Assessing factors contributing to treatment retention for mothers and children enrolled in Group Attachment-Based Intervention (GABI)

By

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"If a community values its children, it must cherish their parents" – John Bowlby

Abstract

Facilitating treatment engagement is essential, as it is often a determinant of therapeutic outcomes. Despite attempts to better understand factors which promote engagement in psychotherapy, few studies have examined attendance rates in parent-child psychotherapies. Dropout rates in the area of parent-child psychotherapies remain a particular concern with families facing multiple barriers to accessing care. The present dissertation aims to determine factors facilitating treatment engagement in families participating in the Group Attachment-Based Intervention (GABI), a trauma-informed treatment for at-risk parents and their children (0-3). In addition, we aim to understand the effects of treatment dosage on the quality of mother-child interactions and other outcome measures. Chapter 1 reviews the existing literature on treatment engagement in parent-child and family psychotherapies. Based on this narrative review, selected variables linked to treatment retention were identified and examined in families participating in the randomized controlled trial examining the effectiveness of GABI. Chapter 2 reports on factors associated with greater treatment engagement in GABI and addresses the impact of treatment dosage on the quality of parent-child interactions. Participants included 143 parent-child dyads who were randomized to GABI, a 6-month treatment offered 3 times per week, or the Systematic Training for Effective Parenting (STEP), a 3-month treatment offered once per week. Results demonstrated that caregivers at greater risk in terms of higher prior exposure to Adverse Childhood Experiences (ACEs), a heavier current psychopathology burden (SCL-90), lower self-efficacy as a parent (ISEL), and greater challenges within the parent-child relationship (CIB), all contributed to higher levels of attendance in GABI. Expanding our understanding of attendance in parent-child psychotherapies is essential in improving treatment outcomes and will assist clinicians in identifying patients appropriate for GABI.

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Chapter I: Literature Review

Treatment Engagement and Retention

Treatment engagement has been conceptualized through multiple definitions, including patient's attendance, participation in treatment, alliance with therapist, and treatment retention (Lindsey, Brandt, Becker, Lee, Barth, Daleiden & Chorpita, 2014). Treatment engagement, as a result, has been understood as a multi-factorial construct, including both: attitudinal, a patient's emotional response to treatment; behavioral dimensions, a patient's attendance in treatment (Staudt, 2007). In assessing treatment engagement in GABI, behavioral dimensions of engagement were highlighted through calculating attendance rates.

In a study which assessed treatment engagement in child psychotherapies, McKay and Bannon organized engagement into a three-step process: parent's recognition of child mental health needs, connecting families to mental health resources, and parents bringing their children to mental health treatment (2004). In considering engagement as a multi-step process, it is helpful to recognize the importance in establishing connections with parents and referring clinicians to enhance engagement during initial stages of treatment. Throughout the referral and intake process, GABI clinicians aim to facilitate warm handoffs and orient parents to the program's structure in efforts to establish trust in relationships with families.

Assessing attendance or retention rates using number of sessions attended has been found to be problematic as treatment programs provide a different number of sessions throughout the course of treatment (Johnson, Mellor & Brann, 2008). In evaluating treatment retention within the randomized controlled trial for the Group Attachment Based Intervention (GABI),

percentage of sessions were assessed as the treatment as usual condition allotted fewer treatment sessions. In addition, appropriateness for treatment should be considered within treatment teams, and need for additional treatment should be discussed with families to determine if a decision to terminate treatment is warranted (Johnson, Mellor & Brann, 2008). Families referred to GABI were sometimes deemed appropriate for additional treatment following designated treatment period due to level of complex needs within the population. Furthermore, parents and children with greater risk factors often requested additional treatment due to continued challenges. Research suggests patients presenting with the higher emotional and attitudinal engagement show greater overall engagement and are more likely to be retained in treatment.

Treatment Rates and Access to Care

According to Gopalan, Goldstein, Klingenstein, Sicher, Blake, and McKay, rates of mental issues in children within the United States has ranged from 17-26% in the last three decades (2010). Despite significant documented rates of child psychopathology, the National Institute of Mental Health has indicated that about 75% of children who screened positive for mental health issues are not engaged in mental health treatment, suggesting that many families in need of services are unable to access appropriate services within the community (2001). In addition, studies which have evaluated treatment engagement in families referred to mental health treatment have shown that utilization rates within high-risk families remains low. Studies which assessed attendance rates in families engaged in child mental health treatment demonstrated that between 48 and 62 percent of parents and children no-showed to initial intake appointments (Harrison, McKay & Bannon, 2004; McKay, McCadam & Gonzales, 1996).

Engagement in initial stages of treatment appear to be a particular challenge within marginalized communities, who face multiple barriers to accessing care. In a study which

assessed treatment engagement in urban communities, researchers reported that the average length of treatment is between 3 and 4 sessions, suggesting that low-income populations are at risk for premature drop out within mental health treatments (McKay, Harrison, Gonzales, Kim & Quintana, 2002). Multiple studies have shown that children and parents participating in outpatient treatment tend to terminate treatment early, with between 40 and 60 percent of children dropping out after 0-3 sessions (DeBar, Clarke, O'Connor & Nicholas, 2001; Andrade, Lambert & Bickman, 2000).

Increased attention has been paid to engagement in child and family psychotherapies, due to emphasis on implementation of evidence-based practices (Becker, Lee, Daleiden, Lindsey, Brandt & Chorpita, 2015; Kim, Munson & McKay, 2012). Higher attendance rates have been observed in more resourced populations, with patients attending 13.8 sessions on average in a study assessing engagement within an outpatient treatment center in San Diego, California (Brookman-Frazee, Haine, Gabayan & Garland, 2008). However, attendance rates were found to be substantially lower in a national study assessing retention rates amongst children and adolescents with private insurance, with patients attending 3.9 sessions on average within a six month treatment period (Harpaz-Rotem, Leslie & Rosenheck, 2004). Similarly, McKay et. al. found that children and families within urban communities attended between 3-4 sessions on average demonstrating limited engagement in more diverse populations (2002). Social and economic considerations may be essential in increasing retention within marginalized communities and assist in promoting the needs of families. For example, GABI clinicians aim to identify barriers to care during intake and promote attendance within under-resourced communities through tangible support such as providing free metro cards, access to food pantries, and distribution of formula and diapers.

Engagement in Child and Family Psychotherapy

According to Kazdin, individuals referred to child, adolescent, and family therapy are at significant risk for premature termination, with 40-60 percent of families engaged in psychotherapy discontinuing within early stages of treatment (1996). Early studies that assessed factors attributing to treatment adherence and understanding implications for mental health, largely focused on research conducted with adults, (Cross & Warren, 1984; Heisler, Beck, Fraps & McReynolds, 1982) and failed to address substantial differences relevant to child and family psychotherapy. However, more recent studies (Stevens, Kelleher, Ward-Estes & Hayes, 2006; Snell-Johns, Mendez & Smith, 2004) have aimed to assess potential barriers to treatment for individuals participating in child and family psychotherapies.

Several factors have been identified as potential contributors to decreased child psychotherapy retention, including low socioeconomic status, source of referral, parental stress and psychopathology, child psychopathology, and parental attitudes toward treatment (Armbruster & Kazdin, 1994). Patients who reported greater financial and housing instability demonstrated higher rates of non-adherence. In addition, the source of referral was found to implicate engagement in child and family psychotherapy, with court-mandated families less likely to engage in treatment, due to limited autonomy in decision-making processes. Higher rates of parental psychopathology were also related to non-adherence. A study completed by Gould, Shaffer, and Kaplan found that nonattendance in child psychotherapy was related to severity of caretaker's emotional disturbance (1985). Thus, by adequately screening for maternal mental health issues and addressing access to supports within the community, GABI is able to better engage at-risk mothers in the therapeutic process.

Kazdin proposed a risk-factor model, which aimed to identify factors related to lower attendance and to develop a method of predicting treatment adherence during initial intake evaluations (1996). Families who demonstrated lower rates of these proposed risk factors were more likely to attend treatment. Kazdin, Holland, and Crowley also suggested that perceived barriers to treatment, based on patient self-reports, significantly contributed to engagement among families participating in child psychotherapy (1997). Therefore, addressing these factors throughout treatment might aid in facilitating engagement and in supporting families who face multiple barriers to accessing care. GABI clinicians aim to address these factors through completion of questionnaires and interviews at the outset of treatment in attempt to highlight areas where additional support is needed.

More recent studies have aimed to improve initial treatment engagement, by exploring factors contributing to attendance in vulnerable families participating in child mental health treatment. Ofonedu, Belcher, Budhathoki, and Gross completed a mixed method study in 2017, which assessed objective and subjective factors effecting engagement in initial psychotherapy sessions. The quantitative aspect of the study examined relationships between socio-demographic factors, parental psychopathology, parenting stress, and child behavior problems and attendance. Parents identified 'wait times' as a significant factor related to engagement, with shorter periods between intake and first session related to greater rates of attendance (Ofonedu et. al., 2017). Therefore, facilitating transitions between intake and initial sessions might be essential in maintaining parental engagement during early stages of treatment. In GABI, parents were often encouraged to attend initial sessions within one week of completing intake and baseline assessments, easing transition between intake and treatment phases.

McKay also suggested that perceived social support and parenting stress was related to maintenance of child mental health appointments (2001). Families with multiple caregivers within the home, who identified more significant support within their environment, were more likely to engage in treatment. However, limited actual or perceived social support effected families abilities to engage in treatment. Parents who reported greater rates of social support from families and friends demonstrated better treatment engagement and outcome within a parent training program (Harrison, McKay & Bannon, 2004). While parents participating in GABI often cited limited familial supports, the intervention's group structure allows for parents to establish peer supports and a sense of community, further promoting retention.

While few studies have addressed treatment retention within parent-child psychotherapy, Fernandez and Eyberg identified factors associated with attendance in Parent-Child Interaction Therapy (PCIT) (2009). Families were evaluated throughout treatment and follow-up periods. Researchers used a behavioral coding system to assess parent-child interactions, to determine characteristics associated with attendance. Maternal verbalization, including higher rates of maternal praise and lower rates of maternal negative talk were related to greater adherence. In the GABI RCT, parent-child interactions will be evaluated to determine whether behavioral observations are related to treatment engagement. GABI treatment focuses on promoting secure attachments within parent-child relationships and might encourage parents to engage more actively in treatment.

Parental Management of Attendance

As Kazdin suggested in his 1996 study, in the context of adult psychotherapy, initial evaluation and sessions are focused around the adult patient, and oftentimes do not include members within the family system. Alternatively, in child and family psychotherapies,

engagement is directly affected by parental involvement and perceptions regarding the necessity of treatment. Haine-Schlagel and Walsh suggested that parent participation engagement (PPE) had an integral role in child and family psychotherapies as parents are responsible for obtaining and following through on treatment referrals (2015). PPE was associated with higher rates of attendance throughout the course of treatment and improvements in therapeutic outcome.

Despite increased emphasis placed on engagement, research studies have shown that parental participation is often limited, which has been attributed to parents feeling "judged" or "blamed" within the therapeutic context in addition to feeling dissatisfied with the quality of mental health treatment being provided (Baker-Ericzén, Hurlburt, Brookman-Frazee, Jenkins & Hough, 2013). These findings suggest that establishing a working alliance with parents might be especially relevant in child and family psychotherapies and lead to greater retention in treatment. Establishing a strong therapeutic alliance in GABI is essential in establishing trust and communication between parents and clinicians.

In an earlier review, Morrissey-Kane and Prinz examined the role of parental cognitions and expectations of participation in child mental health treatment (1999). Parental attitudes were related to three aspects of treatment: help seeking, engagement, and retention. Researchers suggested that a significant amount of parents who seek treatment for their children struggle to successfully engage in treatment due to an inability to afford treatment, scheduling conflicts, and changes in perception of child's problem. Parents who believed that their child's behavior had improved following intake sessions were less likely to attend child psychotherapy sessions (Kourany, Garber & Tornusciolo, 1990). In an additional study, parental involvement was assessed within a sample of minority families enrolled in Head Start preschool programs. Parents who perceived that their children were performing well in school might not perceive a need for

early intervention services, leading to diminished attendance throughout the school year (Mendez, 2010). However, the author suggested that parents who perceived that their children were struggling in school were more likely to engage in treatment, suggesting that identification of problem areas might encourage further engagement. This research shows that parents might be more willing to engage in treatment with their children if need is identified.

