mental health services. With a focus on barriers to treatment, Kazdin and colleagues found that perceived barriers to treatment, such as stressors (e.g., childcare issues, family conflict, transportation issues, illness),
socioeconomic disadvantage, belief that treatment was not relevant, and poor relationship between the caregiver and the provider were associated with higher drop out of treatment (Kazdin, Holland, & Crowley, 1997; Kazdin, Holland, Crowley, & Breton, 1997). Similarly, McKay and colleagues attended to concrete barriers (e.g., transportation, child care issues) to participation that families experience in services, but also emphasized the importance of perceptual barriers (e.g., past negative experiences with services, stigma) and attending to them early on in services (McKay et al., 2001; Bannon & McKay, 2005; Harrison et al., 2004).

Separate from the focus on barriers, other researchers moved to more cognitive approaches in understanding engagement. Morrissey-Kane and Prinz (1999) developed a framework that highlights the role of parental cognitions and attributions of the cause of the child's problem prior to services that impacts treatment engagement. The authors hypothesized that parental motivation and participation in treatment is affected by the parent's perception as to whether the challenges in parenting and the child's behaviors are attributed to the parent being ineffectual (e.g., believe don't have control of the child) or the child at fault (e.g., believe child acts out on purpose). These attributions then lead to the expectations that either the child will not change or that the parent will not be able to facilitate change, in turn, exhibiting little motivation or participation in the treatment process. Similarly, Drieschner, Lammers, and van der Staak (2004), hypothesized that Behavioral Engagement (e.g., attendance or participation) depends on one's motivation to engage which consists of one's response to six different emotional and cognitive dimensions before and at the beginning of treatment (i.e., problem recognition, level of suffering, external pressure, perceived costs, perceived suitability, and outcome expectations).
Also focused on organizing the engagement literature, King, Currie, and Peterson (2014) developed a model about the role of engagement within the therapeutic change process incorporating affective, cognitive, and behavioral dimensions. The authors presented that an optimal client state of engagement is one of hopefulness (affective), belief in intervention goals and treatment relevance (cognitive), and confidence that one can accomplish treatment tasks (behavioral). The behavioral component in this model represented self-efficacy and confidence in accomplishing tasks as opposed to actual behavior (e.g., attendance) typically found in other models. This optimal state is created when the therapist focuses on building client receptiveness, willingness, and self-efficacy. This complex model seems to represent the process of facilitating positive beliefs (motivation) towards treatment and one’s own ability to achieve those goals that then can contribute to improved outcomes and achievement of treatment goals.

In a more parsimonious model, Staudt (2007) focused on both attitudinal and behavioral aspects of the engagement process that also incorporates the role of the provider and stressors or barriers. Based on a review of the literature, Staudt (2007) hypothesized that engagement essentially begins with engaging behaviors conducted by the therapist or provider that then contributes to the development of a positive attitude towards treatment (i.e., that treatment is worth their time). Then, consequently, clients keep their appointments, participate in sessions, and complete tasks (i.e., engage behaviorally). In effect, engagement is equal to the attitudinal component and the behavioral components (e.g., attendance) are its outcomes. “Behavioral engagement that stems from a positive attitudinal stance toward treatment is required for successful treatment implementation and outcome attainment” (Staudt, 2007, p. 189). Staudt (2007) does warn that this process can be more complex as most clinicians can recognize that relationships with clients can have a number of changes in course.
In this model, a positive attitude towards treatment arises out of a mix of experiences that are related to the provider and the family context. The exchange between the practitioner and the caregiver/family can lead to beliefs that the treatment is relevant and acceptable, the development of positive therapeutic alliance, perceiving that life stressors are manageable, a reduction of outside barriers, and an improved understanding of the problem and treatment. The mix of these experiences would then lead to attitudinal engagement or an “...emotional investment in and commitment to treatment that follow from believing that it is worthwhile and beneficial” (Staudt, 2007, p. 186). This engagement framework expands our understanding of the process of engagement yet continues to be limited in understanding and scope. Although based on current research, Staudt cautions that this model may be too simplistic. On further review, one can see that this represents a rather linear process that only touches upon the complex relationships between providers and caregivers. It further does not describe the right mix of the beliefs and experiences that one must have in order to become attitudinally engaged. However, it does help us to incorporate other variables in assessing engagement than the simplistic attendance count.

**Attitude–Behavior Link**

Staudt's (2007) assumptions rest on the linkage between attitudes and behaviors. Attitudes are evaluations, whether positive or negative, of an entity or object (e.g., persons, policies, issues, things, etc.) (Eagley & Chaiken, 1993). In this case, attitudes are reflecting judgments on the perception, relevance, and helpfulness of the therapeutic relationship and treatment. Generally, attitudes are believed to be associated with actions or behaviors (Kraus, 1995). However, research in this area has highlighted the complexity in elucidating exactly when, and which types of attitudes are linked to which behaviors. Based on Fazio’s (1990) MODE Model (Motivation and Opportunity as Determinants of behavior), the effect of attitudes
on behaviors can occur under spontaneous or deliberate processes which is often affected by
the strength of the attitude (how accessible by memory) and the ability to ponder the preferred
response. Therefore, attitudes can affect behaviors but how large of an effect is context and
time dependent.

To organize and expand upon the research on linkages between attitudes and
behaviors, Fabrigar, Wegener, and MacDonald (2010) identified mechanisms responsible for
prediction and influence (MRPI) that can affect the attitude to behavior relationship. In
exploring the influence of attitudes on behaviors, Fabrigar, Wegener, and MacDonald (2007)
incorporated four of the six mechanisms under whether the decision on the behavior occurred
within nondeliberate or deliberate contexts. In nondeliberate contexts (e.g., less time to ponder
a decision or low motivation to do so), the attitude can be either an indirect or direct cue that
guides how to respond behaviorally. In deliberate contexts (e.g., high motivation or sufficient
time to ponder), the attitude can be directly relevant to determining the behavior (e.g., “I like
group, I will attend” or “I like my therapist, she asked me to attend, so I will.”). However, the
individual also has to see the relevance of the attitude to the behavior (e.g., individual likes the
group but does not see that affecting their decision to attend or not). The individual may also
actively work to not use the attitude in deciding whether to attend a session or not if thought to
not be relevant. Generally, individuals are more likely to rely on attitudes in situations when
they have little time or motivation to process behavioral decision-making (Fabrigal et al., 2006).
In sum, attitudes play an important role in determining behaviors which can lead credence to
Staudt’s (2007) theory that a positive attitudinal experience is needed prior to Behavioral
Engagement.
Contrastingly, it is possible for behaviors to exert influence on attitudes. Cognitive Dissonance Theory has explored the reciprocal nature of attitudes and behaviors (Festinger, 1957). More specifically, when attitudes and behaviors are incongruous, individuals may change their attitudes to justify their actions. For examples, individuals who are pressured to attend therapy sessions (e.g., pressured by schools, child welfare workers, etc.) or are mandated to attend, may not initially agree or feel the need to attend sessions or think it may help, but may adjust their attitudes to treatment as they continue to participate. Conversely, an individual may choose to participate in sessions but then have a negative experience, thereby changing their perception of the helpfulness of the treatment. Cognitive Dissonance Theory puts into question the predictive and linear relationship of Attitudinal Engagement with Behavioral Engagement. There seems to be enough support to hypothesize a relationship between the two dimensions, but the direction of the relationship is not yet clear.

Furthermore, the timing and process of how attitudes are measured with behavior may impact the direction of the relationship. In prediction models between attitudes and behaviors, measurement error and attitude instability may complicate the analysis (Fabrigar, Wegener, & MacDonald, 2007). Inaccurate measures of the attitude may not represent whether or not an individual tapped into that attitude to make a behavioral decision. Furthermore, the individual may experience changes in the attitude itself from the time it was first measured to the time the behavior was measured recommending to also assess the attitude at the same time or just prior to the behavior (Fabrigar, Wegener, & MacDonald, 2007). This measurement bias can be reduced by testing the validity of measures used to assess attitudes and measuring the behavioral outcome at the same time as the attitude.
Use of Staudt’s (2007) Engagement Model

Staudt’s (2007) model has not been tested empirically. A few authors have utilized Staudt's framework to conceptualize engagement within qualitative and descriptive studies. Through a series of focus groups with mental health providers, Slovak and Singer (2012) explored engagement practices when interacting with caregivers of suicidal youth. Behavioral Engagement was classified as engaging in sessions, parents’ role in suicide prevention tasks (e.g., keeping guns out of reach) or inpatient stays. Attitudinal Engagement was less clearly defined as this was a brief intervention post-suicide assessment and the providers focused on building a therapeutic alliance with the caregiver and ensuring that the safety planning tasks were completed. Focus group content also highlighted that Behavioral and Attitudinal Engagement did not necessarily occur in a specific order, with it sometimes being focused on simultaneously. The authors contributed this to the crisis situation and the lack of time to focus on building Attitudinal Engagement. The authors also highlighted barriers being transportation related and caregiver resistance to the seriousness of the situation. They did highlight that one other key area of engagement was establishing the provider’s competence. Similarly, in a descriptive article, Miller, Smith, Klein, and German (2010) use Staudt's (2007) framework to illustrate how practitioner behaviors in Dialectical Behavior Therapy for suicidal adolescents and their caregivers effectively attends to the different dimensions of engagement. Both of these studies focused on applying current provider practices to the attitudinal and behavioral dimensions from the provider’s perspective.

In another provider focus group study using Staudt’s model on engagement of adolescents in substance abuse treatment, Pullman et al. (2013) found some support for the attitudinal construct. The authors conceptualized that focus group themes on attitudes consisted of buy in or commitment to treatment, accepting responsibility of behaviors,
emotional involvement in sessions, participation, and body language showing interest.

Behavioral Engagement did consist of attendance but participants highlighted that attendance was often mandatory and not necessarily a good reflection of engagement. They conceptualized that the working relationship or alliance between the worker and the client was a separate dimension of engagement. Also from the provider’s perspective, this study focused on the process of engaging adolescents and not the caregivers.

There seems to be some preliminary descriptive support for their being two dimensions of engagement, yet empirical research has been limited on evaluating Staudt’s framework. In this dissertation, the process of engagement from the perspective of the caregiver will be examined by exploring the relationship between Attitudinal and Behavioral Engagement. Caregiver Attitudinal Engagement will be represented by exploring attitudes about the relationship with the provider (facilitator), satisfaction with the program, and experiences of improvement or positive change. Being that the treatment context is a multiple family group model, caregiver relationship with other group members will be included in addition to the provider-family relationship. Behavioral Engagement will be represented by attendance at the weekly sessions.

Being that Staudt’s model of Attitudinal Engagement has not yet been adequately operationalized or tested, it is imperative to understand its underlying structure and whether the variables discussed represent a more general higher order construct. Clarifying the nature of higher order constructs is an important first step in solidifying a theory (Edwards, 2001; Mackenzie, Podsakoff, & Jarvis, 2005). Constructs that are misspecified, or not accurately measured, can result in significant Type I or Type II errors (Jarvis, MacKenzie, & Podsakoff, 2003; MacKenzie, Podsakoff, & Jarvis, 2005). Large biases can be introduced and impact parameter estimates leading to inaccurate findings (Jarvis, MacKenzie, & Podsakoff, 2003; MacKenzie,
Podsakoff, & Jarvis, 2005). Clarification of the construct of Attitudinal Engagement in this dissertation will allow testing of Staudt’s theory and to evaluate the relationship, linear or reciprocal, between Attitudinal Engagement and Behavioral Engagement.

**Attitudinal Engagement**

**Relationship with Providers**

The working relationship between the provider and client is represented by a variety of terms, such as therapeutic alliance, working alliance, and the helping relationship (Shirk & Karver, 2003). In the literature, it is sometimes conceptualized as primarily affective with a focus on the empathic relationship between the client and provider, other times it also consists of a perception of agreement on goals and relevance of treatment (Green, 2006). In a meta-analysis of the therapeutic relationship within child therapy studies, Shirk and Karver (2003) reported that studies use a number of different scales with some conceptual overlap. One of the most widely used scales, the Working Alliance Inventory focuses on three primary dimensions: the bond between provider and client, agreement on goals, and agreement on tasks (Horvath & Greenberg, 1989). At times, therapeutic alliance is considered synonymous with engagement, more broadly defined as the relationship between provider and client (Staudt, Gayle, & Hickman, 2012). Similarly, it sometimes includes not just the emotional attachment between parties but also a cognitive (hopefulness; willingness) and a behavioral component (participation) (Karver, Handelsman, Fields, & Bickman, 2005).

The therapeutic relationship in child treatment studies has often been evaluated in relationship with clinical outcomes and participation in treatment. Generally, the therapeutic relationship is well-associated with improvement in outcomes across treatment types (Horvath & Bedi, 2002; Kazdin, Whitley, & Marciano, 2006; Norcross, 2011; Shirk & Karver, 2003). In a
broader analysis, Karver, Handelsman, Fields, and Bickman (2006) analyzed a number of different therapeutic relationship variables across child outcome studies and found that provider skills (i.e., interpersonal skills, direct influence skills), child and parent willingness to participate, and parent and youth actual participation in treatment were predictive of improvement in child outcomes. The authors also found that the therapeutic relationship with parents was associated with participation in treatment. Similarly, Shirk and Karver (2003) found that the therapeutic relationship was related to outcomes in child treatment, but was particularly applicable for children with externalizing problems.