Treatment engagement was also related to parental expectations and attitudes towards treatment. Interventions that aimed to prepare parents for psychotherapy treatment were successful in engaging families and led to increased attendance rates. Bonner and Everett showed that families who were presented with a video, which provided knowledge of psychotherapy, were more receptive to therapy and had more realistic expectations regarding therapeutic outcomes (1986). This suggests providing new families with a comprehensive overview of program outlines could further advance retention in GABI.

Staudt identified two behavioral and attitudinal components of engagement for caregivers of at-risk children (2007). The behavior component includes client performance (i.e. appointment keeping, openness in treatment), while the attitudinal component refers to emotional investment in treatment and positive attitudes toward treatment engagement (i.e. worthwhile). Patients who demonstrated higher optimistic expectations were more likely to participate and attend sessions on a regular basis. In a study which evaluated attendance rates in child psychotherapy, parents who demonstrated skepticism in the utility of psychiatric care were less likely to attend initial child psychotherapy appointments, suggesting that parental involvement is essential to treatment success (McKay, 2001). Alternatively, parents with more positive attitudes towards treatment were more likely to attend. This research suggests that it is essential to understand elements within treatment which are more beneficial to patients. Parents participating in GABI often

demonstrate motivation to engage in treatment to improve relationships with their children and to address ongoing parental challenges, suggesting that treatments which focus on facilitating parent-child relationships and addressing limited parental supports might increase retention.

In an extensive review of research on attendance in child and adolescent psychotherapy, parental involvement was identified as a significant predictor of treatment retention (Nock & Ferriter, 2005). Furthermore, parents who identified psychotherapy as relevant and accessible were more likely to complete treatment. Nock, Phil, and Kazdin found that parents who demonstrated higher expectations for treatment, and identified the indicated treatment modality as appropriate, were more engaged than parents who perceived treatment as demanding or challenging (2001). Studies showed that individuals who endorsed greater self-reported motivation and perceived participation in psychotherapy to be accessible were more likely to complete treatment (Miller & Rollnick, 2002; Walitzer, Dermen, & Connors, 1999). In considering accessibility and relevance, it is important to identify patients who are more appropriate for GABI treatment and to understand factors which will allow treatment to be more accessible within under-resourced urban communities.

Engagement in Multi-Family Psychotherapies

Engagement in mental health treatment has remained an area of focus within urban, low-income populations as understanding attitudes toward treatment and addressing stigma surrounding mental illness can contribute to increased success in treatment. Studies have shown that multi-family psychotherapies can influence treatment retention for children and families. The Multiple Family Group (MFG) treatment was developed to treat inner-city youth with Oppositional Defiant Disorder (ODD) and their families (Franco, Dean-Assael, & McKay, 2008; McKay, Lynn & Bannon, 2005). Interactions with families from similar backgrounds was found

to reduce stigma regarding mental health issues and increase overall engagement in treatment. In a study completed in 2002, treatment engagement among urban children and their families were assessed (McKay, Harrison, Gonzales, Kim & Quintana). Patients were assigned to the MFG or treatment as usual condition (family therapy or individual therapy) and information regarding attitudes about mental health treatment was assessed in 159 caregivers. Families assigned to the MFG condition attended an average of seven sessions during a 16-week treatment period, whereas families in the treatment as usual condition attended four sessions on average. Participation in multifamily groups allowed for parents to establish relationships with families facing similar issues and acted to reduce mental health stigma. Similarly, in GABI groups, parents are able to communicate with other members from similar backgrounds.

In a study which assessed implementation of multifamily groups within a low-income, latino community, families assigned to a multifamily support group, Families and Schools Together (FAST) demonstrated greater treatment engagement than families assigned to the Family Eduction (FAME) group. In part, authors attributed increased engagement to opportunities for parents to establish relationships with other caregivers within their community. Similarly, families participating in GABI are often socially isolated and might be motivated to establish relationships with group members outside their therapeutic interactions.

Engagement for Court-Mandated Families

While parental involvement in self-referred child and family psychotherapy contributes to treatment success, adherence within court-mandated treatments is essential and might inform child welfare decisions. Engagement in court-mandated treatment was related to lower child removal rates and increased maintenance of parental rights (Dawson & Berry, 2002).

In a 2009 study, Snyder and Anderson addressed differences between mandated and voluntary referrals and identified potential implications for treatment engagement. The authors identified client attitudes toward treatment and motivational readiness to change as factors contributing to success in working with court-mandated patients, suggesting that parents with greater incentive to change might be more likely to engage in treatment. An additional study completed by Begun, Murphy, Bolt, Weinstein, Strodthoff, and Short evaluated 1,359 court-mandated patients participating in a treatment for intimate partner violence (IPV). Results showed that patients who endorsed motivation to change demonstrated significant improvements (i.e. decreased psychological and physical aggression) throughout the course of treatment when compared to patients who reported greater overall resistance (2003). These findings suggest that identifying personal goals and understanding motivations for change might be essential in retaining parents in GABI treatment.

Participation in court-mandated treatments has been found to predict reductions in additional reports of child maltreatment and child removals. Two components of participation were related to greater compliance: collaboration with workers in treatment planning, and compliance with program expectations (Littel, 2001). Parental involvement in treatment planning allows clinicians to identify relevant treatment goals, which target individualized needs for families participating in mandated interventions. Involving patients in the treatment planning process also provides patients with a sense of autonomy and creates additional structure within the therapeutic frame. Treatment compliance (i.e. cooperation with clinicians and attendance) also provides patients with an opportunity to address identified problems in greater depth. Ultimately, court-mandated families with greater compliance endorsed more positive outcomes than families who failed to participate (Schwartz, AuClaire & Harris, 1991). In working with

several court-mandated families in GABI, clinicians aim to assess parental challenges to better facilitate engagement and to address the unique needs of court-mandated families.

While participation in court-mandated interventions has shown significant improvements in child and parental psychopathology and lesser instances of child maltreatment, engaging these at-risk families can be challenging (Chaffin, Silovsky, Funderburk, Valle, Brestan & Balachova, 2004). However, Kemp et. al. provided suggestions for enhancing mandated treatment interventions, highlighting the importance of providing parental education and assisting patients in meeting their practical needs (i.e. transportation, food). Interventions that target long-term changes, are supportive and non-judgmental, and provide concrete services, were found useful in the treatment of at-risk families (Dawson & Berry, 2002). Research suggests that engaging in open dialogues with court-mandated parents and taking on an empathetic stance might facilitate engagement and aid in establishing therapeutic alliance.

Trauma and Domestic Violence Exposure

In a study which assessed treatment engagement in children with traumatic histories receiving treatment through community-based clinics, authors suggested that further attention should be paid to engagement of families with adverse histories (Lau & Weisz, 2003). Treatment engagement remains a central issue in evidence-based treatments for families and their children with multiple adversities, with interventions which incorporated trauma-informed engagement strategies witnessing improvements in retention. In a study assessing the effectiveness of Trauma Systems Therapy (TST) versus care as usual (CAU) in engaging at-risk children and adolescents, participants in TST demonstrated higher retention rates and more significant improvements in PTSD and aggression symptoms (Saxe, Ellis, Fogler & Navalta, 2012). Writers contributed higher attendance rates to three formalized engagement components: 1) establishing therapeutic

alliance; 2) managing practical barriers to treatment engagement, and 3) providing patients and their families with psychoeducation about traumatic stress. Levels of adversity in parents and children should be evaluated to determine potential influences on retention in GABI.

Interventions aiming to treat individuals with traumatic histories have expanded and researchers have identified significant effects of early exposures to abuse and neglect. However, randomized controlled trials (RCTs) for trauma-informed treatments of children and families have often failed to evaluate characteristics of treatment engagement (Silverman, Ortiz, Viswevaran, Burns, Kolko, Putnam & Amaya-Jackson, 2008). In a study completed in 2014, treatment engagement for 562 ethnic minority children participating in a child abuse prevention and treatment programs was evaluated (Fraynt, Ross, Baker, Rystad, Lee & Briggs). Results showed significant differences in engagement between African American and Latino populations. Potential cultural factors should be considered while evaluating families enrolled in GABI, as identifying group differences and providing informed care might facilitate treatment engagement.

Domestic violence exposure has been identified as a predictor for treatment engagement and outcome. In a study that evaluated 150 women participating in cognitive processing therapy (CPT) for posttraumatic stress disorder (PTSD), attendance rates for women in current intimate partner violence (IPV) relationships were compared to women with past or no experiences of IPV (Iverson, Resick, Suvak, Walling & Taft, 2011). When controlling for demographic variables (i.e. race, age, ethnicity), endorsement of recent IPV significantly impacted patients' engagement in treatment. This finding suggests that engagement efforts should be prioritized during pre-treatment phases to enhance retention. In a study which evaluated attendance rates in group support meetings for survivors of domestic violence, researchers examined the effects of

written reminders and telephone calls on treatment engagement. Implementation of reminder procedures led to a significant increase in treatment retention, doubling group attendance rates (Martinez & Wong, 2009). GABI was developed to treat women and children with multiple traumatic exposures, is offered multiple times per week, and implements frequent prompting throughout the course of treatment, which allows for further support to women with ongoing or past histories of IPV.

Cultural Implications of Treatment Retention

While attempts have been made to develop culturally sensitive approaches to improve patient retention amongst diverse groups, evidence-based treatment studies oftentimes fail to mention potential cultural implications on treatment engagement. Parental education, perceived barriers to treatment, and parental attitudes have been identified as significant predictors of retention in child outpatient psychotherapy (McCabe, 2002). In addition, client–therapist ethnic match was a significant predictor of retention, with ethnic match related to greater attendance in minority families. These findings suggest that it is important to assess potential impact of individual differences and commonalities in engaging families.

In a 2009 study, Weiner, Scheider, and Lyons attempted to address treatment engagement in ethnically diverse populations and evaluated the effectiveness of culturally sensitive adaptations of three evidence-based treatment approaches: Child–Parent Psychotherapy (CPP), Trauma-Focused Cognitive Behavioral Therapy (TF-CBT), and Structured Psychotherapy for Adolescents Responding to Chronic Stress (SPARCS). Results indicated treatment effectiveness in the three evidence-based practices, with all racial/ethnic groups demonstrating reductions in psychiatric symptoms. In addition, no racial differences in retention were observed, suggesting

that culturally informed interventions lead to treatment completion. GABI emphasizes cultural competency in the treatment of minority families in attempt to best address patient needs.

Therapeutic Outcomes for Treatment Completers

Attendance rates in psychotherapy treatment have shown short-term and long-term effects and are related to overall reduction in psychiatric symptoms. In a 2003 study, researchers assessed rates of depression in patients participating in cognitive therapy (CT) (Cahill, Barkham, Hardyl, Rees, Shapiro, Stiles & Macaskill). Findings showed that patients who attended all scheduled sessions endorsed clinically significant improvements and reductions in depression symptoms, whereas patients who discontinued treatment and attended fewer sessions showed fewer therapeutic gains. Greater rates of attendance were found to relate to greater improvements and overall reduction in psychiatric distress, as assessed during end of treatment assessment.

Few studies assessed long-term treatment outcomes for families who dropout or complete treatment. In a study completed by Boggs, Eyberg, Edwards, Rayfield, Jacobs, Bagner, and Hood, 46 families who participated in Parent-Child Interaction Therapy (PCIT) were evaluated between 10-30 months after their initial assessment session (2005). 23 families who completed treatment were compared to 23 families who dropped out to determine effects of retention on outcome. Participants who completed treatment endorsed lower rates of child disruptive behavior and reduced parenting stress, suggesting significant long-term effects of treatment engagement. These results suggest that greater attendance in GABI might coincide with improvements in parent-child behaviors and reduction in overall perceived parenting stress.

Saxon, Firth, and Barkman assessed the relationship between treatment dosage and outcome in patients participating in outpatient psychotherapy treatment (2017). Greater

attendance was related to improved therapeutic outcome and improvements in symptoms of depression. However, results also suggested that the quality and strength of the dose varied considerably between therapists, with highly skilled therapists eliciting greater results per session when compared to novel therapists. In a study of 135 children and adolescents, treatment dosage was associated with greater reductions in disruptive behavior, particularly in patients engaged in treatment for more than one year (Fonagy & Target, 1994). However, some studies have shown no impact of dosage effects on treatment outcomes (Salzer, Bickman & Lambert, 1999; Andrade, Lambert & Bickman, 2000).

Based on these results, it would be anticipated that parents engaging in GABI at higher rates will demonstrate greater therapeutic gains across treatment as assessed at end of treatment assessment. Increased attendance, or dosage, allows families to further benefit from the support of GABI clinicians and provides parents with additional opportunities to interact with their children in a safe, structured environment, which might lead to additional improvements within the parent-child relationship.