In addition, the literature also points to a nuanced effect between the perceptions of alliance from the child versus the parent. Parent-provider alliance seems to stand out as important for participation and reduction of drop out, yet child-provider alliance seemed to be more salient for improvement in symptoms (Hawley & Weisz, 2005). Although Hawley and Garland (2008) found that youth reported alliance was also associated with more positive outcomes, parent reported alliance was associated with reduction in child externalizing problems. Among a sample of children with externalizing problems, Kazdin, Whitley, & Marciano (2006) found that both parent and child alliance was associated with better outcomes. However, the study excludes those that had dropped out of treatment prematurely who were found to have poor parent report of alliance. Another limitation to the generalizability of this study was that the children and parents received separate interventions with separate providers and may not reflect alliance in a typical relationship where parent and child are working with the same provider.

Studies have shown that therapeutic alliance has been associated with treatment satisfaction, retention, and completion (Karver et al., 2005; Elvins & Green, 2008; Thompson et
al., 2007). However, the parent-provider relationship can be particularly challenging, as highlighted by Rodriguez et al., (2014). The authors found that parents reported that their relationships with the provider often inhibited treatment progress as they expressed a mistrust of the relationship. Moreover, providers reported misconceptions in their view of the parent as a client, instead of as a collaborator, and viewed them as the problem as opposed to using more effective communication and empathy. In sum, alliance can be an important factor in experiencing positive attitudes towards treatment and impact ongoing participation.

**Relationships in Group**

Being that this dissertation will examine engagement within a group model, it is necessary to explore the role of group cohesion in Attitudinal Engagement. Group cohesion is defined as the therapeutic relationship in group psychotherapy emerging from a variety of intra- and inter-personal dimensions and encompasses any mix of relationships between the various members of the group (Burlingame, Fuhriman, & Johnson, 2001). In essence, group cohesion is the relationship between all those within the group (Burlingame, Fuhriman, & Johnson, 2001; Burlingame, MacKenzie, & Strauss, 2004). It is also considered to be the foundation through which the therapeutic work occurs in the group (Joyce, Piper, & Ogrodniczuk, 2007). Group facilitators contribute to the development of cohesion of members through their group management and leadership styles (Kivlighan & Tarrant, 2001). Facilitators often have greater influence on the group process in the beginning phase of group which lessens as the members take greater ownership over the group (Bakali, Baldwin, & Lorentzen, 2009; Bakali, Wilberg, Hagtvet, & Lorentzen, 2010; Kivlighan & Tarrant, 2001; Yalom & Leszcz, 2005). Consequently, Burlingame, McClendon, and Alonso (2011) found that as the group becomes more cohesive, outcomes improve even across different types of groups.
Group cohesion has been associated with improvement in outcomes, attendance, and participation (Yalom & Leszcz, 2005; Ogrodniczuk, Piper, & Joyce, 2006; MacNair-Semands, 2002). In a recent meta-analysis, Norcross (2011) found that across 40 studies of groupwork, cohesion in all its forms (with members and with leaders) contributes to better outcomes, particularly in groups lasting more than 12 sessions and with 5 to 9 participants. Additionally, Crowe and Grenyer (2008) also found that cohesion is associated with satisfaction and more positive outcomes and is distinct from the concept of alliance with the facilitator. Joyce, Piper, and Ogrodniczuk (2007) similarly found minimal statistical overlap between alliance and group cohesion but found that alliance was more closely aligned with improvement in outcomes than cohesion. Moreover, others have highlighted inconsistencies with measurement and the conceptual model of cohesion that has contributed to some mixed findings in the cohesion-outcomes research literature (Hornsey, Dwyer, Oei, & Dingle, 2009).

Some studies have explored the role of group cohesion on participation in groups. Positive relationships within the group and with the facilitators have been associated with active participation (Coatsworth, Duncan, Pantin, & Szapocznik, 2006; Schechtman & Leichtentritt, 2010). Conversely, MacNair-Semands (2002) found that groups with individuals with negative personality traits (e.g., social phobia, hostility) often had poorer attendance, hypothesizing that these traits made it difficult to develop relationships in the group. Further, extreme member behaviors, such as being overly intimate (e.g., oversharing) or not intimate enough with other members, within groups may contribute to poor attendance which illustrates the challenges in developing positive emotional connections with other members (Paquin, Miles, & Kivlighan, 2011). Interestingly, in one study exploring low income, minority caregiver participation in groups, positive alliances predicted retention while negative ones had no effect (Coatsworth, Duncan, Pantin, & Szapocznik, 2006). Using an integrative approach, Johnson et al. (2005)
posited a framework of cohesion that focused on the interrelationship between positive emotional connections of group members, negative relationship factors of group members, and collaborative engagement between members highlighting the important connection between relationships and engagement in groups. While the literature on cohesion and outcomes may be unclear, it is apparent that cohesion plays an important role in Behavioral Engagement in groups.

**Program Satisfaction**

Client satisfaction measures can be used to evaluate the overall experience of services (Athay & Bickman, 2012). However, satisfaction with services is not commonly reported in children’s mental health services research, with one large systematic review finding that less than 8% of studies included at least one measure of satisfaction (Weisz, Doss, & Hawley, 2005). In child and adolescent services, the literature varies as to who is the reporter, with some focusing on the youth perspective (Garland, Aarons, Hawley, & Hough, 2003) the parent perspective (Hawley-King et al., 2013; Heflinger, Simpkins, Scholle, & Kelleher, 2004) or both (Garland, Haine, & Boxmeyer, 2007; Lambert, Salzer, & Bickman, 1998; Copeland, Koeske, & Greeno, 2004). Furthermore, studies have often found little agreement between parent and youth reports of satisfaction (Biering, 2010; Aarons et al., 2010; Athay & Bickman, 2012).

More specifically, parental satisfaction with treatment has been associated with higher attendance of appointments. Parents who reported higher satisfaction had children who attended more sessions of community-based outpatient therapy (Garland, Haine, & Lewczyk Boxmeyer, 2007). Furthermore, parent satisfaction is associated with improvement in symptoms more so than child’s satisfaction with services (Lambert, Salzer, & Bickman, 1998; Garland, Haine, & Boxmeyer, 2007; Biering, 2010). However, satisfaction for parents of youth with
behavior disorders may be particularly challenging as they have been found to have less satisfaction than those with other diagnoses (Turchik et al., 2010).

Additionally, there are some reported linkages between therapeutic alliance and satisfaction. In a study of adolescents beginning outpatient mental health services, Hawley and Garland (2008) examined the relationship between both parent and youth therapeutic alliance with the therapist and a variety of youth and parent outcomes. The authors found that parent working alliance was associated with increases in parent satisfaction with therapy, and youth working alliance was associated with both youth and parent reported satisfaction. In a similar study with primarily school age youth, Hawley and Weisz (2005) also found parent alliance was associated with parent satisfaction in services. Therefore, caregiver satisfaction may be an indicator of caregiver’s positive attitudes to treatment and should be considered in assessing effects on Behavioral Engagement.

**Positive Change**

The caregiver’s perception of or experience of improvement in treatment is strongly associated with retention in and completion of treatment (Kazdin and Wassell, 1998; Horwitz et al., 2012). Yet, Kazdin and Wassell (1998) caution that sometimes those who end services early improve anyway and those who complete services can show no improvement. Published studies tend to focus on improvement at end of treatment with few highlighting gains throughout, which contributes to the difficulty in teasing out the improvement-drop out relationship.

Early improvement in treatment may be related to perceptions of treatment relevance. That being, early gains solidify the relevancy of treatment for the caregiver. Literature in this area has highlighted the important role of caregiver’s belief in treatment and its relationship to attendance. For example, perceived irrelevance of treatment is related to early dropout (Kazdin,
Holland, & Crowley, 1997; Kazdin, 2000; Stevens et al., 2009). However, this may be a more nuanced effect as Nock and Kazdin (2001) found a curvilinear relationship between parental expectations towards treatment and attendance with both extremes, high and low expectations, staying longer in treatment. Early experiences of improvement can help to manage caregiver expectations and support the relevance of treatment leading to greater or continued participation in services.

**Conclusion**

Parental beliefs and attitudes towards treatment and relationships within treatment can be an important motivator for engaging in services (Ingoldsby, 2010). As Nock, Ferriter, and Holmberg (2007) highlighted, positive beliefs towards treatment early in the process contributes to participation in treatment. The literature on relationships in treatment, satisfaction with services, and relevance or experience of improvement cited above show this connection to increased attendance and participation in treatment to be generally true. It also shows that some of these variables may be associated with each other, emphasizing a potential convergence into a higher order construct of Attitudinal Engagement. However, there were some inconsistencies in the direction of the relationship between these variables and attendance which may illustrate possible problems with measurement and/or the assumed direction of the relationship (i.e., attendance is an outcome of positive attitudes). These findings give credence to further evaluating Staudt’s model of engagement by understanding the first order and second order factor structure of the variables that comprise the attitudinal component and testing the relationship between Attitudinal Engagement and Behavioral Engagement.

The focus of this dissertation is on the role of Attitudinal Engagement as described above on attendance. In addition to these attitudinal variables, other factors have been found to
impact attendance in attrition studies, such as the severity of the child’s problem, minority race/ethnicity, parental stress, single parent status, and barriers (Miller, Southam-Gerow, & Allin, 2008; Gopalan et al., 2010; Freedenthal, 2007; Lopez, 2002; King, Currie, & Petersen, 2014; McKay and Bannon, 2004). The inclusion of these variables is beyond the scope of the current dissertation but can be considered as part of future research to further expand on the basic theoretical understanding of the relationship between Attitudinal and Behavioral Engagement.

Specifically, for the multiple family group model, the current dissertation can further elaborate the relationships that the literature reports exist between the various attitudinal and behavioral components within a group context. By having a clearer understanding of the process of engagement, one can later identify which of these key elements are also associated with improvement in symptoms and family functioning, contributing to further refinement of the MFG model in the future. Recently, some researchers, such as Becker et al. (2013) and Lindsey et al. (2013), have started identifying common key strategies that can be utilized to improve engagement based on the best evidence available and that can tap into supporting either the attitudinal or behavioral component of engagement. Depending on the findings of this dissertation, some of these strategies can be evaluated for inclusion in the MFG model in the future.
Chapter III: Methodology

The focus of this dissertation is to understand the process of engagement within a multiple family group model of treatment for children with behavioral problems and their families. First, the role of Attitudinal Engagement of caregivers within the group will be explored. Within this area, the underlying structure of the scales utilized to assess Attitudinal Engagement will be analyzed. Secondly, the relationship between Attitudinal Engagement and Behavioral Engagement will be explored within this group context. In this chapter, the description of the multiple family group model, participants, and description of measures and analyses will be presented.

Recruitment and Allocation

This dissertation will be utilizing data collected previously from the Multiple Family Group Study (Chacko et al., 2014; Gopalan et al., 2015; McKay et al., 2011). The original purpose of the study was to evaluate the effectiveness of a multiple family group model for children with behavioral problems and their families. Participants were recruited from 2006 to 2010 from 13 child mental health clinics in New York City and the surrounding area. Inclusion criteria for the study were “1) youth were between the ages of 7-11 years of age and presented for treatment at a participating mental health clinic, and 2) youth obtained a diagnosis of Oppositional Defiant Disorder (ODD) or Conduct Disorder (CD) according to the Diagnostic and Statistical Manual – Fourth Edition, Text Revision (American Psychiatric Association, [DSM-IV-TR], 2000) through intake with research staff” (Chacko et al., 2014, p. 3). Staff at the participating sites identified potential families and provided them with information on the study using approved recruitment materials. Interested families then met with research staff for consenting and screening. DSM-IV diagnosis of ODD and/or CD symptoms were determined via completion of DSM-IV ODD/CD
symptom checklist (Pelham, Evans, Gnagy, & Greenslade, 1992). Youth were also assessed for functional impairment through the Children’s Impairment Rating Scale (Fabiano et al., 2006).

Eligible participants were allocated to either receive the multiple family group (MFG) (n = 225) or standard services the clinic provided (services-as-usual - SAU; n = 95). Allocation was conducted by assigning cohorts of 6-8 families to the multiple family groups first and then assigning the next 3-4 families to services as usual (a 2:1 allocation). Due to the extended nature of intake procedures at clinics, traditional randomization procedures were not appropriate. Instead, families were placed in MFG first so that families would not languish on wait lists waiting for the group to fill. Furthermore, only senior research staff managed condition assignment, ensuring that field research staff did not hold influence. Once allocated to the appropriate condition, parents completed self-report measures at baseline, mid-way (8 weeks), post-treatment (16 weeks), 6 months after the group, and 18 months after the group. This dissertation will solely utilize the MFG group participants (n = 225) since the focus is on the process of engagement in the multiple family groups and not in services as usual.