Interventions to Improve Engagement

Developing a more comprehensive understanding of characteristics of treatment completers and factors associated with retention allows for clinicians to promote compliance in child and family psychotherapy using appropriate intervention strategies. Strategic Structural-Systems Engagement (SSSE) identifies potential barriers to treatment during intake evaluations while Adjunctive Family Support (AFS) offers adjunct treatment sessions to address life stressors, and related barriers to treatment (Ingoldsby, 2010). SSSE interventions target treatment resistance, contacting families prior to initial sessions to assess sources of resistance, which might prevent patients from participating in psychiatric care. Clinicians then incorporate methods

designed to minimize treatment resistance (i.e. joining with patients to understand concerns, values) and encourage patients to attend sessions. Alternatively, AFS services aim to better understand stressors, including financial instability, relational conflicts, and other related issues, which might interfere with a family's ability to engage in services.

Engagement methods, which utilize Motivational Interviewing (MI) techniques, have also been successful in engaging families in psychotherapy. In a 2002 study, Miller and Rollnick found that addressing ambivalence in patients seeking psychiatric treatment and eliciting self-motivation statements strengthened overall commitment to psychotherapy. These interventions have been shown to be more successful in strengthening the relationship between therapists and families and improving adherence, in comparison to simple solutions, such as providing appointment reminders (Ingoldsby, 2010).

Managing parental expectations and identifying concerns prior to beginning treatment, has also shown to be a successful strategy in promoting treatment engagement and strengthening the therapeutic alliance. Nock, Phil, and Kazdin proposed that patients with accurate pre-treatment expectancies (i.e. expectancies about structure of therapy) are more likely to engage in treatment (2001). In an additional study completed by Shuman and Shapiro, researchers evaluated the effectiveness of procedures, which aimed to provide information to parents related to treatment structure and encourage accurate expectations of child psychotherapy (2002). Parents who were provided with informational materials demonstrated greater accuracy of parental expectations and higher rates of attendance, suggesting that providing parents with psycho-education might be useful in promoting treatment engagement. During intake, GABI clinicians inform families about the treatment structure and goals, allowing patients room to ask questions and address potential concerns, in attempt to orient patients and establish expectations.

Introduction

Treatment engagement or retention is a substantial predictor of therapeutic outcome and has been found to relate to short-term and long-term effects following participation in mental health treatment (Cahill et. al., 2003). Treatment engagement has been conceptualized as a multi-factorial construct which often encompasses both attitudinal (i.e. perceptions about treatment, motivation for change) and behavioral (i.e. patient's attendance in treatment) dimensions (Staudt, 2007). Within the existing literature, treatment engagement is often described using associated terms such as attendance, therapeutic alliance, participation, and retention or treatment completion (Lindsey et. al., 2014). Retention of participants in therapeutic interventions is a vital area of study in the field of mental health as it allows clinicians to successfully identify factors associated with greater attendance and further implement strategies which promote engagement in treatment. Retention is essential to the success of any treatment, allowing clinicians to address various psychological issues and concerns endorsed by patients seeking care.

While prior research has aimed to understand factors related to treatment engagement and establish methods to promote retention, overall attendance rates in mental health treatment remain alarmingly low (Kazdin 1996; Ingoldsby, 2010). Treatment engagement or retention is particularly essential in child and family psychotherapies, with caregivers playing an essential role in treatment success as parents are responsible for obtaining treatment referrals and establishing appointments with mental health providers (Haine-Schlagel & Walsh, 2015). Parental attitudes toward treatment was found to be related to treatment completion within child psychotherapies, suggesting that parents who considered the treatment useful and appropriate, were more engaged throughout the treatment process (Staudt, 2007).

While rates of child mental health issues range between 17 to 26 percent, suggesting that several children would benefit from treatment services, only one third of children and families in need of mental health services were able to obtain and utilize treatment (Gopalan et. al., 2010). Earlier studies which assessed factors associated with treatment engagement focused on retention in adult psychotherapies, failing to address engagement in child and family psychotherapies (Cross & Warren, 1984). Few studies have assessed treatment engagement in parent-child psychotherapies, particularly within the area of infant mental health. Additional research is needed to better understand the unique factors which contribute to and promote retention in child and family psychotherapies. Retaining families in treatment will allow clinicians to better assess patient needs and allow for more opportunities to intervene.

Several studies have demonstrated that participation in treatment is a direct outcome of therapeutic gains (Baydar, Reid & Webster-Stratton, 2003; Meyer, Pilkononis, Krupnick, Egan, Simmens & Sotsk, 2002). Retention in treatment has shown both short-term and long-term effects, leading to overall reductions in psychiatric symptoms (Cahill et. al., 2003). While there is limited research highlighting the impact of retention on therapeutic outcomes in family psychotherapies, one study indicated that participation in infant mental health treatment was associated with reduction in parenting stress and lower child behavioral symptoms (Boggs et. al., 2005). However, prior research has not evaluated the impact of retention on changes within the parent-child relationship. The current study aims to address limitations within the literature and better understand factors associated with greater retention in the Group Attachment Based Intervention (GABI).

The central goal of this dissertation is to assess factors that attribute to retention in the GABI program; through the collection of measures at both baseline and end of treatment

assessments, we will determine factors that may attribute to increased attendance rates over the course of treatment. Attendance rates will be calculated for families participating in GABI and Systematic Training for Effective Parenting (STEP), the treatment as usual condition. Additionally, among the families participating in the randomized controlled trial (RCT), this investigation will evaluate the effect of treatment dosage on therapeutic outcome, assessed using self-report measures and through an observational assessment of parent-child relationships. We anticipate that GABI will be better suited for families with greater overall need, with families endorsing higher psychopathology, limited social support, and higher rates of adversity more likely to be retained in treatment. In addition, as GABI focuses on promoting secure attachment, we expect that families with greater difficulties within their parent-child relationship will be retained at higher rates. Understanding factors that promote and encourage participation in treatment will allow clinicians to engage at-risk families referred for mental health services.

Purpose of the study

This study has three aims:

1. Calculate attendance rates for families randomized to the Group Attachment Based Intervention (GABI) and the Systematic Training for Effective Parenting (STEP).
2. Explore differences in attendance rates between families randomized to GABI and STEP treatment conditions to understand engagement in high risk populations.
3. Identify factors associated with treatment retention in families participating in GABI. While prior research has addressed factors attributing to greater success in treatment, few studies have evaluated factors associated with attendance in parent-child psychotherapy, mainly focusing on retention within adult and adolescent treatment (Fernandez & Eyberg, 2009).

Hypotheses

1. Families randomized to GABI treatment condition will attend a greater number of sessions than families in STEP treatment condition as GABI is offered three times per week over a 6-month treatment period. However, GABI and STEP families will attend a similar percentage of sessions throughout designated treatment periods.
2. Families with identified risk factors (i.e. maternal age, level of education, ACS involvement, ACEs, parental and environmental stressors, maternal psychiatric symptoms, child behavior problems) will be retained at higher rates in GABI when compared to STEP due to intensive nature of treatment (offered three times per week) and appropriateness of treatment for high risk families.
3. Problematic maternal, child, and dyadic behaviors, as assessed using the Coding Interactive Behavior (CIB) system, will be associated with greater attendance in GABI when compared to STEP due to focus on improving the quality of parent-child relationships and promoting secure attachment.
4. Families who attended higher number of GABI sessions will demonstrate greater therapeutic gains, suggesting that increased dosage is related to therapeutic outcome for families participating in GABI.

Method

Participants

Participants will include 174 parent-child dyads (See Figure 1) participating in a randomized controlled trial for the assessment of the effectiveness of the Group Attachment Based Intervention (GABI) (Murphy, Steele, Bate, Nikitiades, Allman, Bonuck, Meissner &

Steele, 2015), an early intervention treatment program developed to treat vulnerable parents and their children (0-3). The intervention targets families at-risk for maltreatment and aims to promote secure attachment and strengthen parent-child relationships. Pediatric and mental health providers referred families due to concerns with caregiver's ability to navigate parental challenges. In addition, a number of families were referred through Administration for Children's Services (ACS) preventive services. Figure 1 illustrates the consort diagram which details information related to randomization and drop-out and retention in the RCT.

174 families were recruited and assessed for eligibility, with 31 families excluded from participation due to failing to meet inclusion criteria (i.e. non-english speaking), declining to participate (i.e. not interested in treatment), or being unreachable (i.e. phone disconnected). In total, 143 families were retained through randomization and 86 families were assigned to GABI (26 weeks) and 57 families were assigned to the treatment as usual condition, the Systematic Training for Effective Parenting (STEP) (12 weeks).

Commented [JD1]: These numbers are reflective of the consort in the recently published pediatric paper – I also modified the consort diagram to reflect those numbers

GABI sessions were offered 3 times per week for 2-hours (morning and afternoon), with 6 total sessions available per week. These sessions began with a 45-minute parent-child group with multiple families present. Following the parent-child component, parents separate for a 60-minute parent-only and child-only group. Sessions end with a 15-minute parent-child reunion (Steele, Murphy, Bonuck, Meissner & Steele, 2019). In addition, GABI families have 24/7 text access to an on-call clinician, which assists in facilitating treatment engagement. GABI groups are delivered within a group model, with two lead clinicians and multiple clinical trainees. GABI trainees attend a 2-day in-person training which is coupled with an additional 6-months of mentorship and supervision. Alternatively, Systematic Training for Effective Parenting (STEP) (Dinkmeyer, McKay & Dinkmeyer, 1997), is a didactic parenting course offered once per week

for a 12-week period. STEP includes a series of didactics which focus on a range of topics including parenting approaches and discussions around child development. Research has shown that STEP leads to reductions in parenting stress and improvements in child behavior (0-3) (Robinson, Robinson & Dunn, 2003).

For families participating in GABI, 64 completed baseline assessments, 43 completed end of treatment assessments, and 35 completed follow-up assessments. Comparatively, in families participating in STEP, 50 families completed baseline assessments, 35 completed end of treatment assessments, and 24 completed follow-up assessments. 43 GABI cases and 22 STEP cases dropped before completing treatment. Figure 1 demonstrates a 45 percent retention rate overall after randomization. Furthermore, attrition rates differed amongst the treatment groups, with 50 percent of families randomized to GABI dropping out of treatment whereas 39 percent of families dropped out of STEP treatment.

********** INSERT FIGURE 1 ABOUT HERE **********

Measures

Demographic Characteristics

During intake evaluations, families were asked about maternal age, child age, number of children, ethnicity/race, level of education, income, marital status, and current housing status. In addition, parents reported on Administration for Children's Services (ACS) involvement/removal, treatment history (i.e. psychiatric and mental health), and prior hospitalizations.

Trauma History (Parent)

The Adverse Childhood Experiences Questionnaire (ACEs; short version adapted by Murphy, Dube, Steele & Steele, 2007) (Parent Version): The ACE questionnaire was developed in response to a wide-spread epigenetic study which assessed a sample of 17, 337 participants from the Kaiser Permanente health care group between 1995 and 1997 (Brown, Anda, Felitti, Edwards, Malarcher, Croft & Giles, 2010). Findings identified a link between adverse childhood experiences and physical and mental health challenges in adulthood, which suggested that traumas occurring in early life impact overall functioning later in life (Dube et al. 1998, Felitti et al., 2003). The ACE Study is an ongoing collaboration between Kaiser Permanente's Health Appraisal Center (HAC) in San Diego, California, and the U. S. Centers for Disease Control and Prevention. Their goal is to assess the impact of multiple ACEs on a number of health-related outcomes and to better understand how exposure to ACEs impacts utilization rates within the health care system (Anda, Felitti, Bremner, Walker, Whitfield, Perry, Dube & Giles, 2006; Felitti, Anda, Nordenberg, Williamson, Spitz, Edwards, Koss & Marks, 1998). Studies have shown that greater exposure to childhood maltreatment is related to adult mental health issues, with emotional abuse occurring with familial environment leading to exacerbated psychopathology symptoms (Edwards, Holden, Felitti & Anda, 2003).