Sample

MFG group participants were primarily low-income Latinos (50%) and African Americans (29%). Seventy-nine percent had an income lower than $29,999 with a third of the sample unemployed and approximately 72% of the families utilized Medicaid. The majority of the children with behavioral problems were male with an average age of 8 years. Mothers (78%) were overwhelmingly the primary caregivers with an average age of 35. See Table 1 for sample characteristics.

MFG Intervention
MFG is a 16-week series of one-hour group sessions that cover six core concepts of family life (the 4 Rs and 2 Ss) that strengthen family functioning and reduce child behavioral problems: Rules, Responsibilities, Relationships, Respectful Communication, Stress, and Social Support. Each of the sessions is structured similarly where it begins with a family social to allow families to greet each other, then a review of the homework, introduction of the topic of the day (the R or S of the day), group discussion and/or family practice activity, and ends with a summary and new homework assignment. Groups typically have two facilitators with a preferred model of a clinician and a parent peer advocate. However, some groups were facilitated by two clinicians or a clinician and an intern. Facilitators participated in a one-day training and bi-weekly supervision with the research staff.

During the study, participants in the MFG groups were open to receiving other services in addition to the group as indicated by clinical need. Approximately 47% of group participants received additional services which primarily included the child receiving individual therapy (49%) and/or medication management (34%). A few others reported receiving services in school, case management, or crisis management. It is possible that parents may have also participated in these other services, but the details of participation were not collected.

**Measures**

**Attitudinal Engagement**

Attitudinal Engagement was assessed using four measures: relationship with facilitator (provider), relationships with group members, program satisfaction, and positive change. The items for each of these measures are presented in Table 2, along with the mean, standard deviation, skewness, and kurtosis. Parents were asked to complete each measure at mid-point range of treatment, usually 6-8 weeks after the group began and at post-treatment
(approximately 16 weeks). Each of the measures used to assessed Attitudinal Engagement are described below.

**Relationship with facilitator (provider).** This is a 13-item scale adapted from Tolan, Hanish, McKay and Dickey (2002) asking about the parents’ relationship with the facilitator. The original Tolan et al. (2002) 10 item parent scale (e.g., “My facilitator likes me” “My facilitator can really help us”) was used plus three additional items assessing the facilitators understanding of the family’s culture, respect for their values, and understanding what it’s like to raise children today. The original 10 item scale had .94 internal consistency with a sample of mostly urban, low income and minority parents (Tolan et al., 2002). In this dissertation, the 13-item scale had a Cronbach’s alpha of .95. The items were rated on a 4-point Likert Scale where 1 = “Not at all” and 4 = “Very Much”. A high score represented a better relationship with the facilitator. The mean response was 3.72 (SD = .41). Skewness for the full scale was -1.541(.186) and kurtosis was 1.830(.369).

**Relationships with group members.** This is an 11-item scale asking about the parents’ relationship with the other group members (e.g., The group members listen when I have a problem”). This scale was adapted from the Parent/School Social Support Scale (McKay et al., 2000; Paikoff, McKay, & McKinney, 1998). In these previous studies, it was used with large samples of urban parents in school settings with an internal consistency of .87. The items were rated on a 4-point Likert Scale where 1 = “Strongly Disagree” and 4 = “Strongly Agree”. A high score represented better group member relationships. In this dissertation, internal consistency was a Cronbach’s alpha of .82 for the 11 items. The mean response was 3.07(SD = .53). Skewness for the full scale was -.074(.185) and kurtosis was .209(.368).
Program satisfaction. This is a 14-item scale adapted from Tolan, Hanish, McKay, and Dickey (2002) that asks about the parents’ satisfaction with the group. The original Tolan et al. (2002) 10-item parent scale (e.g., “I am satisfied with the group,” “I usually look forward to the next session”) was used with an addition of 2 items that asked about parental involvement in the group. Further, two of Tolan et al.’s items (“I believe that group is helping my family” and “I have gotten some helpful ideas about my family”) was further expanded upon with each also having an additional item specific to the child (“I believe that group is helping my child” and “I have gotten some helpful ideas about my child”). The original 10 item scale had .86 internal consistency with a sample of mostly urban, low income and minority parents (Tolan et al., 2002). In this dissertation, the 14-item scale had a Cronbach’s alpha of .91. The items were rated on a 4-point Likert Scale where 1 = “Not at all” and 4 = “Very Much”. A high score represented more satisfaction with the group. The mean response was 3.49 (SD = .45). Skewness for the full scale was -.708 (.185) and kurtosis was -.522 (.368).

Positive change. This is a 6-item scale assessing positive change in the family in the previous two weeks. This scale was not previously validated. Items reflect child behavior at home and at school, parent’s relationship with the child, how the family works together, how the children get along with each other, and how much support you receive from others. The items were rated on a 6-point Likert Scale, where 1 = “Much Worse” and 6 = “Never a Problem”. “Never a Problem” (6) was recoded as missing, resulting in a final 5-point-Likert scale (5 = “A Lot Better”). A high score indicated greater positive change. The mean response was 4.02 (SD = .66). In this dissertation, the internal consistency was Cronbach’s alpha of .82. Skewness for the full scale -.453 (.185) and kurtosis was -.207 (.367).

Behavioral Engagement
**Attendance.** Attendance was tracked on a weekly basis as present or absent for each family. Percentage attendance will be utilized as some groups combined sessions and completed groups in less than 16 weeks. Participants attended between 46% and 77% of the sessions, with an average of 59% (SD = 7.55%).

**Analytic Plan**

Preliminary analyses were conducted using SPSS Version 22 and consisted of evaluating descriptive statistics, missing data, and whether assumptions were met for the main analyses (e.g., normality). Main analyses occurred in three steps utilizing AMOS Version 22 or Mplus 7.11: 1) exploratory factor analyses of each attitudinal variable, 2) confirmatory factor analysis of Attitudinal Engagement, and 3) cross-lagged panel analysis to examine the relationship between Attitudinal Engagement and Behavioral Engagement.

**Preliminary Analyses**

Descriptive statistics were conducted to examine frequencies, means, range, and extent of missing data. Univariate indices of skewness and kurtosis, such as Shapiro-Wilk test and Kolmogorov-Smirnov test, were examined. In addition, Full Information Maximum Likelihood (FIML) methods were utilized as implemented in the Mplus and AMOS softwares. FIML is regarded as the best method for handling missing data and allows for the full dataset to be included in analyses (Larsen, 2011).

This dissertation used data within a nested format, that is, participants are situated within multiple family groups. The lack of attention to the multilevel nature of data in group psychotherapy research has been criticized by Burlingame and colleagues (Burlingame, Kircher, & Honts, 1994; Burlingame, Kircher, & Taylor, 1994; Johnson et al., 2005). Single level structural equation modeling assumes that cases are independent from each other. By the nature of
having participants interact within groups, it is possible that the cases are more correlated within groups than across groups potentially violating statistical assumptions. However, Zyphur, Kaplan, and Christian (2008) reports that researchers may choose to still conduct single level analysis if it is theoretically consistent and if there are minimal cross level differences. Two ways to determine if multilevel modeling is needed are two examine the Intraclass Correlation Coefficients (ICC) and the number of participants per group. Using reliability analyses in SPSS to examine the role of the group on each attitudinal and behavioral indicator, it was found that there was no evidence of variance between groups as ICCs were nonsignificant and Cronbach’s alphas were all close to zero. Furthermore, sample sizes for multilevel modeling have been recommended to be anywhere from 30 groups with 30 individuals (30:30) to 50 groups with 20 individuals each (50-20) or more (Maas & Hox, 2005; Richter, 2006). The data in this dissertation fell between the recommended ranges for the group level (n = 35 groups) but is substandard for the individual level (mean of 6 participants per group). Based on the above analyses, it is deemed that multilevel modeling is unnecessary for this dissertation.

Main Analyses

Exploratory factor analysis (EFA) was used to validate each of the Attitudinal Engagement measures (relationship with facilitator, relationships with group members, program satisfaction, and positive change) separately as they had not been validated previously or had been modified from their original versions. Based on review of the literature, Worthington and Whittaker (2006) report that sample sizes of 150-200 are adequate as long as communalities are higher than .5 or with 10:1 items per factor with factor loadings at .4. Further, Bartlett’s (1950) test of sphericity and Kaiser-Meyer-Olkin (KMO) measure was used to determine factorability and sampling adequacy. Using Mplus, maximum likelihood estimation with robust standard errors was utilized as the extraction method. Oblique rotation, Geomin, was used to allow the
factors to correlate (Costello and Osborne, 2005). Eigenvalues (>1) and scree plots were examined to determine number of factors. Item deletion methods were based on current recommendations by Worthington and Whitaker (2006): items with factor loadings below .32 or cross-loadings less than .15 in difference were deleted. Lastly, Mplus goodness of fit indices were used to determine factors.

Structural equation modeling procedures were utilized to perform the confirmatory factor analysis (CFA) and a cross-lagged panel analysis. Using AMOS, full maximum likelihood estimation procedures were utilized for both analyses. The confirmatory factor analyses were used to test the second order factor model representing the construct of Attitudinal Engagement. Sample size recommendations are similar to the EFA with a recommended minimum of 100 participants or a 5:1 ratio of participants to parameters (Worthington & Whitaker, 2006). Then, cross-lagged panel analyses (CPA) were conducted to determine whether Attitudinal Engagement at Time 1 caused changes in Behavioral Engagement at Time 2, thus clarifying concerns about reciprocal causality. In the CPA, four specific models were tested as recommended by Martens and Haase (2006): 1) a baseline model with autoregressive paths; 2) a model with autoregressive effects and Attitudinal Engagement at Time 1 predicting Behavioral Engagement at Time 2; 3) a model with autoregressive effects and Behavioral Engagement at Time 1 predicting Attitudinal Engagement at Time 2; and 4) a full cross-lagged model with the autoregressive effects (see Figure 1). The comparison of these two cross-lagged relationships will identify which variable is a stronger temporal predictor of the other (Martens & Haase, 2006).

For both the CFA and the CPA, a variety of fit indices were examined to assess goodness of fit to the data: comparative fit index (CFI), Tucker Lewis Index (TLI) with values greater than
.95 and the root mean square error of approximation (RMSEA) and the standardized root mean square residual (SRMR) with values less than .05 showing good model to data fit (Hu & Bentler, 1999). Furthermore, a non-significant chi-square shows that there is no significant difference between the covariance matrix and the proposed model. For the CPA, the chi-square difference test will also be utilized to examine the differences between the models. Coefficients and significance tests (p values) were evaluated to determine direction of causation. If cross lagged effects are positive and significant in both directions, then this indicates reciprocal causality. If one of the coefficients is significant, then the relationship is unidirectional in nature.
Chapter IV: Findings

Preliminary Analyses

Descriptive analyses were run for each individual item of each of the four scales that were hypothesized to comprise the latent construct of Attitudinal Engagement (see Table 2 for results). Analyses showed that the participants tended to report high levels of satisfaction, positive change, and positive relationships with facilitators and group members. Skewness and kurtosis were evaluated for each item to determine if the data differs from a normal distribution. Z scores were calculated for each skewness and kurtosis statistic and compared to a critical value of +/-1.96. All the scores were above the critical value and therefore the data were not normally distributed. This can also be seen by the results of the Kolmogorov-Smirnov and Shapiro-Wilk tests. Scores for each test also showed that the data were not normally distributed.

Each item had missing responses ranging from 23.6% to 32.4%. Little's MCAR Test was utilized to determine whether the data were missing at random for each of the four scales. Results are in Table 3. For 3 out of the 4 scales, Little's test showed that the data were missing completely at random (MCAR) or that no missing patterns existed. For one scale, relationship with facilitators, the test showed some patterns, meaning that the missing data can be missing at random (MAR) or missing not at random (NMAR). Sensitivity analyses were conducted by comparing demographic variables between those with missing data and those with complete data for this scale. No significant differences were found, and therefore it is reasonable to assume that the data were missing at random.

In order to determine the adequacy of completing an exploratory factor analysis, the Kaiser-Meyer-Olkin (KMO) Test and the Bartlett’s Test of Sphericity (BTS) were conducted (See
The KMO determines how suitable the data are for conducting a factor analysis by
determining the sampling adequacy. It examines the correlations between pairs of variables
that can be explained by other variables in the model. KMO values are between 0 and 1 with
those closest to one being acceptable. Here, the KMO is above .8 for each of the scales and
therefore indicate that the sampling is adequate. The BTS determines whether the correlation
matrix is an identity matrix (noncollinear or that the correlations are zero). Tabachnick and Fidell
(2007) recommend BTS be used when samples sizes are small. When the BTS is statistically
significant (less than .05), it finds that there are correlations between variables and therefore
factorable (not an identity matrix). Here, we find that the BTS is statistically significant at \( p < .001 \) for each of the four scales. Therefore, we find adequate reasoning to continue with the
exploratory factor analyses. However, robust estimators (described below under EFA) for the
analyses were necessary that attended to the missing data and the non-normality concerns.

Attendance was calculated by percent of sessions attended as some groups ran 12
sessions and others ran 16 sessions. Percent attendance during the first half of the group had a
M(SD) = .6350(.309) with a skewness of -.648(.162) and kurtosis of -.655(.323). Standardized
scores for both skewness and kurtosis show that they were both above the critical value. In
addition, the Kolmogorov-Smirnov test was .156, \( p < .001 \) and the Shapiro-Wilk test was .903, \( p
< .001 \), showing that the data were not normally distributed. Percent attendance for the second
half of the group had a M(SD) = .5515(.381) with a skewness of -.336(.162) and kurtosis of -
1.448(.323). The Kolmogorov-Smirnov test was .192, \( p < .001 \) and the Shapiro-Wilk test was
.853, \( p < .001 \), which also show that the data were not normally distributed. There were no
missing attendance data.
Based on these preliminary analyses, full information maximum likelihood (FIML) estimation procedures were utilized for the main analyses. FIML is not an imputation method but instead estimates parameters based on the available data. It is preferred over imputation because it retains the full sample and produces unbiased results especially with smaller sample sizes (Olinsky, Chen, & Harlow, 2003). The estimate is the value that is most likely to have occurred in the available data. The likelihood is computed for those with complete data and with those with incomplete data and then maximized together to form the parameter estimates (analysis factor). It is the value that is most likely to have occurred from the observed data. FIML uses both complete and incomplete cases in its estimates and gives unbiased parameter estimates when data are considered MCAR or MAR (Schafer & Graham, 2002).

**Main Analyses**

**Exploratory Factor Analyses (EFA)**

Separate exploratory factor analyses were conducted for each scale using *MPlus* Version 7 (Muthén & Muthén, 2012) to determine the underlying dimensionality and structure of each scale. Three of the scales used 4-point Likert Scale responses (relationship with facilitator, relationships with group members, and program satisfaction), therefore a robust weighted least square estimator (WLSMV) for ordered categorical variables was utilized. The remaining scale, positive change, used a 5-point Likert Scale response therefore a maximum likelihood (ML) estimator for continuous variables was utilized. Both estimators are less sensitive to deviations from normality. An oblique rotation, Geomin, was utilized as it is expected that the factors would correlate. Typically, eigenvalues and scree plots are used to determine the number of factors, but *MPlus* provides additional fit indices (Chi-Square, RMSEA, etc.) to assist in evaluating
the model fit. Items with factor loadings below .32 or cross-loadings less than .15 in difference were deleted (Worthington & Whitaker, 2006).

**Relationship with facilitator.** One through 4 factor solutions were explored to determine if the 13 items represented the latent construct of relationship with facilitator. The first factor was the only one with an eigenvalue above one (10.395) and strong factor loadings with all items above .80. Model fit statistics, however, were mixed with a significant chi-square ($\chi^2 = 158.410, p < 0.00$), poor RMSEA at .092, but very good CFI at .990 and TLI at .988. Due to limitations in the chi-square test, Klein (1994) recommends evaluating it with the degrees of freedom where a ratio less than 3:1 suggest good model fit. Here, the ratio is 2.4:1 and therefore suggests good model fit. In addition, all of the items connote the construct of satisfaction on its face. Therefore, it was determined that a one factor solution fits the data best (see Table 4).

**Relationship with group members.** One through 3 factor solutions were conducted to determine if the 11 items represented the latent construct of relationship with group members. Factors 1 and 2 had eigenvalues above one (factor 1 = 5.468; factor 2 = 1.806). However, model fit statistics were poor for factor 1 and mixed for factor 2 with only the CFI and TLI of factor 2 falling within a good range. On closer examination of the items themselves, the author found some lack of cohesiveness on their face. Because the items had been adapted from a focus on parental support within a community school setting, certain items in the relationship with group members’ subscale do not necessarily reflect a focus on the relationship among group members in a closed treatment group. For example, certain items focus on assistance the caregiver may have received from group members outside of the group [e.g., “Group members are willing to help me in practical ways (e.g., babysitting)”]. While most items focus on the caregiver feeling
comfortable with group members or receiving help from them, others focus on concepts outside of the scope of the affectual relationship (e.g., “I get good ideas from others in the group”) or that group members have caused them problems.

One item ("Other group members caused me a lot of problems") cross loaded and had negative loadings so this item was removed and the EFA was run again. Factors 1 and 2 again had eigenvalues above 1 but poor model fit statistics. Factor 2 had adequate CFI and TLI. Upon further examination of the loadings, one item cross loaded on 2 factors ("I get good ideas from others in the group"). Therefore, this item was removed in an attempt to reduce the scale. Lastly, an EFA was run with both items removed and factors 1 (5.092) and 2 (1.367) had eigenvalues above 1. However, the two factor solution retains all items with good to strong factor loadings ranging from .543 to .848. Model fit statistics were mixed for a two factor model with a significant chi-square ($\chi^2 = 42.267, p = 0.0016$), borderline RMSEA at .084, but very good CFI at .990 and TLI at .981. Using Klein’s (1994) recommendations, the two factor model has a ratio of 2.2:1 ($\chi^2 = 42.267; df = 19$) and therefore suggests good model fit. Therefore, it was determined that a two factor solution fits the data best and represent Personal Support and Parenting Support (see Table 5).

**Program satisfaction.** One through 4 factor solutions were conducted to determine if the 14 items represented the latent construct of program satisfaction. The first and second factors had eigenvalues above 1 (8.727; 1.400). Only the 4 factor model had a nonsignificant chi-square ($\chi^2 = 46.895, p = 0.2435$) and good RMSEA (.029), CFI (.999), and TLI (.998), but an eigenvalue of 0.761. The 4 factor model also showed good model fit with a chi-square and degrees of freedom ratio of 1.14:1. Therefore, it was determined that a 4 factor solution fits the data best.
Item 3 (“I am satisfied with the group”) cross loaded closely on factors 1, 2, and 3 (0.384, 0.412, 0.210 respectively). Being that this item reflects the concept of satisfaction on its face, it was not removed and instead kept under factor 2 where it loaded the highest.

Additionally, item 13 did have a factor loading above 1 (1.009) but did not have a negative residual variance so the item is considered acceptable. The four factors represent concepts of perceived helpfulness, usefulness, goal attainment, and positive outlook (see Table 6).

Positive change. One through 3 factor solutions were conducted to determine if the 6 items represented the latent construct of positive change. Only two factors were extracted with factor one having an eigenvalue of 3.185 and factor two having an eigenvalue of 0.920. Factor two fit the data best with a nonsignificant chi-square of 6.954, $p = 0.1383$. RMSEA was adequate at 0.065 and had a good CFI (0.991) and TLI (0.965). Additionally, all factor loadings were above .4, and there were no negative residual variances. The 2 factor model also showed good model fit with a chi-square and degrees of freedom ratio of 1.74:1. Therefore, it was determined that a two factor model fits the data best representing the concepts of improved behavior and improved relationships (see Table 7). See Table 8 for descriptive statistics for each final scale and Table 9 for the Correlation Matrix.

Confirmatory Factor Analyses (CFA)

Confirmatory Factor Analyses allows us to test the nine factors discovered from the EFA representing relationship with facilitator, relationships with group members, program satisfaction, and positive change that are hypothesized to comprise and reflect the latent attitudinal engagement construct as per Staudt’s theory. Analyses were run in AMOS v.22 (Arbuckle, 2014) using full maximum likelihood estimation procedures. In addition to the chi-square statistic, the following fit indices were examined to assess goodness of fit to the data:
comparative fit index (CFI), Tucker Lewis Index (TLI) with values greater than .95 and the root mean square error of approximation (RMSEA) with values less than .05 showing good model to data fit (Hu & Bentler, 1999). Furthermore, a non-significant chi-square shows that there is no significant difference between the covariance matrix and the proposed model.

The nine observed factors from the EFA representing latent constructs of relationship with facilitator, relationships with group members, program satisfaction, and positive change were run in a first order confirmatory factor analysis (see Figure 2). Results from the CFA are shown in Table 10. Relationship with facilitator was included as an observed variable because it has only one factor per the EFA. The chi-square was statistically significant ($\chi^2 = 61.494, p = .000$). A significant chi-square indicates that there is a difference between the observed covariance matrix and the proposed model. Therefore, the observed covariance matrix was not explained by the proposed model. CFI and TLI describe how well a model fits the data compared to an uncorrelated baseline model. Values can range from 0 to 1 with good model fit being above .95. Values in these analyses are TLI = .854 and CFI = .926 which indicate poor to moderate model fit. RMSEA showed borderline model fit at .086 and so did the p value close at .012. Looking at the regression weights (factor loadings), the factors fall above the critical ratio of 1.96 and standardized regression weights range from .46 to 1.00 representing a good association between the factors and their respective latent construct. In addition, low to moderate correlations are found among the four primary factors. The lowest correlation was .24 between relationship with facilitator and relationship with group members. The highest correlation was .72 between program satisfaction and positive change. Being that the data showed poor to moderate model fit as a first order model, this CFA supports the notion that there are four separate factors and a second order CFA with a latent Attitudinal Engagement construction was not indicated.
Cross-Lagged Panel Analysis (CPA)

The final phase in the analyses was to perform a cross-lagged panel analysis to evaluate whether Attitudinal Engagement predicted Attendance or vice versa. Due to the findings of the CFA, the notion of a second order construct of Attitudinal Engagement was suspended, and the factors were included separately in the analyses. Further, due to sample size concerns, the nine factors (subscales) were aggregated under their corresponding primary factor (See Figure 3).

The cross-lagged panel analysis was completed using AMOS v.22 (Arbuckle, 2014) and full maximum likelihood estimation procedures. The analyses consisted of evaluating four models representing the following: a) a baseline model with autoregressive paths, b) a model with autoregressive effects and the four attitudinal factors at Time 1 predicting attendance at Time 2, c) a model with autoregressive effects and attendance at Time 1 predicting the four attitudinal factors at Time 2, d) a full cross-lagged model with autoregressive effects and both the four attitudinal factors and attendance predicting each other. The Time 1 variables were hypothesized as correlated in each of the models as well as the error terms at Time 2.

Table 11 presents the fit indices for each model tested. Only the CFI for each of the models showed good model fit whereas the TLI, RMSEA and chi-square each showed poor model fit. The baseline model also represents the stability of the constructs over time. Despite mixed model fit indices, the regression weights in the baseline model showed some stability between Time 1 and Time 2 of each of the variables with statistically significant autoregressive paths (program satisfaction: $\beta = .543, p < .001$; relationship between group members: $\beta = .613, p < .001$; relationship with facilitator: $\beta = .446, p < .001$; positive change: $\beta = .478, p < .001$; and attendance: $\beta = .756, p < .001$). Of interest in cross-lagged analyses are the difference in chi-square values between the models. As can be seen in Table 11, neither Model 2 nor 3 provided a significantly better fit to the data than the baseline model although there were some statistically
significant paths. In Model 2, relationship with facilitator ($\beta = -.108$) and program satisfaction ($\beta = .176$) had statistically significant paths at the $p < .05$. However, the relationship is inverse with relationship with facilitators, showing that when relationship with facilitator at Time 1 goes up by 1 standard deviation, attendance at Time 2 goes down by .108. For Model 3, attendance at Time 1 had statistically significant paths at the $p < .05$ level with program satisfaction ($\beta = .136$) and relationship with group members ($\beta = .123$). Therefore, Model 4, the fully cross-lagged model, also did not fit the data better than the baseline model. There are two paths that were statistically significant: 1) attendance at Time 1 with relationship with group members at Time 2 ($\beta = .124, p < .05$) and 2) program satisfaction at Time 1 with attendance at Time 2 ($\beta = .164, p < .05$).

Review of the findings from the cross-lagged panel analyses using all four of the factors reveal that positive change consistently showed an inverse relationship with attendance which is in contradiction with what one would assume occurs - seeing improvements should lead to increase in attendance and vice versa. Therefore, the cross-lagged panel analysis was rerun without positive change. Table 12 presents the fit indices for each model tested. Only the CFI for each of the models showed good model fit whereas the TLI, RMSEA and chi-square each showed poor model fit. The baseline model also represents the stability of the constructs over time. Despite mixed model fit indices, the regression weights in the baseline model showed some stability between Time 1 and Time 2 of each of the variables with statistically significant autoregressive paths (program satisfaction: $\beta = .564, p < .001$; relationship between group members: $\beta = .610, p < .001$; relationship with facilitator: $\beta = .447, p < .001$; and attendance: $\beta = .754, p < .001$). As can be seen in Table 12, results of the chi-square difference test showed that only Model 2, which specified that the separate attitudinal factors of program satisfaction, relationship with group members, and relationship with facilitator at Time 1 predicted
attendance at Time 2, provided a significantly better fit to the data than the baseline model (Model 1), \( \chi^2_{\text{diff}}(3) = 7.983, p < .05 \). Results of the analysis for Model 2 are shown in Figure 4. They showed significant paths between relationship with facilitator (\( \beta = -.113, p = .040 \)) and program satisfaction (\( \beta = .162, p = .007 \)) at Time 1 with attendance at Time 2. Relationship with group members did not have a significant path (\( \beta = -.041, p = .426 \)). In addition, autoregressive paths were also stable over time with standardized regression weights ranging from .4 to .7 at \( p < .001 \). In contrast, Model 3 did not provide a significantly better fit to the data \( \chi^2_{\text{diff}}(3) = 5.044, p = .169 \) nor were the paths between the attitudinal factors and attendance statistically significant. Model 4 was compared to Model 2 to determine if it provided a better fit to the data. Results indicated that Model 4, the fully cross-lagged model, did not provide a better fit to the data than Model 2 \( \chi^2_{\text{diff}}(3) = 4.456, p = .216 \). Results also showed that only relationship with facilitator (\( \beta = -.112, p = .042 \)) and program satisfaction (\( \beta = .152, p = .010 \)) at Time 1 predicted attendance at Time 2, similar to Model 2. Therefore, the data suggest that Model 2 was more parsimonious and fit the data better than the other competing models tested in this dissertation. Model 2 showed that when relationship with facilitator goes up by 1 standard deviation at Time 1, attendance goes down by 0.113 standard deviations at Time 2. When program satisfaction goes up by 1 standard deviation at Time 1, attendance goes up by 0.162 standard deviations at Time 2.