The ACE questionnaire is a 25-item measure used to assess 10 categories of abuse, neglect, and household dysfunction. The measure includes exposure to physical, psychological, and sexual abuse in addition to emotional and physical neglect (See Figure 2). Household dysfunction relates to experiences of parental mental illness, parental divorce or separation, parental incarceration, parental alcohol or substance abuse, and exposure to domestic violence. Patients were asked to reflect on their first 18 years of life and indicate presence and frequency of abuse, neglect, and household dysfunction. For example, participants were asked "while you

were growing up, that is during your first 18 years of life, how often did a parent, step-parent or other adult in your home hit you so hard that you had marks or were injured?". There were five response categories including, "never", "once or twice", "sometimes", "often", or "very often".

********** INSERT FIGURE 2 ABOUT HERE **********

ACE Protective Score

The Adverse Childhood Experiences (ACEs) Protective Score aims to assess experiences of emotional support within the first 18 years of life. For example, participants were asked whether or not "there was someone in your family who helped you feel special or important". In a study completed by Murphy, Steele, Dube, Bate, Bonuck, Meissner, Goldman & Steele, the relationship between the ACE questionnaire and emotional support subscale were compared to Adult Attachment Interview (AAI) classifications (2014). Results showed that absence of emotional support was associated with increased rates of unresolved (U) and cannot classify (CC) states of mind on the AAI. In addition, parents who endorsed emotional support during their childhoods demonstrated more coherent and organized narratives, suggesting that emotional support might act as a protective factor against adversities in childhood. In this study, an ACE Protective Score was calculated based on parents responses to items within this category.

Commented [JD2]: I included a section on Protective Scores as it was a significant outcome in the analyses. However, I had a difficult time finding the breakdown of this scoring

Trauma History (Child)

The Adverse Childhood Experiences Questionnaire (ACEs; Murphy, Dube, Steele & Steele, 2007) (Child Version): A 25-item parent-report questionnaire, which assesses the 10 categories of abuse, neglect, and household dysfunction mentioned above. During intake assessments, parents were asked to report on traumas experienced by their child since birth in addition to child's experiences of emotional support. These items assess whether or not children

feel protected, loved, and special/important, which potentially buffer the effects of traumatic exposures and comprised of the ACE Protective Score subscale. Consistent with the parent ACE, responses ranged from 0=never to 4=very often.

Recent studies have aimed to evaluate Adverse Childhood Experiences (ACEs) within pediatric populations as previous research has assessed prevalence rates and impact of ACEs in adulthood. In a study completed in 2011, researchers at the Bayview Child Health Center in San Francisco, California examined 701 children, adolescents, and young adults (between the ages of 0 and 20.9) to determine the effects of ACEs on physical and mental health outcomes (Burke, Hellman, Scott, Weems & Carrion, 2011). Results showed that participants with four or more ACEs were at increased risk for obesity. In addition, higher ACE prevalence waas associated with more learning and behavioral disorders, suggesting that traumatic exposures in childhood are linked to poor physical and mental health outcomes. In a study completed in 2017, ACEs were found to be related to increased risk for chronic pain in childhood, with children with chronic pain conditions (i.e. fibromyalgia, abdominal pain, recurrent headache) reporting a higher instance of traumatic exposures (Nelson, Cunningham & Kashikar-Zuck, 2017).

Maternal Psychopathology

The Symptom Checklist-90-R (SCL-90-R, Derogatis, 1996): The SCL-90 is a brief self-report measure, which evaluates symptoms of psychopathology and identifies psychological problems. It is also often used to determine progress made in psychiatric and psychological treatments. The measure consists of 90 items and produces nine scores within the primary symptom dimension and three scores within the global distress index. The primary symptom dimension includes somatization, obsessive-compulsive, interpersonal functioning, depression, anxiety, hostility, phobic anxiety, paranoid ideation, and psychoticism. The three indexes of

global distress are global distress, hardiness, and symptom free. Participants report on how much they have experienced an array of psychiatric symptoms within the past week. Items are scored on a likert scale ranging from 0 to 4, with higher score representing higher distress.

The SCL-90-R has been normed in adolescent and adult populations and is widely implemented measure of psychological dysfunction in both outpatient and inpatient settings (Todd, Deane & McKenna, 1997; Seemüller et. al, 2012). Studies have examined that impact of maternal mental health on child development. In a study which included 134 mother-infant dyads, researchers assessed the impact of maternal psychopathology on motor development in infants. (Piallini et. al., 2016). Endorsement of maternal mental health symptoms, particularly depression, somatization, hostility, and paranoid ideation, was related to less sophisticated motor development in children within the first year of life. In addition, in a study of 84 mother-infant dyads, researchers found that maternal depression, as assessed using the SCL-90-R, impacted attachment between children and their parents, with maternal depression associated with higher rates of insecure attachment (Poehlmann & Fiese, 2001).

Perceived Social Support

The Interpersonal Support Evaluation List (ISEL, Cohen, & Hoberman, 1983): The ISEL is a 40-item, self-report questionnaire, which measures perceived availability of social resources. The ISEL assesses total perceived social support in addition to four functions of social support: tangible support, belonging support, appraisal support, and self-esteem support. The tangible subscale measures perceived availability of material or financial support, for example “if I were sick and needed someone (friend, family member, or acquaintance) to take me to the doctor, I would have trouble finding someone”. The belonging subscale assesses perceived acceptance and concern, such as “when I feel lonely, there are several people I can talk to”. The appraisal

subscale includes the perceived availability of advice or guidance, for example “There are several people that I trust to help solve my problems”. The self-esteem subscale measures perceived availability of reassurance, such as “there is someone who takes pride in my accomplishments”.

Participants are asked to rate each statement on 4-point scale ranging from “definitely true” to “definitely false”. The items are counterbalanced and present positive statements about social relationships as well as negative statements. The total score illustrates how supported participants feel within the environment, with higher scores indicating greater perceived social support. The ISEL is a widely validated measure which has been utilized in college-aged samples as well as in underserved, low-income communities (Delistamati, Samakaouri, Davis, Vorvolakos, Xenitidis & Livaditis, 2006; Bates & Toro, 1999). In addition, the ISEL has been used to understand interactions between social support, parenting stress, and parenting behaviors. In a study which evaluated 101 teen mothers with children between the ages of one and three, mothers who endorsed higher levels of parenting stress and limited social support demonstrated less warmth and more punitive behaviors in interactions with their children, suggesting that increased social support might mitigate parenting stress and lead to improvements in parent-child relationships (Uno, Florsheim & Uchino, 1998).

Parent-Child Interactions

The Coding Interactive Behavior System (CIB, Ruth Feldman, 1998): The CIB is an observational coding system used to assess parent-child interactions. The coding system consists of 43 codes, including 22 parental, 16 child, and 5 dyadic scales. In addition, the Center for Attachment Research has developed 6 clinical codes, including 2 parent, 2 child, and 2 dyadic

scales. Behaviors are coded using a 5-point scale, with 1 indicating a minimal level of a specific behavior or attitude and 4 indicating a maximum level. See Appendix for the full rating system.

Commented [JD3]: Is it relevant to list how these scores are grouped? I noticed Adella had mentioned this in her dissertation but that was because she used the aggregate scores in her analysis whereas we did not find significant results using those grouping scores.

The authors recommend that observers limit coding to 4-5 scales within one sitting, suggesting that recorded interactions be coding across multiple sessions. In addition, it is recommended that parent, child, and dyadic scales be coded across different observations. The CIB coding system was designed to code interactions between parents and children between 2 to 36 months. Based on developmental considerations, the authors indicate that the following items should not coded in children under one year of age: compliance to parent, reliance on parent for help, on-task persistence, avoidance of parent, and creative symbolic play.

During baseline, end of treatment, and follow-up assessments, parents and their children randomized to either the Group Attachment Based Intervention (GABI) or the Systematic Training for Effective Parenting (STEP) participated in a 10-minute free-play interaction, which was video recorded. Families were instructed to "do whatever they would like for 10 minutes" and were presented with various toys within a laboratory setting. The first 5 minutes of these interactions were observed and evaluated by reliable CIB coders.

The CIB system demonstrates substantial reliability and validity and has been applied to studies of clinical and non-clinical families, and is used to identify children at risk for developmental and socio-emotional deficits (Feldman, Eidelman, Sirota & Aron, 2002; Feldman & Eidelman, 2008) as well as risk for maternal depression and anxiety (Feldman, Granat, Pariente, Kanety, Kuint & Gilboa-Schechtman, 2009).

Studies have shown that more positive parent-child interactions can act as a buffer against environmental stressors and instances of child mental health issues. In a study completed

in 2017, researchers assessed war-exposed mothers and children to better understand maternal influence in mediating effects of exposure to community violence (Halevi et. al., 2017). Results showed that maternal synchrony, as measured using the CIB, was associated with increased child engagement and reduced symptomatology in later childhood. In a randomized-controlled trial for the effectiveness of Parent-Infant Psychotherapy (PIP), 76 mother-child dyads were randomized to the PIP or control condition and evaluated at three time points (baseline, 6-month, 12-month follow-up) using the CIB (Fonagy, Sleed & Baradon, 2016). Researchers found that parents and children participating in PIP demonstrated improvements in parent-infant relationships (CIB), suggesting that engagement in interventions which prioritize the parent-child relationship might lead to more considerable observable gains.

Procedures

The randomized controlled trial (RCT) for the effectiveness of the Group Attachment Based Intervention (GABI) was completed in Bronx, New York. Families were referred for treatment through pediatrics, obstetrics and gynecological services, child welfare organizations (i.e. ACS), and family courts due to significant parenting challenges due to high ACE burden and concerns regarding the parent-child relationship. The following criteria for inclusion were required to participate in the RCT: 1) biological parents; 2) child under 36 months; 3) with current child custody. In addition, the following exclusion criteria were implemented: 1) inability to provide informed consent; 2) non-english speaking; 3) child with diagnosis of autism or severe intellectual disability.

Families were recruited during initial intake interview at the Rose F. Kennedy Children's Evaluation and Rehabilitation Center (RFK CERC) at Montefiore Medical Center. Families who demonstrated interest in participating in the RCT were scheduled for an additional appointment

to complete consents and initial questionnaires (i.e. psychosocial history and parenting stressors). These families were then were randomized to receive either GABI or treatment as usual (TAU), the Systematic Training for Effective Parenting (STEP), a didactic parenting course (Dinkmeyer & McKay, 1989). Randomization was completed by researchers through opening sealed envelopes which designated families to either the GABI or STEP (TAU) treatment condition. Both interventions were administered at RFK CERC at Montefiore Medical Center. Families who declined interest in participating in the RCT were offered treatment services at RFK CERC.

Prior to beginning treatment, parents and their children (0-3) completed baseline treatment assessments at the Center for Attachment Research at the New School for Social Research. Parents completed consent forms with an assessment coordinator who detailed the assessment process, examined risks and benefits, discussed confidentiality, and explained the voluntary nature of the study. In addition, the assessment coordinator notified families that assessment tasks would be video recorded. Families participated in observational tasks, including a 5-minute free play interaction. In addition, parents completed questionnaires, which were administered by research assistants. Figure 3 demonstrates measures collected at baseline and end of treatment assessments. Parents and children are expected to attend assessments at the Center for Attachment Research at baseline, end of treatment (3 months for STEP; 6 months for GABI), and follow-up. Participants received a $50 stipend at each lab visit.

Attendance rates were tracked and coded throughout the 3-month (STEP) and 6-month (GABI) treatment periods. Clinicians completed attendance sheets which indicated parents and children present during treatment sessions. In addition, treatment sessions were tracked throughout the follow-up period for families assigned to GABI as some families demonstrated

continued need for treatment services through RFK CERC. While STEP families were offered options for additional treatment following 3-month period, attendance data was unavailable.

********** INSERT FIGURE 3 ABOUT HERE **********

Results

Demographics

Mother's ages ranged from 16 to 46 years (M=27.2, SD=6.8) and children's ages from .50 to 46 months (M=17.34, SD=10.6). Families included in this study were ethnically and racially diverse, with mothers identifying as Hispanic/Latina (48.4%), Black/African American (27.3%), Bi-racial and Multi-racial (7.8%), White/Caucasian (7.8%), Other (6.3%), and Asian or Asian American (1.6%). In addition, parents identified their children as Hispanic/Latino (41.4%), B-racial/Multi-racial (27.3%), Black/African American (25%), White/Caucasian (3.1%), and Other (3.1%). Mothers identified their highest level of education as no high school (7.5%), some high school (29.9%), high school diploma/GED (27.2), some college (28.6%), and college diploma (6.1%). Families faced multiple barriers to accessing care, including housing instability, financial constraints, limited access to education, and underemployment. For instance, most mothers identified as unemployed (66.9%), with several living in supportive housing (15.2) or with families/friends (20%) and several identifying as Homeless (19.2%). In addition, families participating in the RCT endorsed high ACE burden, with families endorsing 4 or more ACEs; GABI (72%) and STEP (80%), which is substantially higher than rates observed in the original ACE study, where 10% of the general population indicated 4 or more ACEs (Felitti et. al., 1998). See Table 1 for additional information related to sample demographics.