**Additional Analyses**

The cross-lagged panel analyses showed that as one has a better relationship with the facilitator that attendance may decrease. This finding seems rather paradoxical as one can reasonably conclude that a better relationship would lead to more attendance or engagement. Additional analyses were run to explore this finding. Separate linear regression analyses were conducted using maximum likelihood estimation procedures to attend to missing data concerns
in Mplus version 8 (Muthén & Muthén, 2017). Attendance at time 2 was regressed separately on each of the four attitudinal constructs (relationship with facilitator, relationship with group members, program satisfaction, and positive change). Out of the four, only program satisfaction had a predictive relationship with attendance at \( p < .05 \) (See Table 13). When program satisfaction increases by one unit, attendance at time 2 increases by .151. While not statistically significant, relationship with facilitator did show an inverse relationship. Furthermore, attendance at time 2 was regressed on each of the nine subscales across the four constructs (See Table 13). The helpfulness subscale of program satisfaction showed a statistically significant effect on attendance. Each one unit increase in helpfulness, predicted a .116 increase in attendance at time 2. These additional analyses further confirmed the predictive relationship between program satisfaction and attendance but did not hold for relationship with facilitator construct.
Chapter V: Discussion

Summary of Findings

The primary purpose of this dissertation was to assess the direction of the relationship between attitudes and behaviors as a unidirectional or reciprocal process of engagement. Staudt’s (2007) conceptual framework on the engagement process hypothesized that clients and caregivers need to express positive attitudes towards mental health services before behavioral engagement. Specific behaviors of providers, such as improving therapeutic alliance and attending to beliefs about treatment, have the potential to facilitate clients’ positive attitudinal experiences. When clients have more positive attitudinal experiences (engaged attitudinally), they would be more likely to participate behaviorally (engaged behaviorally), such as attending appointments. Although Staudt’s framework was an attempt to bring conceptual clarity to the field of engagement in mental health services, her framework had not been empirically evaluated. Therefore, the focus of this dissertation was to evaluate the role of Attitudinal Engagement through caregiver attitudes of program satisfaction, positive change, relationship with facilitator (provider), and relationship with other group members within a multiple family group approach for children with behavioral problems and their families. Being that research has shown linkages between attitudes and behaviors and that behaviors can precede or influence attitudes, this dissertation explored the role of reciprocal causality between Attitudinal and Behavioral Engagement within this multiple family group approach using longitudinal data (Fabrigar, Wegener, & MacDonald, 2010; Festinger, 1957).

First, prior to testing this relationship, the underlying structure of each of the four scales that comprise the attitudinal component (caregivers’ attitude towards the relationship with the facilitator, relationship with the group members, program satisfaction, and positive change)
were examined to determine if they represent the first order construct. Separate exploratory factor analyses were conducted for each scale to determine the underlying dimensionality and structure. Utilizing a mix of fit statistics, an adequate structure was found for each of the four scales. Attitudes towards the relationship with facilitator scale retained all 13 items in one factor and focused on the caregiver’s positive feelings towards the providers/facilitators, mutual trust and understanding, and helpfulness. Attitudes towards the relationship with group members scale was revised to 9 items and represented two factors reflecting support received for parenting and personal matters. Attitudes towards program satisfaction retained all 14 items and represented 4 factors reflecting perceived helpfulness, usefulness, goal attainment, and positive outlook. Attitudes towards positive change retained all 6 items and represented two factors focusing on improved behavior and improved relationships. Then, the four attitudinal constructs were examined to determine if they represented a superordinate, aggregate, or a set of distinct constructs. Confirmatory factor analyses showed that they indeed are four distinct attitudinal engagement constructs. The obtained data does not match our theoretical prediction of a primary four factor attitudinal engagement construct.

Lastly, this dissertation explored the relationship between these four distinct attitudinal engagement constructs with Behavioral Engagement and the direction of causality. Positive change was removed as it had difficulty loading properly. Essentially, the fully cross-lagged model, representing a reciprocal relationship did not fit the data. Model 2 was more parsimonious and fit the data better than the other models. Therefore, this dissertation does provide some mixed support for Staudt’s original hypothesis that Attitudinal Engagement precedes Behavioral Engagement in certain circumstances.

**Implications for Theory**
Staudt’s model proposed that a set of factors related to the provider and client relationships represent a higher order construct of Attitudinal Engagement. In this dissertation, the four factors representing a second order construct did not converge in the confirmatory factor analysis. It is possible that these four factors represent a different construct and not attitudinal engagement. While the four factors in this dissertation did attempt to reflect treatment relevance, satisfaction, alliance, relationship with group members, and impact of treatment, it is possible that they converged under a broader concept of satisfaction for example, or that they are discreet concepts and not part of a higher order construct. Additionally, being that clients were involved in a group treatment, it was suggested that relationship with group members could impact engagement in the group as well, and therefore it was included in the original model. Staudt’s model was focused on individual client family participation, so it is possible that the addition of the group member attitudes scales and/or evaluating this model within a group treatment may not have represented Staudt’s original conceptualization.

Nevertheless, there is some mixed support for Staudt’s model in that separate attitudinal constructs of satisfaction and positive relationship with facilitators predicted behavioral engagement within this multiple family group model. However, relationship with facilitators and attendance had an inverse relationship with higher positive relationship with the facilitators predicting a decrease in attendance. The extant literature on the helping relationship and attendance has generally seen a positive relationship between the two (Karver, Handelsman, Fields, & Bickman, 2006; Shirk & Karver, 2003; Hawley & Weisz, 2005; Kazdin, Witley, & Marciano, 2006). For example, in Hawley and Weisz (2005), the parent-provider alliance (represented here as the parent self-report of relationship with the facilitator) is shown to have a significant effect on participation and reduction of drop out. Furthermore, positive
relationships with the provider in group treatment are associated with treatment satisfaction in
addition to engagement in services (Karver et al., 2005; Elvins & Green, 2008; Thompson et al.,
2007; Crowe & Grenyer, 2008; Coatsworth, Duncan, Pantin, & Szapocznik, 2006). Satisfaction
with services has been positively correlated with therapeutic alliance in service, in addition to
attendance of appointment (Garland, Haine, & Lewczyk Boxmeyer, 2007; Hawley & Weisz,
2005). This dissertation can further expand the literature by affirming the strong relationship
between satisfaction and participation in treatment but complicates the understanding of the
relationship between the helping relationship (in this case, parent-facilitator relationship) and
participation. It is important to recognize that the inverse relationship between relationship
with the facilitator and attendance was not confirmed in the additional follow up analyses, as
the relationship was not statistically significant. Future research can further examine the
connection between the relationship with the facilitator and attendance more closely to confirm
or refute the findings of this dissertation.

The discrepancy in findings on the impact of the helping relationship in this dissertation
versus past research may highlight the need for greater conceptual clarity in measuring the
relationship. The various attempts to measure the helping relationship (or therapeutic alliance,
working alliance, etc.) in past studies has shown that the measures may overlap with concepts
of not just the positive emotional attachment and bond but also agreement on goals and tasks,
as per the use of the Working Alliance Inventory (Horvath & Greenberg, 1989). Other studies
also included cognitive components (e.g., hopefulness) and behavioral participation in addition
to the emotional attachment of the relationship (Karver, Handelsman, Fields, & Bickman, 2005).
In this dissertation, the relationship with the facilitator measure focused on caregivers liking and
trusting the facilitator, whereas program satisfaction incorporating more of the aspects of
hopefulness and caregiver participation in treatment.
Furthermore, attitudes towards positive change was not supported as a predictor of attendance in this dissertation. The literature on improvement in treatment and its relationship with engagement has been rather mixed with findings of a positive relationship, a curvilinear relationship, or no relationship (Kazdin & Wassell, 1998; Nock & Kazdin, 2001). Instead, a closely related concept of relevance of treatment has been found to have a better association with engagement (Kazdin, Holland, & Crowley, 1997; Kazdin, 2000; Stevens et al., 2009). The concept of relevance may fall more closely in line with Staudt’s original framework and may have yielded more positive results if conceptualized that way in this dissertation.

While behavioral engagement is often operationalized as attendance of appointments, Staudt and others have expanded it to include participation in tasks and homework (Becker et al., 2013; Littell, Alexander, & Reynolds, 2001; Miller et al., 2008; Nock & Ferriter, 2005; Staudt, 2007). In this dissertation, only attendance was available to be included in the analyses. A question arises as to whether inclusion of these other practices could have been more representative of the behavioral aspects of engagement. Essentially, the findings of this dissertation highlight the role that relationships and satisfaction play specific to attendance. Therefore, further evaluation of Staudt’s conceptual framework of engagement that incorporates all hypothesized factors is necessary.

Moreover, a framework of engagement specific to group treatment may be more pertinent in this case. MacGowan (1997) developed the Group Engagement Measure. Using a multifaceted approach to evaluate engagement through a number of factors in addition to attendance, such as contributions to the group, relating to the facilitator, relating to group members, supports the norms and activities of the group, works on own problems, and works on others’ problems. This multi-factor model incorporates the role of the group process in
addition to the relationship variables. Being that this model incorporates both attitudinal and behavioral approaches to engagement, it may be better suited to the multiple family group treatment approach used in this dissertation.

Therefore, the literature points us towards a multifaceted approach to the concept of engagement as incorporating both attitudes/beliefs/cognitions and behaviors (relational and task oriented). Further work may be necessary to delineate which mix of these facets are indeed necessary to fully participate in mental health services. Additional attention may be needed to determine if the mix of factors vary depending on the treatment modality or if there is a more parsimonious model that can be broadly applied. In determining the mix of factors, clearer conceptual clarity and distinction between these factors are essential in furthering this research.

**Implications for Practice**

The findings of this dissertation point towards the importance of not just the relational aspects of mental health services, but also to its relevance and impact. While a positive helping relationship may be valuable, the findings point to the importance of program satisfaction for increasing attendance. In this dissertation, program satisfaction was determined by the caregivers’ perceptions of helpfulness and usefulness, whether goals were being attained, and an improved outlook on family life from participation in the group. In this measure, aspects of usefulness and goal attainment incorporate items on parental involvement in the group – both understanding the need for parental involvement as well as showing effort to be involved. This reinforces both the perceived relevance of treatment and the need for active parental involvement for greater engagement in services. It further highlights that involvement in services and alignment with parental perceptions of needs are more important than liking your provider, which is the focus of the relationship to provider measure in this dissertation.
However, the findings of this dissertation should not negate past research highlighting the importance of building a positive helping relationship early on in service provision in encouraging participation (Nock, Ferriter, & Holmberg, 2007). While it led to small decreases in attendance in this dissertation, it has been associated with decreases in dropout as well as improvement in child externalizing behaviors in family focused treatment, the same context for the group treatment in this model (Hawley & Weisz, 2005; Hawley & Garland, 2008). Furthermore, in clinical practice, it is not easy to differentiate between these two concepts. Building that bond or rapport goes hand in hand with the work of aligning with parental needs and actively collaborating with them to support their children. However, inexperienced or ineffectual clinicians can at times stay on the surface and only build the emotional attachments without getting in to the more difficult work of parental involvement and alignment with goals, that is defined as program satisfaction here. This dissertation highlights that this early positive feeling towards your facilitator may be great but not enough to keep you in treatment if needs are not being met, especially across 16 weeks of sessions in this group model.

In practice, determining goals and alignment with needs can be a challenge if the provider and parent have discordant perceptions. Parents of children with behavioral problems have reported feeling unsupported and blamed for their child’s behaviors when receiving services (Baker-Ericzén, Jenkins, & Brookman-Frazee, 2010). Provider misconceptions that view the parent as a client, instead of as a collaborator, and as part of the problem contributes to less effective communication and empathy (Rodriguez et al., 2014). This may lead to parents being only marginally included in services with inclusion in initial information gathering and sharing of information, periodic treatment planning, and in referring for other services, but often not included in the heart of treatment activities (Garland et al., 2010). Baker-Ericzén, Jenkins, and
Haine-Schlagel (2013) found that providers perceive that parents do not want to be involved in services, yet parents report that they are often not welcomed by the providers.