********** INSERT TABLE 1 ABOUT HERE **********

Descriptive Statistics for Attendance Rates

Attendance rates were assessed for families participating in both GABI and STEP throughout the treatment period. Families randomized to the GABI treatment condition attended more sessions (M=8.46, SD=10.56) on average when compared to families assigned to the STEP treatment condition (M=3.90, SD=3.28). However, as GABI was offered 3 times per week for a 6-month treatment period and STEP was offered once per week for a 3-month treatment period, percent sessions attended variable was computed in order to allow for a comparison between the groups. Overall, STEP families attended a higher percentage of sessions throughout the treatment period (M=33.03, SD=27.55) than families participating in GABI (M=14.38, SD=17.33). In addition, attendance rates were calculated for families in need of additional GABI sessions within the follow-up period. Of note: families that continued to attend GABI sessions throughout the follow-up period attended more sessions on average (M=10.19, SD=12.72) than families within GABI treatment period (M=8.46, SD=10.56). See Table 2 for additional information related to attendance rates in GABI and STEP.

********** INSERT TABLE 2 ABOUT HERE **********

Correlations Between Coding Interactive Behavior (CIB) and Attendance Rates

Forty-three variables in the Coding Interactive Behavior (CIB) were examined to test for assumptions of normality. All CIB variables used in inferential analyses were screened for skewness and kurtosis and were within acceptance limits (±2), except Mother Imitating (skewness=3.53, SE=.23; kurtosis=13.10, SE=.45), Mother Elaborating (skewness=3.04, SE=.23; kurtosis=10.32, SE=.45), Mother Criticizing (skewness=3.50, SE=.23; kurtosis=14.23; SE=.45), Child Withdrawal (skewness=5.38, SE=.23; kurtosis=29.97, SE=.45), Child Emotional Lability (skewness=4.95, SE=.23; kurtosis=28.38, SE=.45), Child Fatigue (skewness=5.06,

SE=.23; kurtosis=25.49, SE=.45), Child Reliance on Parent for Help (skewness=3.27, SE=.23; kurtosis=13.10, SE=.45), and Child Symbolic Play (skewness=3.43, SE=.23; kurtosis=13.20, SE=.45). Thus, these eight variables were taken out of the final analyses. The reliability of the CIB coding system was established by determining inter-rater agreements among two trained CIB coders. Inter-rater reliability analysis was conducted and Cronbach's alpha ranged from 0.86 and 0.92 (ICC average of 0.93) for each variable, indicating good inter-rater reliability. Kappa ranged from 0.78 and 0.87 (averaging 0.81).

Bivariate correlations were run among baseline CIB variables and Percentage Sessions Attended (treatment period), to determine potential relationships between parent-child relationships and attendance in both GABI and STEP treatment conditions. The following parent codes significantly, and negatively correlated with attendance within the GABI treatment period: Mother Vocal Appropriateness (r(64)=-.30, p=.02), Mother Consistency of Style (r(64)=-.30, p=.02), Mother Resourcefulness (r(64)=-.28, p=.02), Mother Appropriate Structure/Limit Setting (r(64)=-.31 p=.01), and Mother Supportive Presence (r(64)=-.32, p=.01). The following child codes significantly, and negatively correlated with attendance in GABI: Child Vocalization (r(64)=-.32, p=.01) and Child Competent Use of the Environment (r(64)=-.30, p=.02). The following CIB variables were not significantly related to attendance in GABI but demonstrated a trending relationship: Mother Acknowledging (r(64)=-.24, p=.06), Dyadic Reciprocity (r(64)=-.21, p=.09), Dyadic Fluency (r(64)=-.23, p=.06), and Dyadic Constriction (r(64)=-.24, p=.06). Baseline CIB scores were not found to be related to attendance rates in families participating in the treatment as usual condition (STEP).

Commented [JD4]: Should I report on non-significant results for STEP in these sections?

********** INSERT TABLE 3.1 ABOUT HERE **********

In addition, bivariate correlations were conducted to determine relationships between end of treatment CIB variables and attendance in both GABI and STEP conditions. Mother Depressed Mood ($r(43)=-.32$, $p=.04$) was significantly and positively correlated with greater attendance in GABI, suggesting that mothers endorsing residual mood symptoms at end of treatment were likely to attend more GABI sessions. In addition, the relationship between Mother Positive Affect $r(43)=-.28$, $p=.06$) and attendance in GABI was trending toward significance, suggesting that mother's with less positive affect might be more likely to participate in GABI. End of Treatment CIB scores were not found to be related to attendance rates in families in STEP.

********** INSERT TABLE 3.2 ABOUT HERE **********

Correlations Between Adverse Childhood Experiences (ACE) and Attendance Rates

Adverse Childhood Experiences (ACE) – Adult Version subscales were screened for skewness and kurtosis to determine if variables fall within acceptable limits (±2). None of the data were significantly skewed, with skewness between -1.36 and .45 and kurtosis between -1.95 and .99. Bivariate correlations were run to determine relationships between ACEs and Percentage Sessions Attended during treatment period. Results showed that emotional abuse ($r(75)=.25$, $p=.04$) was significantly and positively correlated with GABI attendance, suggesting that parents with histories of emotional abuse attended more GABI sessions on average. The following ACE variables were not significantly related to attendance in GABI but demonstrated a trending relationship: Household Substance Abuse ($r(75)=.22$, $p=.04$), Household Incarceration ($r(64)=-.10$, $p=.09$), and Physical Neglect ($r(64)=.22$, $p=.08$). Alternatively, Household Separation/Divorce ($r(58)=-.43$, $p=.01$), was found to be significantly and negatively related to

attendance in STEP, which suggests that parents with histories of household dysfunction might be less likely to attend STEP.

********** INSERT TABLE 4.1 ABOUT HERE **********

Bivariate correlations were also conducted to assess relationships between ACEs and Number Sessions Attended during GABI follow-up period. Household Mental Illness ($r(40)=.35$, $p=.03$) and Household Domestic Violence ($r(40)=.37$, $p=.02$) were significantly, positively related to attendance during follow-up period, suggesting that mothers with histories of household dysfunction attended more GABI sessions following standard treatment period (6-months). Furthermore, greater GABI attendance during follow-up period was significantly, positively correlated with ACE total score ($r(40)=.33$, $p=.04$), with higher rates of parental adversity associated with greater attendance. Conversely, ACE Protective Score ($r(40)=-.40$, $p=.01$) was significantly, negatively correlated with attendance during follow-up, indicating that parents with less emotional support in childhood were more likely to engage in GABI follow-up sessions.

********** INSERT TABLE 4.2 ABOUT HERE **********

In addition, bivariate correlations were conducted to determine the relationship between Adverse Childhood Experiences (ACE) – Child Version scores and attendance rates. However, attendance rates were not found to be related to adversities demonstrated in children participating in either GABI or STEP treatment conditions.

Commented [JD5]: There were no significant correlations between child ACE and attendance. Do I need to report on these correlations regardless as these analyses were run?

Correlations Between Symptom Checklist-90-R and Attendance Rates

Symptom Checklist-90-R (SCL-90-R) subscales were evaluated to test for assumptions of normality, with skewness and kurtosis within acceptance limits (±2), except for Mother

Psychoticism (skewness=.35, SE=1.01; kurotsis=-3.96, SE=2.62) which was excluded from the final analysis. Bivariate correlations were conducted in order to assess relationships between baseline SCL-90-R scores and attendance rates in GABI and STEP during treatment period. SCL-90-R scores were not found to significantly relate to attendance during 3-month (STEP) and 6-month (GABI) treatment periods. However, results demonstrated a trending relationship between Mother Phobic Anxiety ($r(82)=-.19$, $p=.09$) and Percentage Sessions Attended in families participating in GABI. Baseline SCL-90-R scores were not related to attendance rates in STEP.

********** INSERT TABLE 5.1 ABOUT HERE **********

In addition, bivariate correlations were conducted to determine relationships between end of treatment SCL-90-R scores and Number Sessions Attended during GABI follow-up period. Mothers participating in more follow-up sessions demonstrated higher rates of Mother Somatization ($r(82)=-.38$, $p=.02$) and Mother Anxiety ($r(82)=.44$, $p<.01$). Mothers with higher overall psychopathology, as assessed using the Global Severity Index ($r(82)=.40$, $p=.01$) were also more likely to attend GABI sessions during follow-up period. These results suggest that mothers with greater psychopathology at end of treatment were more likely to continue treatment through follow-up period.

********** INSERT TABLE 5.2 ABOUT HERE **********

Correlations Between Interpersonal Support Evaluation List (ISEL) and Attendance Rates

Interpersonal Support Evaluation List (ISEL) subscales were screened for skewness and kurtosis. None of the data were significantly skewed, with skewness between -.42 and -.09 and kurtosis between -.85 and -.43. Bivariate correlations were run to assess relationships between

ISEL scores and attendance during 6-month GABI treatment period and 3-month STEP treatment period. Mother Self Esteem Support ($r(85)=-.44$, $p<.01$) was significantly, negatively correlated with GABI attendance rates (treatment period). In addition, while not significant, a trending relationship was observed between Mother Tangible Support ($r(85)=-.26$, $p=.09$) and GABI attendance. Baseline ISEL scores were not related to attendance rates in STEP.

********** INSERT TABLE 6.1 ABOUT HERE **********

Bivariate correlations were also performed to assess the relationship between baseline ISEL scores and GABI attendance during follow-up period. Similarly, Mother Self Esteem Support ($r(40)=-.33$, $p=.04$) was significantly, negatively related to GABI follow-up attendance.

********** INSERT TABLE 6.2 ABOUT HERE **********

Hierarchical Linear Regression between Attendance Rates and ACEs

Given that a number of the mothers' responses to the ACE questionnaire at intake were related to the number of sessions attended during follow-up, a series of logistic hierarchical regression procedures were computed in order to identify whether these were independent additive effects or overlapping ones. Toward this end, number of sessions attended during follow up was entered as the dependent variable with two successive steps of ACE variables entered as independent predictor variables. In table 7.1 below, at the first step baseline ACE Protective Score was entered into the regression model, which was calculated based on responses to the three questions regarding the first 18 years of life (i.e. was there someone you felt was available to (i) make you feel protected; (ii) special and (iii) loved).

Table 7.1 shows that after entering ACE Protective Scores, the resulting r-squared was .15, with a resulting F-value of 7.08, df=1,40, p =.02. Table 7.1 also shows that, at the second

Commented [JD6]: I am less familiar with linear regression, but modeled these results sections after the template you provided during our last meeting. Is there any additional information that needs to be included?

step, ACE total score was added, and r-squared increased slightly to .18, a non-significant increase, F-change = 1.31, NS. At the second step, only the beta value for Protective Scores (-.30) is trending while ACEs (beta .19) are non-significant. The reduced beta value for Protective Scores at the 2nd step (-.30) compared to the first step (-.39) may be attributed to the multicollinearity of these two ACE-questionnaire derived scores. Furthermore, high ACEs implies low Protective Scores. This model, therefore, demonstrates that Protective Scores alone are sufficient in explaining attendance rates during GABI follow up. These results suggest that families attending a greater number of GABI sessions were more likely to endorse childhood adversities, with parents with lower protective scores demonstrating greater rates of attendance.

********** INSERT TABLE 7.1 ABOUT HERE **********

Hierarchical Linear Regression between Attendance Rates and SCL-90

Since a number of maternal psychopathology variables, as measured using the SCL-90 at baseline and end of treatment, were related to the number of sessions attended during follow-up, a series of hierarchical linear regression procedures were conducted in order to determine whether or not SCL-90 factors (end of treatment) had independent additive effects or overlapping ones with attendance rates during GABI follow-up period. Table 7.2 demonstrates that after entering Mother Anxiety, the resulting R-Squared was .20, with an F-value of 9.52, df=1,39, $p<.01$. Table 7.2 also shows that at the second step, Mother Global Severity was added, and r-squared increased slightly to .21, a non-significant increase, F-Change=.49, NS. At the second step, the beta value for Mother Anxiety (.78) and Mother Global Severity (-.36) are non-significant. Furthermore, mothers who endorsed higher rates of anxiety might also demonstrate higher overall symptomatology. The model shows that anxiety, measured at end of treatment, was sufficient in explaining attendance rates throughout GABI follow-up period. These results

suggest that parents who participated in a greater number of GABI sessions, demonstrated greater rate of maternal anxiety.

********** INSERT TABLE 7.2 ABOUT HERE **********

Discussion

Increased emphasis has been given to engagement in psychotherapies in order to better implement community-based treatments and to address complex patient needs (Haine-Schlagel & Walsh, 2015). However, in my extensive literature review, few studies discussed treatment engagement in parent-child psychotherapies, particularly for families with significant trauma histories. This study aimed to further understand and identify factors that promoted parents and their children to receive proper mental health services, expanding on previous literature, which largely focused on treatment engagement in adult psychotherapies. Factors associated with attendance and impact of treatment dosage which was identified in prior literature has failed to address unique characteristics inherent within early intervention settings.

Research suggests that infants and toddlers are particularly vulnerable due to reliance on their parent's for support, as they are unable to engage in essential psychiatrist treatments without parental involvement (Kazdin, 1996). Therefore, it is important to understand factors which relate to increased parental engagement to better promote the needs of parents and their children. While studies have shown decreased retention in parents endorsing multiple risk factors, such as maternal psychopathology and lack of social support (Ofonedu et. al., 2017; Harrison, McKay & Bannon, 2004), there is some evidence to suggest that participation in multi-family psychotherapies can improve attendance rates in urban populations with multiple barriers to accessing care (McKay, Harrison, Gonzales, Kim & Quintana, 2002). Parents endorsing

greater social isolation and limited support within their communities might be more inclined to participate in multi-family interventions which elicit increased connectedness and assist in building an internal support network. Furthermore, trauma-informed interventions which emphasize challenges in the parent-child relationship might enhance engagement in at-risk families (Weiner, Scheider & Lyons, 2009).

This study first aimed to examine attendance rates in families participating in the Randomized Controlled Trial (RCT) for the Group Attachment Based Intervention (GABI) and to assess potential differences in engagement for families randomized to GABI or the treatment as usual condition, Systematic Training for Effective Parenting (STEP). Attendance rates differed amongst the treatment groups, with 50 percent of families randomized to GABI completing treatment whereas 61 percent of families completed STEP treatment. Differences might be understood in the context of demands placed on families participating in GABI. While STEP families participated in a great percentage of sessions within the designated treatment period (3-months), families assigned to GABI participated in a greater number of total treatment sessions during 6-month treatment period, receiving a higher overall dosage of intervention, and participated in additional sessions throughout follow-up period. Families participating in GABI were offered opportunities to attend 3 times per week, but were not required to meet attendance requirements, which allowed for flexibility in engaging families with multiple barriers to accessing care (Steele et. al., 2019). In addition, as parents had access to text clinicians 24/7, families were able to maintain communication with GABI team, leading to greater continuity between sessions. These results suggest that families randomized to the GABI treatment condition attended as much as needed, with some families attending more and some families attending less treatment sessions throughout the 6-month treatment period. Families with greater

need benefited more from increased treatment sessions and were also more likely to participate in GABI sessions throughout the follow-up period, suggesting that families with multiple challenges benefited from additional services and were better retained.

Furthermore, this study attempted to assess factors associated with treatment retention for families participating in GABI and STEP. The second aim was to determine whether increased risk factors attributed to treatment engagement and whether GABI families were more likely to attend, despite demonstrated risk factors. This hypothesis was supported as higher risk families assigned to GABI treatment condition were more likely to attend treatment than families endorsing lower risk. Parents reporting greater Adverse Childhood Experiences (ACE) and lesser ACE protective scores, demonstrated greater rates of attendance during GABI follow-up. However, ACE scores were not found to be related to attendance rates in STEP, suggesting that trauma-informed interventions might be more successful in engaging parents with adverse histories. Similarly, mothers with greater rates of anxiety, and overall severity of mental health symptoms (SCL-90), attended more GABI sessions than mothers who indicated lower rates of symptomatology, while there was no association between SCL-90 scores and attendance in STEP. These findings illustrate that GABI might be more appropriate for mothers with more acute symptom presentations. In addition, parents demonstrating lower self-esteem support (ISEL-90) attended more GABI sessions during treatment and follow-up period, suggesting that more isolated and less supported mothers might be motivated to engage in a treatment which allows for mutual support within a group context. These results were not represented in families participating in STEP, suggesting that GABI might be more equipped at managing families with greater social isolation and higher overall risk factors.

Finally, this study aimed to assess the relationships between parent-child interactions and attendance rates in families participating in GABI and STEP. This hypothesis was supported as families with more problematic parent-child relationships at baseline and end of treatment attended a greater number of GABI sessions. For example, parents who demonstrated lower rates of supportive presence (CIB) attended a greater number of sessions on average, suggesting that GABI might be more successful in engaging families experiencing greater challenges in parent-child interactions. These results were not consistent in families participating in STEP, a treatment focused on presenting didactic parenting skills. As GABI incorporates parent-child sessions, in which clinicians support interactions between caregivers and their children, parents with greater difficulties within their relationship might be more motivated to attend. In addition, families who attended a greater rate of GABI sessions demonstrated significant improvements in parent-child relationship when compared to families participating in STEP. These results can be understood in the context of GABI's focus on improving quality of parent-child relationships.

Clinical Implications

The findings of the present study have significant clinical implications. In order to retain high-risk families and facilitate attendance in early-intervention programs that focus on the care of parents and their children, we must first understand barriers or risk factors that may prevent parents from seeking the care that both them and their children need. Furthermore, determining factors associated with treatment retention will allow for clinicians to better understand circumstances in which at-risk families are able to be engaged in treatment. Maintaining structure and establishing a consistent treatment frame, without imposing requirements to attend, might lead to greater engagement in families with multiple barriers to accessing care and assist in strengthening the therapeutic relationship. These findings might also assist in determining

appropriate referrals to GABI, which appears to benefit mothers with higher mental health symptomatology, more traumatic exposures, and limited social support. In addition, parents endorsing challenges in their relationships with their children might also benefit from GABI and remain engaged in treatment as GABI focuses on strengthening parent-child interactions.

Limitations and Future Directions

This study has several limitations. The primary limitation of this study is the small sample size (n=174), which limits the statistical power of the analyses performed. However, statistically significant results were obtained within this sample, which supported the hypotheses presented. Due to limited sample size, it was not possible to complete analyses comparing high attenders versus low attenders at baseline and end of treatment. Additional research is needed to determine whether treatment dosage has significant implications on changes in parent-child interactions within the designated treatment period.

In addition, this sample might not be representative of the general population as participants recruited for the Randomized Controlled Trial (RCT) were limited to vulnerable families within the New York City area. The sample consisted of low income (67% unemployed), minority (48% Hispanic/Latino, 27% Black/African American) parents and their children (0-3) who were referred to treatment due to concerns for maltreatment. Parents also endorsed significantly higher rates of aversity, with 72% of mothers endorsing 4 or more ACEs, in comparison to the general population (10%), which suggests that these results might not be applicable to low risk, normative samples.

Another limitation is that in evaluating attendance rates for families randomized to GABI and STEP treatment conditions, it was challenging to compare these groups as GABI sessions

were offered three times per week across a 6-month treatment period and STEP sessions were offered one time per week across a 3-month treatment period. In future research, it might be helpful to compare retention rates amongst more comparable groups, with similar offerings across interventions. Furthermore, there was limited information available regarding families who dropped out prior to baseline assessments. Therefore, it is difficult to know what factors might have contributed to limited engagement in treatment.

Future studies might also aim to further assess parental attitudes toward treatment at intake in order to address potential barriers to engagement. Understanding parental hesitations and concerns regarding treatment might assist in strengthening alliance and identifying parents at greater risk for drop out. Administering a brief interview with parents during initial intake appointment might allow for increased insight into attitudes toward mental health treatment. In addition, additional studies might assess potential impact of referral source on treatment retention as differing attitudes toward treatment might coincide with referral source (i.e. self-referred, court-mandated).

Conclusion

Results from the present study indicated that families with higher risk factors were retained at higher rates in the Group Attachment Based Intervention (GABI) in comparison to treatment as usual condition, Systematic Training for Effective Parenting (STEP). Specifically, parents who endorsed higher rates of maternal symptomatology, limited social support, and greater rates of childhood adversity, attended more GABI treatment and follow-up sessions. However, these findings were not observed in the STEP treatment condition, suggesting that GABI might be more effective in treating families with greater identified risk factors. In addition, families with more problematic parent-child interactions at baseline and end of

treatment attended more GABI sessions during 6-month treatment and follow-up periods. Alternatively, parent-child interactions were not related to attendance rates in STEP.

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Appendix A. Coding Interactive Behavior (CIB) System

Parent Codes

1. Forcing_____
2. Overriding_____
3. Acknowledging_____
4. Imitating_____
5. Elaborating_____
6. Parent Gaze/Joint Attention_____
7. Positive Affect_____
8. Parent Depressed Mood_____
9. Parent Negative Affect / Anger_____
10. Hostility _____
11. Vocal Appropriateness, Clarity _____
12. Parent Anxiety _____
13. Appropriate Range of Affect _____
14. Consistency of Style _____
15. Resourcefulness_____
16. On-Task Persistence _____
17. Appropriate Structure / Limit-Setting _____
18. Praising_____
19. Criticizing_____
20. Affectionate Touch_____
21. Enthusiasm_____
22. Supportive Presence_____

Child Codes

23. Child Gaze / Joint Attention_____
24. Positive Affect_____
25. Negative Emotionality/Fussy _____
26. Withdrawal_____
27. Emotional Lability_____
28. Child Affection to Parent_____
29. Alert_____
30. Fatigue_____
31. Child Vocalization / Verbal Output _____
32. Child Initiation_____
33. Child Compliance to Parent_____
34. Child Reliance on Parent for Help _____
35. On-Task Persistence _____
36. Child Avoidance of Parent _____
37. Competent Use of Environment_____

38. Creative-Symbolic Play_____

Dyadic Codes

39. Dyadic Reciprocity_____
40. Adaptation-Regulation_____
41. Fluency_____
42. Constriction_____
43. Tension_____

Lead-Lag Relationship

44. Parent-Led Interaction_____
45. Child-Led Interaction_____

Clinical Codes

Parent Codes

46. Dissociation_____
47. Ignoring Child Codes_____

Child Codes

48. Simultaneous Display of Contradictory Behaviors_____
49. Fear Dyadic Codes_____

Dyadic Codes

50. Role Reversal_____

Appendix B. Adverse Childhood Experiences Questionnaire (Adult Version)

Name_____

Date_____

Child- Adverse Childhood Experiences Study Questionnaires

(CH-ACE)

(short version adapted from web site of United States Centers for Disease Control and Prevention (CDC) at http://www.cdc.gov/nccdphp/ace/)

(Murphy, A, personal communication Shanta Dube, 2007)

1.) Sometimes parents or adults hurt children. While you were growing up, that is during your first 18 years of life, how often did a parent, step-parent or other adult in your home swear at you, insult you or put you down?

Never once, twice sometimes often very often

2.) While you were growing up, that is during your first 18 years of life, how often did a parent, step-parent or other adult in your home act in a way that made you afraid that you might be physically hurt?

Never once, twice sometimes often very often

3.) While you were growing up, that is during your first 18 years of life, how often did a parent, step-parent or other adult in your home actually push, grab, shove, slap or throw something at you?

Never once, twice sometimes often very often

4.) While you were growing up, that is during your first 18 years of life, how often did a parent, step-parent or other adult in your home hit you so hard that you had marks or were injured?

Never once, twice sometimes often very often

5.) Some people, while growing up in their first 18 years of life, had a sexual experience with an adult or someone at least five years older than themselves. These experiences may have involved a relative, family friend, or stranger. During the first 18 years of life, did an adult or older relative, family friend, or stranger ever touch or fondle your body in a sexual way?

Yes No

6.) Have you touch their body in a sexual way?

Yes No

7.) Actually have any type of sexual intercourse (oral, anal, vaginal) with you?

Yes No

(skip Question 8, if answered "Yes" to question 7)

8.) Attempt to have any type of sexual intercourse (oral, anal, vaginal) with you?

Yes No

9.) During your first 18 years of life did you ever live with anyone who was a problem drinker or alcoholic?

Yes No

And who was that? _____

10.) During your first 18 years of life did you ever live with anyone who used street drugs?

Yes No

And who was that? _____

11.) During your first 18 years of life was anyone in your household depressed or mentally ill?