Providers can create a more welcoming environment for parents by utilizing key engagement strategies identified by McKay and colleagues. Guided by strengths-based and empowerment focused principles, initial meetings with families should 1) clarify the helping process; 2) develop the foundation for a collaborative working relationship; 3) focus on immediate and practical concerns; and 4) identify and problem solve barriers to participating in services (McKay, Nudelman, McCadam, & Gonzales, 1996; McKay, Stoewe, McCadam, & Gonzales, 1998). Providers focus on building a clear alignment between caregiver’s felt needs and service provision. With a focus on instilling hope and supporting clients with validating messages, providers can develop a positive working relationship with families that is mutually beneficial and contributes to satisfaction with services (Baker-Ericzen, Jenkins, & Haine-Schlagel, 2013; McKay, Nudelman, McCadam, & Gonzales, 1996; McKay, Stoewe, McCadam, & Gonzales, 1998; Oswald, 2006). Furthermore, evaluating caregivers’ experiences in services on a regular basis and creating a culture of feedback within programs could prove to be a useful check to improve services and reduce the downward spiral of poor engagement.

Attention to provider attitudes towards parents must also be a focal point of intervention. Providers with negative perceptions of parents are not likely to expend energy actively engaging them. Training for mental health providers who work with families must include building empathy towards parents and having a greater understanding of how child behavioral problems may arise. Ongoing supervision and support may be necessary to ensure that providers are actively working in a collaborative fashion with families. Moreover, mental health programs can more actively work to create wellness programs for staff to prevent and
reduce compassion fatigue and burnout. When staff are experiencing symptoms of burnout, it heightens their level of cynicism and negative judgments towards clients, reducing their ability to be strengths based and empathetic with families. In practice, utilizing a two-pronged approach of strategies to engage families and training and support for providers may be necessary to ensure active participation of families in services.

**Limitations**

Although this dissertation provides some support for Staudt’s model of engagement, there are some limitations that caution broader application of these findings. The evaluation of engagement in this dissertation is best applied specific to those who participated in the multiple family group intervention. Although attempts were made to attenuate the effects of missing data through the use of applicable estimation methods, this dissertation had over 20% missing data at times. The scales utilized to create the Attitudinal Engagement construct were not standardized scales. The EFA analyses attempted to provide validation of the scales, although they often resulted in mediocre support which limited the conclusions that could be made. In addition, there is the possibility of an acquiescence response bias as the attitudinal scales rated highly in their respective construct (e.g., program satisfaction). These measurement challenges may have impacted the ability to fully evaluate Staudt’s model as well as the theorized reciprocal effects between Attitudinal and Behavioral Engagement. Furthermore, even though this dissertation met the minimum requirement for number of cases per variable, it is recommended to have closer to 10-20 cases per variable for full use of structural equation modeling. Lastly, not all parts of Staudt’s original model were able to be included, such as other behavioral engagement indicators (e.g., homework completion), meaning that essentially this dissertation did not move further away from the current literature that primarily focuses on
attendance as the main indicator. Nevertheless, this dissertation is able to contribute to the engagement literature, even if limited, through its support of the role of Attitudinal Engagement factors as a predictor of Behavioral Engagement, or at least attendance.

**Directions for Future Work**

Poorly engaged families drop out of services leading to a greater burden across child serving systems, especially for youth with behavioral problems. Researchers and providers have expended significant effort in trying to define and operationalize engagement in services. Much of this work has focused on the role that caregivers play, with some attention paid to the impact of provider behaviors. Literature has been relatively consistent in highlighting that the work and relationship between provider-caregiver are key aspects of engagement in services. Further research in this area can continue to hone the core practices needed to engage families in services, and whether these effects may vary by setting or type of treatment modality. In addition, determining whether there are any moderating effects based on caregiver race and ethnicity and other demographic categories may be helpful. Provider attitudes and beliefs may be another area to explore. Negative attitudes and implicit biases towards caregivers and families, especially low-income families of color, is an area of further research that can expand the understanding of the challenges in relating with caregivers. This work must incorporate ways to attend to those negative attitudes and beliefs early on in clinicians’ professional careers, even being incorporated in graduate professional school work prior to going out into the field.

Specific to the multiple family group model in this dissertation, future revisions can emphasize building these caregiver-provider relationships early on in group and ensure that facilitator training incorporates this focus. In practice, consistent application of currently known engagement principles and practices should be a priority. With a dual focus of ensuring that
family’s felt needs are attended to in a positive and strengths-based way and that providers receive training and ongoing supervision and coaching to enhance skills in engagement practices and reduction of burnout. Agencies that are unable to provide additional training and supports, may be able to leverage work of technical assistance networks that are engaged in training and implementation of best practices in care. At minimum, if providers could embody the foundation of strengths-based practice in all of their work, provider-caregiver relationships have the potential to improve considerably.
References


Figure 1. Proposed Cross-Lagged Model to Assess Reciprocal Causality between Attitudinal and Behavioral Engagement. Note. RF=Relationship with Facilitator; RG=Relationship with Group Members; PS=Program Satisfaction; PC=Positive Change.
### Table 1

*Sample Descriptive Characteristics (n=225)*

<table>
<thead>
<tr>
<th>Demographic Category</th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Child gender</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>148</td>
<td>66</td>
</tr>
<tr>
<td>Female</td>
<td>70</td>
<td>34</td>
</tr>
<tr>
<td><strong>Child ethnicity</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>White/Caucasian</td>
<td>16</td>
<td>7.11</td>
</tr>
<tr>
<td>Black/African American</td>
<td>66</td>
<td>29.33</td>
</tr>
<tr>
<td>Hispanic/Latino</td>
<td>112</td>
<td>49.78</td>
</tr>
<tr>
<td>Native American</td>
<td>3</td>
<td>1.33</td>
</tr>
<tr>
<td>Asian/Pacific Islander</td>
<td>0</td>
<td>0.00</td>
</tr>
<tr>
<td>Other</td>
<td>15</td>
<td>6.67</td>
</tr>
<tr>
<td><strong>Family income</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Less than $9,999</td>
<td>91</td>
<td>40.44</td>
</tr>
<tr>
<td>$10,000 – $19,999</td>
<td>55</td>
<td>24.44</td>
</tr>
<tr>
<td>$20,000 – $29,999</td>
<td>32</td>
<td>14.22</td>
</tr>
<tr>
<td>$30,000 – $39,999</td>
<td>15</td>
<td>6.67</td>
</tr>
<tr>
<td>$40,000 – $49,999</td>
<td>3</td>
<td>1.33</td>
</tr>
<tr>
<td>Over $50,000</td>
<td>14</td>
<td>6.22</td>
</tr>
<tr>
<td><strong>Primary Caregiver</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mother</td>
<td>175</td>
<td>77.78</td>
</tr>
<tr>
<td>Father</td>
<td>5</td>
<td>2.22</td>
</tr>
<tr>
<td>Grandparent</td>
<td>6</td>
<td>2.67</td>
</tr>
<tr>
<td>Mother and father</td>
<td>22</td>
<td>9.78</td>
</tr>
<tr>
<td>Other</td>
<td>9</td>
<td>4.00</td>
</tr>
<tr>
<td><strong>Caregiver marital status</strong></td>
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<td></td>
</tr>
<tr>
<td>Single</td>
<td>86</td>
<td>38.22</td>
</tr>
<tr>
<td>Married or cohabitating</td>
<td>81</td>
<td>36.00</td>
</tr>
<tr>
<td>Divorced</td>
<td>7</td>
<td>3.11</td>
</tr>
<tr>
<td>Separated</td>
<td>34</td>
<td>15.11</td>
</tr>
<tr>
<td>Widowed</td>
<td>4</td>
<td>1.78</td>
</tr>
<tr>
<td>Other</td>
<td>4</td>
<td>1.78</td>
</tr>
<tr>
<td><strong>Caregiver education status</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Eighth grade or less</td>
<td>27</td>
<td>12.00</td>
</tr>
<tr>
<td>Some high school</td>
<td>60</td>
<td>26.67</td>
</tr>
<tr>
<td>Completed H.S/G.E.D.</td>
<td>51</td>
<td>22.67</td>
</tr>
<tr>
<td>Some college</td>
<td>49</td>
<td>21.78</td>
</tr>
<tr>
<td>Completed college</td>
<td>16</td>
<td>7.11</td>
</tr>
<tr>
<td>Some grad/Prof. school +</td>
<td>14</td>
<td>6.22</td>
</tr>
<tr>
<td><strong>Receipt of publicly-funded health insurance</strong></td>
<td>150</td>
<td>72</td>
</tr>
</tbody>
</table>

*Note.* Some data is not available for entire sample.
Table 2

Mean, Normality, and Missing Statistics per Item for Four Attitudinal Engagement Scales

<table>
<thead>
<tr>
<th>Item</th>
<th>Mean (SD)</th>
<th>Skewness (SE)</th>
<th>Kurtosis (SE)</th>
<th>Kolmogorov-Smirnov</th>
<th>Shapiro-Wilk</th>
<th>Missing Cases</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Program Satisfaction</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. I believe that group is helping my child.</td>
<td>3.2865(.763)</td>
<td>-.698(.186)</td>
<td>-.414(.369)</td>
<td>.287***</td>
<td>.787***</td>
<td>24.0%</td>
</tr>
<tr>
<td>2. I believe that group is helping my family.</td>
<td>3.3684(.735)</td>
<td>-.795(.186)</td>
<td>-.395(.369)</td>
<td>.320***</td>
<td>.760***</td>
<td>24.0%</td>
</tr>
<tr>
<td>3. I am satisfied with the group.</td>
<td>3.6257(.594)</td>
<td>-1.520(.186)</td>
<td>2.119(.369)</td>
<td>.414***</td>
<td>.638***</td>
<td>24.0%</td>
</tr>
<tr>
<td>4. I have gotten some helpful ideas about my child.</td>
<td>3.6140(.566)</td>
<td>-1.148(.186)</td>
<td>.345(.369)</td>
<td>.407***</td>
<td>.653***</td>
<td>24.0%</td>
</tr>
<tr>
<td>5. I have gotten some helpful ideas about my family.</td>
<td>3.6257(.584)</td>
<td>-1.487(.186)</td>
<td>2.132(.369)</td>
<td>.412***</td>
<td>.639***</td>
<td>24.0%</td>
</tr>
<tr>
<td>6. I understand how I am involved in the group for my child.</td>
<td>3.7209(.487)</td>
<td>-1.445(.185)</td>
<td>1.075(.368)</td>
<td>.455***</td>
<td>.576***</td>
<td>23.6%</td>
</tr>
<tr>
<td>7. I think parents should be involved in the therapy of their children.</td>
<td>3.8198(.455)</td>
<td>-2.941(.185)</td>
<td>10.525(.368)</td>
<td>.497***</td>
<td>.439***</td>
<td>23.6%</td>
</tr>
</tbody>
</table>
8. Even though I have been frustrated, I have kept on trying to reach my goals.
   3.6433(.629) -1.993(.186) 4.427(.369) .422*** .598*** 24.0%

9. In trying to reach my goals, I have been happy to get help.
   3.6433(.590) -1.616(.186) 2.432(.369) .423*** .623*** 24.0%

10. In group, I have tried hard to improve.
    3.5407(.625) -1.175(.185) 1.004(.368) .374*** .692*** 23.6%

11. I usually look forward to the next session.
    3.6221(.604) -1.366(.185) .808(.368) .420*** .634*** 23.6%

12. Our family has made changes.
    3.2267(.803) -.846(.185) .210(.368) .257*** .798*** 23.6%

13. Since coming to the clinic, the problems we face in life are better.
    3.0988(.807) -.655(.185) -.003(.368) .254*** .825*** 23.6%

14. I have been feeling better lately about my family’s problems.
    3.1279(.814) -.701(.185) .009(.368) .246*** .820*** 23.6%