Yes No

And who was that? _____

12.) During your first 18 years of life did anyone in your household attempt to commit suicide?

Yes No

And who was that? _____

13.) Sometimes physical blows occur between parents. While you were growing up in your first 18 years of life, how often did your father (or stepfather) or mother's boyfriend do any of these things to your mother (or stepmother)? Push, grab, slap or throw things at her?

Never once, twice sometimes often very often

14.) Kick, bite, hit her with a fist, or hit her with something hard?

Never once, twice sometimes often very often

15.) Repeatedly hit her for over at least a few minutes?

Never once, twice sometimes often very often

16.) Threaten her with a knife or gun, or use a knife or gun to hurt her?

Never once, twice sometimes often very often

17.) During your first 18 years of life did anyone in your household ever go to prison?

Never once, twice sometimes often very often

And who was that? _____

18.) During your first 18 years of life were your parents ever separated or divorced?

Yes No

19.) While you were growing up, during your first 18 years od life, how true were each of the following statements? You did't have enough to eat.

Never once, twice sometimes often very often

20.) You had to wear dirty clothes.

Never once, twice sometimes often very often

21.) There was someone to take you to the doctor if you needed it.

Never once, twice sometimes often very often

22.) Your parents were too drunk or high to take care of the family.

Never once, twice sometimes often very often

23.) You knew there was someone to take care of you and protect you.

Never once, twice sometimes often very often

24.) There was someone in your family who helped you feel special or important.

Never once, twice sometimes often very often

And who was that? _____

25.) You felt loved.

Never once, twice sometimes often very often

And who was that? _____

Appendix C. Adverse Childhood Experiences Questionnaire Child Version

Child- Adverse Childhood Experiences Study Questionnaires (CH-ACE) (used at Motefiore) (Murphy, A, personal communication Shanta Dube, 2007)

1.) Sometimes parents or adults hurt children. SINCE YOUR CHILD WAS BORN how often has a parent, step-parent or other adult in your home sworn at, insulted or put your child down?

Never once, twice sometimes often very often

2.) SINCE YOUR CHILD WAS BORN how often has a parent, step-parent or other adult in your home acted in a way that made your child afraid that s/he might be physically hurt?

Never once, twice sometimes often very often

3.) SINCE YOUR CHILD WAS BORN how often has a parent, step-parent or other adult in your home actually pushed, grabbed, shoved, slapped or thrown something at your child?

Never once, twice sometimes often very often

4.) SINCE YOUR CHILD WAS BORN how often has a parent, step-parent or other adult in your home hit your child so hard that s/he had marks or was injured?

Never once, twice sometimes often very often

5.) SINCE YOUR CHILD WAS BORN did an adult or older relative, family friend, or stranger ever touch or fondle your child's body in a sexual way?

Yes No

6.) SINCE YOUR CHILD WAS BORN did anyone have your child touch their body in a sexual way?

Yes No

8.) SINCE YOUR CHILD WAS BORN did anyone have any type of sexual intercourse (oral, anal, vaginal) with him/her?

Yes No

7.) SINCE YOUR CHILD WAS BORN did anyone attempt to have any type of sexual intercourse (oral, anal, vaginal) with him/her?

Yes No

7.) SINCE YOUR CHILD WAS BORN did anyone attempt to have any type of sexual intercourse (oral, anal, vaginal) with him/her?

Yes No

9.) SINCE YOUR CHILD WAS BORN has s/he living with anyone who is a problem drinker or alcoholic?

Yes No

And who was that?

10.) SINCE YOUR CHILD WAS BORN has s/he living with anyone who uses street drugs?

Yes No

And who was that?

11.) SINCE YOUR CHILD WAS BORN was anyone in your household depressed or mentally ill?

Yes No

12.) SINCE YOUR CHILD WAS BORN did anyone in your household attempt to commit suicide?

Yes No

13.) Sometimes physical blows occur between parents or other adults in the household. SINCE YOUR CHILD WAS BORN how often did an adult in the household push, grab, slap or throw things at another adult in the household?

Never once, twice sometimes often very often

14.) SINCE YOUR CHILD WAS BORN how often did a parent or adult in the household kick, bite, or hit another adult in the household with a fist, or with something hard?

Never once, twice sometimes often very often

15.) SINCE YOUR CHILD WAS BORN how often did a parent or other adult in the household repeatedly hit another adult in the household for over at least a few minutes?

Never once, twice sometimes often very often

16.) SINCE YOUR CHILD WAS BORN did a parent or adult in the household threaten another adult in the household with a knife or gun, or use a knife or gun to hurt someone?

Never once, twice sometimes often very often

17.) SINCE YOUR CHILD WAS BORN did anyone in the household go to prison?

Never once, twice sometimes often very often

Never once, twice sometimes often very often

18.) SINCE YOUR CHILD WAS BORN were you and (the other parent) separated or divorced?

Yes No

19.) SINCE YOUR CHILD WAS BORN how often has he/she

not had enough to eat.

Never once, twice sometimes often very often

20.) SINCE YOUR CHILD WAS BORN how often has s/he had

to wear dirty clothes.

Never once, twice sometimes often very often

21.) SINCE YOUR CHILD WAS BORN how often was there no one to take him/her to the doctor if needed.

Never once, twice sometimes often very often

22.) SINCE YOUR CHILD WAS BORN how often was a parent or household member too drunk or high to take care of the family.

Never once, twice sometimes often very often

23.) SINCE YOUR CHILD WAS BORN how often has there been someone to take care of and protect your child.

Never once, twice sometimes often very often

24.) SINCE YOUR CHILD WAS BORN how often has there been

someone who helped him/her feel special or important.

Never once, twice sometimes often very often

25.) SINCE YOUR CHILD WAS BORN how often do you believe s/he has felt loved?

Never once, twice sometimes often very often

Appendix D. The Symptom Checklist-90-R (SCL-90-R)

The Symptom Checklist-90-Revised (SCL-90)

The SCL-90-R test consists of a list of problems people sometimes have. Read each one carefully and circle the number of response that best describes how much that problem has distressed or bothered you during the past 7 days including today. Circle only one number for each problem (0 1 2 3 4). Do not skip any items. If you change your mind, draw an X through your original answer and then circle your new answer.

How much were you distressed by:

1. Headaches	0 1 2 3 4
2. Nervousness or shakiness inside	0 1 2 3 4
3. Repeated unpleasant thoughts that won't leave your mind	0 1 2 3 4
4. Faintness or dizziness	0 1 2 3 4
5. Loss of sexual interest of pleasure	0 1 2 3 4
6. Feeling critical of others	0 1 2 3 4
7. The idea that someone else can control your thoughts	0 1 2 3 4
8. Feeling others are to blame for most of your troubles	0 1 2 3 4
9. Trouble remembering things	0 1 2 3 4
10. Worried about sloppiness or carelessness	0 1 2 3 4
11. Feeling easily annoyed or irritated	0 1 2 3 4
12. Pains in heart or chest	0 1 2 3 4
13. Feeling afraid in open spaces or on the streets	0 1 2 3 4
14. Feeling low in energy or slowed down	0 1 2 3 4
15. Thoughts of ending your life	0 1 2 3 4
16. Hearing voices that other people do not hear	0 1 2 3 4
17. Trembling	0 1 2 3 4
18. Feeling that most people cannot be trusted	0 1 2 3 4
20. Crying easily	0 1 2 3 4
21. Feeling shy or uneasy with the opposite sex	0 1 2 3 4
22. Feelings of being trapped or caught	0 1 2 3 4
23. Suddenly scared for no reason	0 1 2 3 4
24. Temper outbursts that you could not control	0 1 2 3 4
25. Feeling afraid to go out of your house alone	0 1 2 3 4
26. Blaming yourself for things	0 1 2 3 4
27. Pains in lower back	0 1 2 3 4
28. Feeling blocked in getting things done	0 1 2 3 4
29. Feeling lonely	0 1 2 3 4
30. Feeling blue	0 1 2 3 4
31. Worrying too much about things	0 1 2 3 4
32. Feeling no interest in things	0 1 2 3 4
33. Feeling fearful	0 1 2 3 4
34. Your feelings being easily hurt	0 1 2 3 4

35. Other people being aware of your private thoughts	0 1 2 3 4
36. Feeling others do not understand you or are unsympathetic	0 1 2 3 4
37. Feeling that people are unfriendly or dislike you	0 1 2 3 4
38. Having to do things very slowly to insure correctness	0 1 2 3 4
39. Heart pounding or racing	0 1 2 3 4
40. Nausea or upset stomach	0 1 2 3 4
41. Feeling inferior to others	0 1 2 3 4
42. Soreness of your muscles	0 1 2 3 4
43. Feeling that you are watched or talked about by others	0 1 2 3 4
44. Trouble falling asleep	0 1 2 3 4
45. Having to check and double-check what you do	0 1 2 3 4
46. Difficulty making decisions	0 1 2 3 4
47. Feeling afraid to travel on buses, subways, or trains	0 1 2 3 4
48. Trouble getting your breath	0 1 2 3 4
49. Hot or cold spells	0 1 2 3 4
50. Having to avoid certain things, places, or activities because they frighten you	0 1 2 3 4
51. Your mind going blank	0 1 2 3 4
52. Numbness or tingling in parts of your body	0 1 2 3 4
53. A lump in your throat	0 1 2 3 4
54. Feeling hopeless about the future	0 1 2 3 4
55. Trouble concentrating	0 1 2 3 4
56. Feeling weak in parts of your body	0 1 2 3 4
57. Feeling tense or keyed up	0 1 2 3 4
58. Heavy feelings in your arms or legs	0 1 2 3 4
59. Thoughts of death or dying	0 1 2 3 4
60. Overeating	0 1 2 3 4
61. Feeling uneasy when people are watching or talking about you	0 1 2 3 4
62. Having thoughts that are not your own	0 1 2 3 4
63. Having urges to beat, injure, or harm someone	0 1 2 3 4
64. Awakening in the early morning	0 1 2 3 4
65. Having to repeat the same actions such as touching, counting, or washing	0 1 2 3 4
66.Sleep that is restless or disturbed	0 1 2 3 4
67. Having urges to break or smash things	0 1 2 3 4
68. Having ideas or beliefs that others do not share	0 1 2 3 4
69. Feeling very self-conscious with others	0 1 2 3 4
70. Feeling uneasy in crowds, such as shopping or at a movie	0 1 2 3 4
71. Feeling everything is an effort	0 1 2 3 4
72. Spells of terror or panic	0 1 2 3 4
73. Feeling uncomfortable about eating or drinking in public	0 1 2 3 4
74. Getting into frequent arguments	0 1 2 3 4
75. Feeling nervous when you are left alone	0 1 2 3 4
76. Others not giving you proper credit for your achievements	0 1 2 3 4
77. Feeling lonely even when you are with people	0 1 2 3 4

78. Feeling so restless you couldn't sit still	0 1 2 3 4
79. Feelings of worthlessness	0 1 2 3 4
80. The feeling that something bad is going to happen	0 1 2 3 4
81. Shouting or throwing things	0 1 2 3 4
82. Feeling afraid you will faint in public	0 1 2 3 4
83. Feeling that people will take advantage or you if you let them	0 1 2 3 4
84. Having thoughts about sex that bother you a lot	0 1 2 3 4
85. The idea that you should be punished for your sins	0 1 2 3 4
86. Thoughts and images of a frightening nature	0 1 2 3 4
87. The idea that something serious is wrong with your body	0 1 2 3 4
88. Never feeling close to another person	0 1 2 3 4
89. Feelings of guilt	0 1 2 3 4
90. The idea that something is wrong with your mind	0 1 2 3 4

Appendix E. The Interpersonal Support Evaluation List (ISEL)

Interpersonal Support Evaluation List (ISEL) -- General Population

This scale is made up of a list of statements each of which may or may not be true about you. For each statement check “definitely true” if you are sure it is true about you and “probably true” if you think it is true but are not absolutely certain. Similarly, you should check “definitely false” if you are sure the statement is false and “probably false” is you think it is false but are not absolutely certain.