Relationship with Facilitators

15. My facilitator likes me.
    3.6000(.619) -1.447(.186) 1.686(.370) .406*** .653*** 24.4%

16. My facilitator has shown us respect.
    3.8363(.4299) -2.684(.186) 6.826(.369) .508*** .422*** 24.0%
<table>
<thead>
<tr>
<th></th>
<th>Description</th>
<th>Value 1</th>
<th>Value 2</th>
<th>Value 3</th>
<th>Value 4</th>
<th>Significance</th>
<th>Confidence Interval</th>
</tr>
</thead>
<tbody>
<tr>
<td>17</td>
<td>My facilitator understands me.</td>
<td>3.682(0.568)</td>
<td>-1.861(0.186)</td>
<td>3.476(0.370)</td>
<td>0.444***</td>
<td>.584***</td>
<td>24.4%</td>
</tr>
<tr>
<td>18</td>
<td>I trust my facilitator.</td>
<td>3.707(0.517)</td>
<td>-1.550(0.186)</td>
<td>1.518(0.369)</td>
<td>0.451***</td>
<td>.582***</td>
<td>24.0%</td>
</tr>
<tr>
<td>19</td>
<td>I believe that my facilitator is helping us.</td>
<td>3.731(0.495)</td>
<td>-1.625(0.186)</td>
<td>1.768(0.369)</td>
<td>0.461***</td>
<td>.563***</td>
<td>24.0%</td>
</tr>
<tr>
<td>20</td>
<td>My facilitator cares about my goals for myself and my child.</td>
<td>3.772(0.498)</td>
<td>-2.422(0.186)</td>
<td>6.844(0.369)</td>
<td>0.478***</td>
<td>.502***</td>
<td>24.0%</td>
</tr>
<tr>
<td>21</td>
<td>My facilitator seems well-organized.</td>
<td>3.737(0.504)</td>
<td>-1.759(0.186)</td>
<td>2.283(0.369)</td>
<td>0.465***</td>
<td>.552***</td>
<td>24.0%</td>
</tr>
<tr>
<td>22</td>
<td>My facilitator can really help us.</td>
<td>3.659(0.556)</td>
<td>-1.597(0.186)</td>
<td>2.773(0.370)</td>
<td>0.424***</td>
<td>.616***</td>
<td>24.4%</td>
</tr>
<tr>
<td>23</td>
<td>My facilitator is easy to understand.</td>
<td>3.718(0.557)</td>
<td>-2.069(0.186)</td>
<td>4.353(0.370)</td>
<td>0.459***</td>
<td>.553***</td>
<td>24.4%</td>
</tr>
<tr>
<td>24</td>
<td>My facilitator has helped us keep on track with our goals in group.</td>
<td>3.678(0.539)</td>
<td>-1.438(0.186)</td>
<td>1.149(0.369)</td>
<td>0.438***</td>
<td>.606***</td>
<td>24.0%</td>
</tr>
<tr>
<td>25</td>
<td>My facilitator understands my family's culture.</td>
<td>3.659(0.577)</td>
<td>-1.677(0.186)</td>
<td>2.772(0.370)</td>
<td>0.429***</td>
<td>.612***</td>
<td>24.4%</td>
</tr>
<tr>
<td>26</td>
<td>My facilitator understands what it's like to raise children today.</td>
<td>3.641(0.591)</td>
<td>-1.607(0.186)</td>
<td>2.400(0.370)</td>
<td>0.422***</td>
<td>.625***</td>
<td>24.4%</td>
</tr>
<tr>
<td></td>
<td>Description</td>
<td>Score 1</td>
<td>Score 2</td>
<td>T-value</td>
<td>P-value</td>
<td>Effect Size</td>
<td>Percentage</td>
</tr>
<tr>
<td>---</td>
<td>-----------------------------------------------------------------------------</td>
<td>---------</td>
<td>---------</td>
<td>---------</td>
<td>---------</td>
<td>-------------</td>
<td>------------</td>
</tr>
<tr>
<td>27</td>
<td>My facilitator respects my values.</td>
<td>3.7661</td>
<td>-1.790</td>
<td>2.363</td>
<td>.476***</td>
<td>.529***</td>
<td>24.0%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(.464)</td>
<td>(.186)</td>
<td>(.369)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>28</td>
<td>Child’s behavior at home.</td>
<td>3.8837</td>
<td>-0.712</td>
<td>0.069</td>
<td>.245***</td>
<td>.860***</td>
<td>23.6%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(.978)</td>
<td>(.185)</td>
<td>(.368)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>29</td>
<td>Child’s behavior at school.</td>
<td>3.9539</td>
<td>-0.846</td>
<td>-0.094</td>
<td>.227***</td>
<td>.833***</td>
<td>32.4%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(1.088)</td>
<td>(.197)</td>
<td>(.391)</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>30</td>
<td>Your relationship with this child.</td>
<td>4.1605</td>
<td>-0.777</td>
<td>0.088</td>
<td>.259***</td>
<td>.813***</td>
<td>28.0%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(.8699)</td>
<td>(.191)</td>
<td>(.379)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>31</td>
<td>How this family works together.</td>
<td>4.1515</td>
<td>-0.856</td>
<td>0.327</td>
<td>.246***</td>
<td>.816***</td>
<td>26.7%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(.874)</td>
<td>(.189)</td>
<td>(.376)</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>32</td>
<td>How the children get along with each other.</td>
<td>3.9375</td>
<td>-0.348</td>
<td>-0.412</td>
<td>.204***</td>
<td>.849***</td>
<td>28.9%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(.866)</td>
<td>(.192)</td>
<td>(.381)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>33</td>
<td>How much support you receive from others.</td>
<td>3.9557</td>
<td>-0.410</td>
<td>-0.587</td>
<td>.214***</td>
<td>.847***</td>
<td>29.8%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(.919)</td>
<td>(.193)</td>
<td>(.384)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>43</td>
<td>The group members are there for me when I need them.</td>
<td>3.3314</td>
<td>-0.682</td>
<td>0.858</td>
<td>.293***</td>
<td>.747***</td>
<td>23.6%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(.631)</td>
<td>(.185)</td>
<td>(.368)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>44</td>
<td>I can tell group members about important things that have happened to me.</td>
<td>3.2765</td>
<td>-0.955</td>
<td>1.269</td>
<td>.255***</td>
<td>.763***</td>
<td>24.4%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(.713)</td>
<td>(.186)</td>
<td>(.370)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>45</td>
<td>I let group members know when I am</td>
<td>3.0698</td>
<td>-0.626</td>
<td>0.085</td>
<td>.267***</td>
<td>.826***</td>
<td>23.6%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(.792)</td>
<td>(.185)</td>
<td>(.368)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
feeling sad or upset.

46. Group members are willing to help me in practical ways (e.g., babysitting, errands).
   2.8263(.918)  -0.356(.188)  -0.699(.374)  .234***  .865***  25.8%

47. I can tell the group about myself.
   3.2151(.713)  -0.927(.185)  1.421(.368)  .283***  .762***  23.6%

48. The group members listen when I am having problems.
   3.3430(.586)  -0.600(.185)  1.416(.368)  .331***  .707***  23.6%

49. Other group members have caused me a lot of problems. (reverse coded)
   3.6279(.622)  -1.898(.185)  4.254(.368)  .411***  .613***  23.6%

50. Other group members help me set rules for my child (tell them what they must do and cannot do).
   2.7209(.847)  -0.542(.185)  -0.183(.368)  .315***  .835***  23.6%

51. Other group members help me punish my children when they misbehave.
   1.8772(.883)  0.659(.186)  -0.479(.369)  .249***  .820***  24.0%

52. Other group members would help me if my
child had a problem in school or with other kids.

53. I get good ideas from others in the group.

<p>| | | | | | |</p>
<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>3.3235(.693)</td>
<td>-1.179(.186)</td>
<td>2.336(.370)</td>
<td>.262***</td>
<td>.718***</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>24.4%</td>
</tr>
<tr>
<td>Scale</td>
<td>Kaiser-Meyer-Olkin Measure of Sampling Adequacy</td>
<td>Bartlett’s Test of Sphericity [Approx. Chi-Square(df)]</td>
<td>Little’s MCAR Test (chi square df)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>-----------------------------</td>
<td>-----------------------------------------------</td>
<td>-------------------------------------------------------</td>
<td>-----------------------------------</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Positive Change</td>
<td>.818</td>
<td>248.333(15)***</td>
<td>70.538(61), (p=.189)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Relationship with Facilitators</td>
<td>.910</td>
<td>1763.117(78)***</td>
<td>145.119(59)***</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Program Satisfaction</td>
<td>.880</td>
<td>1367.908(91)***</td>
<td>32.459(49), (p=.967)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Relationship with Group Members</td>
<td>.865</td>
<td>661.702(55)***</td>
<td>52.170(49), (p=352)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Table 4

Summary of Exploratory Factor Analyses for the One Factor Model for Relationship with Facilitator

<table>
<thead>
<tr>
<th>Items</th>
<th>Factor 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>My facilitator likes me.</td>
<td>0.824*</td>
</tr>
<tr>
<td>My facilitator has shown us respect.</td>
<td>0.897*</td>
</tr>
<tr>
<td>My facilitator understands me.</td>
<td>0.863*</td>
</tr>
<tr>
<td>I trust my facilitator.</td>
<td>0.926*</td>
</tr>
<tr>
<td>I believe that my facilitator is helping us.</td>
<td>0.922*</td>
</tr>
<tr>
<td>My facilitator cares about my goals for myself and my child.</td>
<td>0.947*</td>
</tr>
<tr>
<td>My facilitator seems well-organized.</td>
<td>0.926*</td>
</tr>
<tr>
<td>My facilitator can really help us.</td>
<td>0.878*</td>
</tr>
<tr>
<td>My facilitator is easy to understand.</td>
<td>0.838*</td>
</tr>
<tr>
<td>My facilitator has helped us keep on track with our goals in group.</td>
<td>0.920*</td>
</tr>
<tr>
<td>My facilitator understands my family’s culture.</td>
<td>0.833*</td>
</tr>
<tr>
<td>My facilitator understands what it’s like to raise children today.</td>
<td>0.866*</td>
</tr>
<tr>
<td>My facilitator respects my values.</td>
<td>0.935*</td>
</tr>
</tbody>
</table>

Eigenvalue                     10.395  
Chi-Square                     158.410  
  $p < 0.00$                    
RMSEA                          .092   
CFI                             .990   
TLI                             .988
Table 5

Summary of Exploratory Factor Analyses for the Two Factor Model for Relationship with Group Members

<table>
<thead>
<tr>
<th>Items</th>
<th>Factor 1: Personal Support</th>
<th>Factor 2: Parenting Support</th>
</tr>
</thead>
<tbody>
<tr>
<td>The group members are there for me when I need them.</td>
<td>.848*</td>
<td></td>
</tr>
<tr>
<td>I can tell group members about important things that have happened to me.</td>
<td>.828*</td>
<td></td>
</tr>
<tr>
<td>I let group members know when I am feeling sad or upset.</td>
<td>.821*</td>
<td></td>
</tr>
<tr>
<td>Group members are willing to help me in practical ways (e.g., babysitting, errands).</td>
<td>.543*</td>
<td></td>
</tr>
<tr>
<td>I can tell the group about myself.</td>
<td>.804*</td>
<td></td>
</tr>
<tr>
<td>The group members listen when I am having problems.</td>
<td>.813*</td>
<td></td>
</tr>
<tr>
<td>Other group members help me set rules for my child (tell them what they must do and cannot do).</td>
<td>.745*</td>
<td></td>
</tr>
<tr>
<td>Other group members help me punish my children when they misbehave.</td>
<td></td>
<td>.711*</td>
</tr>
<tr>
<td>Other group members would help me if my child had a problem in school or with other kids.</td>
<td>.741*</td>
<td></td>
</tr>
</tbody>
</table>

Eigenvalue 1.367

Chi-Square 42.67

p=.0016

RMSEA .084

CFI .990

TLI .981
Table 6

Summary of Exploratory Factor Analyses for the Four Factor Model for Program Satisfaction

<table>
<thead>
<tr>
<th>Items</th>
<th>Factor 1: Helpfulness</th>
<th>Factor 2: Usefulness</th>
<th>Factor 3: Goal Attainment</th>
<th>Factor 4: Positive Outlook</th>
</tr>
</thead>
<tbody>
<tr>
<td>I believe that group is helping my child.</td>
<td>.985*</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I believe that group is helping my family.</td>
<td>.708*</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I am satisfied with the group.</td>
<td>.412*</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I have gotten some helpful ideas about my child.</td>
<td>.725*</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I have gotten some helpful ideas about my family.</td>
<td>.815*</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I understand how I am involved in the group for my child.</td>
<td>.622*</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I think parents should be involved in the therapy of their children.</td>
<td>.480*</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Even though I have been frustrated, I have kept on trying to reach my goals.</td>
<td>.758*</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>In trying to reach my goals, I have been happy to get help.</td>
<td>.886*</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>In group, I have tried hard to improve.</td>
<td>.905*</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I usually look forward to the next session.</td>
<td>.597*</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Our family has made changes.</td>
<td>.550*</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Since coming to the clinic, the problems we face in life are better.</td>
<td>1.009*</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I have been feeling better lately about my family’s problems.</td>
<td>.708*</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Eigenvalue: .761
Chi-Square: 46.895
p = .2435
RMSEA: .029
CFI: .999
TLI: .998
Table 7

*Summary of Exploratory Factor Analyses for the Two Factor Model for Positive Change*

<table>
<thead>
<tr>
<th>Items</th>
<th>Factor 1: Improved Behavior</th>
<th>Factor 2: Improved Relationships</th>
</tr>
</thead>
<tbody>
<tr>
<td>Child’s behavior at home.</td>
<td>0.875*</td>
<td></td>
</tr>
<tr>
<td>Child’s behavior at school.</td>
<td>0.731*</td>
<td></td>
</tr>
<tr>
<td>Your relationship with this child.</td>
<td></td>
<td>0.476*</td>
</tr>
<tr>
<td>How this family works together.</td>
<td></td>
<td>0.833*</td>
</tr>
<tr>
<td>How the children get along with each other.</td>
<td></td>
<td>0.474*</td>
</tr>
<tr>
<td>How much support you receive from others.</td>
<td></td>
<td>0.515*</td>
</tr>
</tbody>
</table>

| Eigenvalue | 0.920 |
| Chi-Square | 6.954 |
| p= 0.1383  |      |
| RMSEA      | 0.065 |
| CFI        | 0.991 |
| TLI        | 0.965 |
Table 8

*Descriptive Statistics for Each Final Attitudinal Engagement Scale*

<table>
<thead>
<tr>
<th>Scale</th>
<th>No. of Items</th>
<th>Mean(SD)</th>
<th>Skewness</th>
<th>Kurtosis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Positive Change</td>
<td>6</td>
<td>4.004(.685)</td>
<td><strong>-.453(.185)</strong></td>
<td>-.207(.367)</td>
</tr>
<tr>
<td>Program Satisfaction</td>
<td>14</td>
<td>3.498(.449)</td>
<td><strong>-.708(.185)</strong></td>
<td>-.522(.368)</td>
</tr>
<tr>
<td>Relationship with Facilitator</td>
<td>13</td>
<td>3.706(.422)</td>
<td><strong>-1.541(.186)</strong></td>
<td><strong>1.830(.369)</strong></td>
</tr>
<tr>
<td>Relationship with Group Members</td>
<td>9</td>
<td>2.918(.527)</td>
<td>-.074(.185)</td>
<td>.209(.368)</td>
</tr>
</tbody>
</table>

*Note.* Bold indicates non-normality
Table 9

Pearson Correlation Matrix of Subscales of Attitudinal Constructs

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Relationship with Facilitator</td>
<td>1</td>
<td>.183*</td>
<td>.303**</td>
<td>.228**</td>
<td>-.040</td>
<td>.433**</td>
<td>.462**</td>
<td>.462**</td>
<td>.342**</td>
</tr>
<tr>
<td>Positive Change - Improved Behavior</td>
<td>.183*</td>
<td>1</td>
<td>.548**</td>
<td>.167*</td>
<td>.078</td>
<td>.436**</td>
<td>.301**</td>
<td>.266**</td>
<td>.476**</td>
</tr>
<tr>
<td>Positive Change - Improved Relationships</td>
<td>.303**</td>
<td>.548**</td>
<td>1</td>
<td>.295**</td>
<td>.133</td>
<td>.516**</td>
<td>.364**</td>
<td>.264**</td>
<td>.540**</td>
</tr>
<tr>
<td>Relationship with Group Members - Personal Support</td>
<td>.228**</td>
<td>.167*</td>
<td>.295**</td>
<td>1</td>
<td>.458**</td>
<td>.295**</td>
<td>.366**</td>
<td>.244**</td>
<td>.336**</td>
</tr>
<tr>
<td>Relationship with Group Members - Parenting Support</td>
<td>-.040</td>
<td>.078</td>
<td>.133</td>
<td>.458**</td>
<td>1</td>
<td>.132</td>
<td>.125</td>
<td>.094</td>
<td>.099</td>
</tr>
<tr>
<td>Program Satisfaction - Helpfulness</td>
<td>.433**</td>
<td>.436**</td>
<td>.516**</td>
<td>.295**</td>
<td>.132</td>
<td>1</td>
<td>.539**</td>
<td>.452**</td>
<td>.597**</td>
</tr>
<tr>
<td>Program Satisfaction - Usefulness</td>
<td>.462**</td>
<td>.301**</td>
<td>.364**</td>
<td>.366**</td>
<td>.125</td>
<td>.539**</td>
<td>1</td>
<td>.659**</td>
<td>.589**</td>
</tr>
<tr>
<td>Program Satisfaction - Goal Attainment</td>
<td>.462**</td>
<td>.266**</td>
<td>.264**</td>
<td>.244**</td>
<td>.094</td>
<td>.452**</td>
<td>.659**</td>
<td>1</td>
<td>.514**</td>
</tr>
<tr>
<td>Program Satisfaction - Positive Outlook</td>
<td>.342**</td>
<td>.476**</td>
<td>.540**</td>
<td>.336**</td>
<td>.099</td>
<td>.597**</td>
<td>.589**</td>
<td>.514**</td>
<td>1</td>
</tr>
</tbody>
</table>

*. Correlation is significant at the 0.05 level (2-tailed).

**. Correlation is significant at the 0.01 level (2-tailed).

Note. Abbreviations at top correspond to subscales on left.
### Table 10

*Summary of Confirmatory Factor Analyses for Attitudinal Engagement (n=225)*

<table>
<thead>
<tr>
<th>Factor</th>
<th>$b$ (standardized regression weight)</th>
<th>$R^2$ (squared multiple correlation)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Relationship with Facilitator (1 factor)</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Relationship with Group Members – Personal Support</td>
<td>1.000</td>
<td>1.000</td>
</tr>
<tr>
<td>Relationship with Group Members – Parenting Support</td>
<td>.458</td>
<td>.210</td>
</tr>
<tr>
<td>Positive Change – Improved Behavior</td>
<td>.681</td>
<td>.463</td>
</tr>
<tr>
<td>Positive Change – Improved Relationship</td>
<td>.805</td>
<td>.648</td>
</tr>
<tr>
<td>Program Satisfaction – Helpfulness</td>
<td>.737</td>
<td>.542</td>
</tr>
<tr>
<td>Program Satisfaction – Usefulness</td>
<td>.783</td>
<td>.613</td>
</tr>
<tr>
<td>Program Satisfaction – Goal Attainment</td>
<td>.694</td>
<td>.482</td>
</tr>
<tr>
<td>Program Satisfaction – Positive Outlook</td>
<td>.776</td>
<td>.602</td>
</tr>
</tbody>
</table>

<p>| $\chi^2$                                    | 61.494                               |
| $df$                                        | 23                                   |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>$p$</td>
<td>.000</td>
</tr>
<tr>
<td>TLI</td>
<td>.854</td>
</tr>
<tr>
<td>CFI</td>
<td>.926</td>
</tr>
<tr>
<td>RMSEA</td>
<td>.086</td>
</tr>
</tbody>
</table>

Note: TLI=Tucker Lewis Index; CFI=comparative fit index; RMSEA=root mean square error of approximation
Figure 2: Confirmatory Factor Analyses for Attitudinal Engagement (n=225)
Figure 3. Original Separate Cross-Lagged Panel Model
Table 11

Summary of Model Fit Indices for Cross-Lagged Panel Analysis with Separate Attitudinal Factors (n=225)

<table>
<thead>
<tr>
<th>Test</th>
<th>Model 1: Baseline with Autoregressive Effects</th>
<th>Model 2: Autoregressive Effects and Attitudinal Variables at Time 1 Predicted Attendance at Time 2</th>
<th>Model 3: Autoregressive Effects and Attendance at Time 1 Predicting Attitudinal Variables at Time 2</th>
<th>Model 4: Full Cross-Lagged Model</th>
</tr>
</thead>
<tbody>
<tr>
<td>CFI</td>
<td>.963</td>
<td>.969</td>
<td>.967</td>
<td>.972</td>
</tr>
<tr>
<td>TLI</td>
<td>.899</td>
<td>.893</td>
<td>.888</td>
<td>.873</td>
</tr>
<tr>
<td>RMSEA</td>
<td>.075</td>
<td>.076</td>
<td>.078</td>
<td>.083</td>
</tr>
<tr>
<td>$\chi^2$</td>
<td>44.872</td>
<td>36.926</td>
<td>37.997</td>
<td>30.729</td>
</tr>
<tr>
<td>df</td>
<td>20</td>
<td>16</td>
<td>16</td>
<td>12</td>
</tr>
<tr>
<td>$p$</td>
<td>.001</td>
<td>.002</td>
<td>.002</td>
<td>.002</td>
</tr>
</tbody>
</table>

Difference in $\chi^2$ test

<table>
<thead>
<tr>
<th>Model Compared</th>
<th>-</th>
<th>Model 1</th>
<th>Model 1</th>
<th>not tested</th>
</tr>
</thead>
<tbody>
<tr>
<td>Change in $\chi^2$</td>
<td>-</td>
<td>7.946</td>
<td>6.875</td>
<td></td>
</tr>
<tr>
<td>Change in df</td>
<td>-</td>
<td>4</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>$p$</td>
<td>-</td>
<td>.09</td>
<td>.14</td>
<td></td>
</tr>
</tbody>
</table>

Note: CFI=comparative fit index; TLI=Tucker Lewis Index; RMSEA=root mean square error of approximation
Table 12

*Summary of Model Fit Indices for Cross-Lagged Panel Analysis with Separate Attitudinal Factors except Positive Change (n = 225)*

<table>
<thead>
<tr>
<th>Test</th>
<th>Model 1: Baseline with Autoregressive Effects</th>
<th>Model 2: Autoregressive Effects and Attitudinal Variables at Time 1 Predicted Attendance at Time 2</th>
<th>Model 3: Autoregressive Effects and Attendance at Time 1 Predicting Attitudinal Variables at Time 2</th>
<th>Model 4: Full Cross-Lagged Model</th>
</tr>
</thead>
<tbody>
<tr>
<td>CFI</td>
<td>.967</td>
<td>.976</td>
<td>.970</td>
<td>.978</td>
</tr>
<tr>
<td>TLI</td>
<td>.900</td>
<td>.903</td>
<td>.882</td>
<td>.870</td>
</tr>
<tr>
<td>RMSEA</td>
<td>.083</td>
<td>.082</td>
<td>.091</td>
<td>.095</td>
</tr>
<tr>
<td>$\chi^2$</td>
<td>30.673</td>
<td>22.690</td>
<td>25.629</td>
<td>18.234</td>
</tr>
<tr>
<td>df</td>
<td>12</td>
<td>9</td>
<td>9</td>
<td>6</td>
</tr>
<tr>
<td>$p$</td>
<td>.002</td>
<td>.007</td>
<td>.002</td>
<td>.006</td>
</tr>
</tbody>
</table>

Difference in $\chi^2$ test

<table>
<thead>
<tr>
<th>Model Compared</th>
<th>Model 1</th>
<th>Model 1</th>
<th>Model 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Change in $\chi^2$</td>
<td>-</td>
<td>7.983</td>
<td>5.044</td>
</tr>
<tr>
<td>Change in df</td>
<td>-</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>$p$</td>
<td>-</td>
<td>.046</td>
<td>.169</td>
</tr>
</tbody>
</table>

Note: CFI=comparative fit index; TLI=Tucker Lewis Index; RMSEA=root mean square error of approximation
Figure 4. Separate Cross-Lagged Panel Analysis without Positive Change
<table>
<thead>
<tr>
<th>Time 1 Attitudinal Variables</th>
<th>Stand. Coefficients</th>
<th>Stand. Error</th>
<th>t</th>
<th>Sig.</th>
<th>R²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Relationship with Facilitator</td>
<td>-0.012</td>
<td>0.076</td>
<td>-0.157</td>
<td>0.875</td>
<td>0</td>
</tr>
<tr>
<td>Relationship with Group Members</td>
<td>0.029</td>
<td>0.076</td>
<td>0.384</td>
<td>0.701</td>
<td>0.001</td>
</tr>
<tr>
<td>Relationship with Group Members - Personal Support</td>
<td>0.065</td>
<td>0.076</td>
<td>0.850</td>
<td>0.395</td>
<td>0.004</td>
</tr>
<tr>
<td>Relationship with Group Members - Parenting Support</td>
<td>-0.035</td>
<td>0.076</td>
<td>-0.460</td>
<td>0.646</td>
<td>0.001</td>
</tr>
<tr>
<td>Positive Change</td>
<td>0.064</td>
<td>0.076</td>
<td>0.843</td>
<td>0.399</td>
<td>0.004</td>
</tr>
<tr>
<td>Positive Change - Improved Behavior</td>
<td>0.074</td>
<td>0.076</td>
<td>0.983</td>
<td>0.325</td>
<td>0.006</td>
</tr>
<tr>
<td>Positive Change - Improved Relationships</td>
<td>0.038</td>
<td>0.076</td>
<td>0.501</td>
<td>0.616</td>
<td>0.001</td>
</tr>
<tr>
<td><strong>Program Satisfaction</strong></td>
<td><strong>0.151</strong></td>
<td><strong>0.075</strong></td>
<td><strong>2.023</strong></td>
<td><strong>0.043</strong></td>
<td><strong>0.023</strong></td>
</tr>
<tr>
<td><strong>Program Satisfaction - Helpfulness</strong></td>
<td><strong>0.166</strong></td>
<td><strong>0.074</strong></td>
<td><strong>2.225</strong></td>
<td><strong>0.026</strong></td>
<td><strong>0.027</strong></td>
</tr>
<tr>
<td>Program Satisfaction - Usefulness</td>
<td>0.074</td>
<td>0.076</td>
<td>0.977</td>
<td>0.329</td>
<td>0.005</td>
</tr>
<tr>
<td>Program Satisfaction - Goal Attainment</td>
<td>0.131</td>
<td>0.075</td>
<td>1.747</td>
<td>0.081</td>
<td>0.017</td>
</tr>
<tr>
<td>Program Satisfaction - Positive Outlook</td>
<td>0.132</td>
<td>0.075</td>
<td>1.763</td>
<td>0.078</td>
<td>0.017</td>
</tr>
</tbody>
</table>

*Note.* Items in bold are statistically significant at *p* < .05.