1. There are several people that I trust to help solve my problems.
____definitely true (3) ____definitely false (0)
____probably true (2) ____probably false (1)

2. If I needed help fixing an appliance or repairing my car, there is someone who would help me.
____definitely true (3) ____definitely false (0)
____probably true (2) ____probably false (1)

3. Most of my friends are more interesting than I am.
____definitely true (3) ____definitely false (0)
____probably true (2) ____probably false (1)

4. There is someone who takes pride in my accomplishments.
____definitely true (3) ____definitely false (0)
____probably true (2) ____probably false (1)

5. When I feel lonely, there are several people I can talk to.
____definitely true (3) ____definitely false (0)
____probably true (2) ____probably false (1)

6. There is no one that I feel comfortable to talking about intimate personal problems.
____definitely true (3) ____definitely false (0)
____probably true (2) ____probably false (1)

7. I often meet or talk with family or friends.
____definitely true (3) ____definitely false (0)
____probably true (2) ____probably false (1)

8. Most people I know think highly of me.
____definitely true (3) ____definitely false (0)
____probably true (2) ____probably false (1)

9. If I needed a ride to the airport very early in the morning, I would have a hard time finding someone to take me.
____definitely true (3) ____definitely false (0)
____probably true (2) ____probably false (1)

10. I feel like I'm not always included by my circle of friends.
____definitely true (3) ____definitely false (0)
____probably true (2) ____probably false (1)

11. There really is no one who can give me an objective view of how I'm handling my problems.
____definitely true (3) ____definitely false (0)
____probably true (2) ____probably false (1)

12. There are several different people I enjoy spending time with.
____definitely true (3) ____definitely false (0)
____probably true (2) ____probably false (1)

13. I think that my friends feel that I'm not very good at helping them solve their problems.
____definitely true (3) ____definitely false (0)
____probably true (2) ____probably false (1)

14. If I were sick and needed someone (friend, family member, or acquaintance) to take me to the doctor, I would have trouble finding someone.
____definitely true (3) ____definitely false (0)
____probably true (2) ____probably false (1)

15. If I wanted to go on a trip for a day (e.g., to the mountains, beach, or country), I would have a hard time finding someone to go with me.
____definitely true (3) ____definitely false (0)
____probably true (2) ____probably false (1)

16. If I needed a place to stay for a week because of an emergency (for example, water or electricity out in my apartment or house), I could easily find someone who would put me up.
____definitely true (3) ____definitely false (0)
____probably true (2) ____probably false (1)

17. I feel that there is no one I can share my most private worries and fears with.
____definitely true (3) ____definitely false (0)
____probably true (2) ____probably false (1)

18. If I were sick, I could easily find someone to help me with my daily chores.
____definitely true (3) ____definitely false (0)
____probably true (2) ____probably false (1)

19. There is someone I can turn to for advice about handling problems with my family.
____definitely true (3) ____definitely false (0)
____probably true (2) ____probably false (1)

20. I am as good at doing things as most other people are.
____definitely true (3) ____definitely false (0)
____probably true (2) ____probably false (1)

21. If I decide one afternoon that I would like to go to a movie that evening, I could easily find someone to go with me.
____definitely true (3) ____definitely false (0)
____probably true (2) ____probably false (1)

22. When I need suggestions on how to deal with a personal problem, I know someone I can turn to.
____definitely true (3) ____definitely false (0)
____probably true (2) ____probably false (1)

23. If I needed an emergency loan of $100, there is someone (friend, relative, or acquaintance) I could get it from.
____definitely true (3) ____definitely false (0)
____probably true (2) ____probably false (1)

24. In general, people do not have much confidence in me.
____definitely true (3) ____definitely false (0)
____probably true (2) ____probably false (1)

25. Most people I know do not enjoy the same things that I do.
____definitely true (3) ____definitely false (0)
____probably true (2) ____probably false (1)

26. There is someone I could turn to for advice about making career plans or changing my job.
____definitely true (3) ____definitely false (0)
____probably true (2) ____probably false (1)

27. I don't often get invited to do things with others.
____definitely true (3) ____definitely false (0)

____probably true (2) ____probably false (1)

28. Most of my friends are more successful at making changes in their lives than I am.
____definitely true (3) ____definitely false (0)
____probably true (2) ____probably false (1)

29. If I had to go out of town for a few weeks, it would be difficult to find someone who would look after my house or apartment (the plants, pets, garden, etc.).
____definitely true (3) ____definitely false (0)
____probably true (2) ____probably false (1)

30. There really is no one I can trust to give me good financial advice.
____definitely true (3) ____definitely false (0)
____probably true (2) ____probably false (1)

31. If I wanted to have lunch with someone, I could easily find someone to join me.
____definitely true (3) ____definitely false (0)
____probably true (2) ____probably false (1)

32. I am more satisfied with my life than most people are with theirs.
____definitely true (3) ____definitely false (0)
____probably true (2) ____probably false (1)

33. If I was stranded 10 miles from home, there is someone I could call who would come and get me.
____definitely true (3) ____definitely false (0)
____probably true (2) ____probably false (1)

34. No one I know would throw a birthday party for me.
____definitely true (3) ____definitely false (0)
____probably true (2) ____probably false (1)

35. It would me difficult to find someone who would lend me their car for a few hours.
____definitely true (3) ____definitely false (0)
____probably true (2) ____probably false (1)

36. If a family crisis arose, it would be difficult to find someone who could give me good advice about how to handle it.
____definitely true (3) ____definitely false (0)
____probably true (2) ____probably false (1)

37. I am closer to my friends than most other people are to theirs.
____definitely true (3) ____definitely false (0)
____probably true (2) ____probably false (1)

38. There is at least one person I know whose advice I really trust.
____definitely true (3) ____definitely false (0)
____probably true (2) ____probably false (1)

39. If I needed some help in moving to a new house or apartment, I would have a hard time finding someone to help me.
____definitely true (3) ____definitely false (0)
____probably true (2) ____probably false (1)

40. I have a hard time keeping pace with my friends.
____definitely true (3) ____definitely false (0)
____probably true (2) ____probably false (1)

Table 1. Frequencies and % for Demographic Information Collected (N=124)

	GABI	STEP
Ethnicity		
Caucasian	6 (6.9%)	5 (8.9%)
Black/African American	18 (24.7%)	17 (30.4%)
Hispanic/Latina	38 (52.1%)	25 (44.6%)
American Indian/Alaska Native	1 (1.4%)	0 (0.0%)
Asian or Asian American	0 (0.0%)	2 (3.6%)
Bi-Racial or Multi-racial	7 (5.5%)	3 (5.4%)
Other	4 (9.6%)	4 (7.1%)
Education		
No High School	5 (6.0%)	6 (9.5%)
Some High School	27 (32.1%)	17 (27%)
High School Diploma/GED	24 (28.6%)	16 (25.4%)
Some College	22 (26.2%)	20 (31.7%)
College Diploma	5 (6.0%)	4 (6.3%)
Advanced Degree	1 (1.2%)	0 (0.0%)
Employment		
Unemployed	47 (67.1%)	34 (66.7%)
Employed	15 (21.4%)	13 (25.5%)
Student	8 (11.4%)	4 (7.8%)
Housing		
Private Apartment/Home	29 (42.0%)	26 (46.4%)

Commented [JD7]: I included each table on a separate page as per our recent conversation. Let me know if this is okay.

Supported Housing	14 (20.3%)	5 (8.9%)
Living with Family/Friend	13 (18.8%)	12 (21.4%)
Shelter/Homeless	11 (15.9)	13 (23.2%)
Foster Care	2 (2.9%)	0 (0.0%)
Lost Custody of Child		
Yes	16 (19.5%)	14 (22.6%)
No	66 (80.5%)	48 (77.4%)
Psychiatrist Hospitalizations		
Yes	13 (16.3%)	6 (10.2%)
No	67 (83.8%)	53 (89.8%)
History of Incarceration		
Yes	9 (11.7%)	6 (10.2%)
No	68 (88.3%)	53 (89.8%)
4 or More ACEs	31(72%)	28 (80%)

Table 2. Mean and Standard Deviations for Attendance Rates

	GABI	STEP
	M (SD)	M (SD)
Treatment Period		
Sessions Attended	8.46 (10.56)	3.90 (3.28)
Percentage Sessions Attended	14.38 (17.33)	33.03 (27.55)
Follow-up Period		
Sessions Attended	10.19 (12.72)	—

Table 3.1 Baseline CIB Scores and Percentage Sessions Attended (Treatment Period)

Group	GABI	STEP
Mother Acknowledging	-.24 (.06)	-.06 (.67)
Mother Positive Affect	.06 (.64)	-.03 (.83)
Mother Depressed Mood	.08 (.52)	-.13 (.38)
Mother Vocal Appropriateness	-.30 (.02)*	-.04 (.76)
Mother Consistency of Style	-.30 (.02)*	-.15 (.29)
Mother Resourcefulness	-.28 (.02)*	-.01 (.99)
Mother Appropriate Structure/Limit Setting	-.31 (.01)*	.07 (.63)
Mother Supportive Presence	-.32 (.01)*	.03 (.87)
Child Vocalization	-.32 (.01)*	-.09 (.55)
Child Competent Use	-.30 (.02)*	-.12 (.43)
Dyadic Reciprocity	-.21 (.09)	.07 (.65)
Dyadic Fluency	-.23 (.06)	-.08 (.60)
Dyadic Constriction	.24 (.06)	.02 (.92)

Note: Italicized items demonstrate trending correlations between CIB and attendance variables

Table 3.2 End of Treatment CIB Scores and Percentage Sessions Attended (Treatment Period)

Group	GABI	STEP
Mother Acknowledging	-.21 (.17)	.07 (.69)
Mother Positive Affect	-.28 (.06)	-.15 (.39)
Mother Depressed Mood	.32 (.04)*	.22 (.21)
Mother Vocal Appropriateness	-.18 (.25)	-.15 (.40)
Mother Consistency of Style	-.13 (.42)	-.05 (.80)
Mother Resourcefulness	-.24 (.13)	-.04 (.82)
Mother Appropriate Structure/Limit Setting	-.17 (.28)	.08 (.67)
Mother Supportive Presence	-.10 (.52)	.02 (.92)
Child Vocalization	-.11 (.48)	-.23 (.19)
Child Competent Use	-.07 (.66)	.05 (.77)
Dyadic Reciprocity	-.16 (.31)	.03 (.85)
Dyadic Fluency	-.12 (.43)	-.05 (.76)
Dyadic Constriction	.18 (.24)	.19 (.28)

Note: Italicized item demonstrates trending correlation between CIB and attendance variables

Table 4.1 Adverse Childhood Experiences (ACE) and Percentage Sessions Attended (Treatment Period)

Group	GABI	STEP
Emotional Abuse	.25 (.04)*	-.13 (.39)
Physical Abuse	.04 (.77)	-.00 (.99)
Sexual Abuse	.03 (.80)	-.15 (.31)
Household Substance Abuse	.22 (.08)	-.10 (.50)
Household Mental Illness	.17 (.19)	-.08 (.61)
Household Domestic Violence	.11 (.38)	-.11 (.46)
Household Incarceration	.10 (.09)	-.04 (.78)
Household Separation/Divorce	-.01 (.91)	-.43 (.01)*
Physical Neglect	.22 (.08)	-.26 (.08)
Emotional Neglect	-.09 (.49)	-.03 (.85)
ACE Total Score	.06 (.58)	-.20 (.14)
ACE Protective Score	.02 (.86)	-.01 (.94)

Note: Italicized items demonstrate trending correlations between ACEs and attendance variables

Table 4.2 Adverse Childhood Experiences (ACE) and Number Sessions Attended (Follow-up Period)

Group	Percentage of Sessions Attended
GABI	
Emotional Abuse	.18 (.26)
Physical Abuse	.14 (.39)
Sexual Abuse	.08 (.64)
Household Substance Abuse	.03 (.84)
Household Mental Illness	.35 (.03)*
Household Domestic Violence	.37 (.02)*
Household Incarceration	.08 (.64)
Household Separation or Divorce	.26 (.11)
Physical Neglect	.10 (.57)
Emotional Neglect	.19 (.25)
ACE Total Score	.33 (.04)*
ACE Protective Score	-.40 (.01)*

Note: STEP families did not attend sessions during follow-up period

Table 5.1 Baseline Symptom Checklist-90-R and Percentage Sessions Attended (Treatment Period)

Group	GABI	STEP
Mother Somatization	.03 (.76)	-.19 (.15)
Mother Obsessive-Compulsive	-.01 (.94)	-.18 (.19)
Mother Interpersonal Sensitivity	.03 (.80)	.01 (.94)
Mother Depression	.11 (.33)	-.02 (.89)
Mother Anxiety	-.15 (.18)	-.15 (.27)
Mother Hostility	.01 (.91)	-.05 (.69)
Mother Phobic Anxiety	-.19 (.09)	-.11 (.43)
Mother Paranoid Ideation	.07 (.53)	-.04 (.76)-
Mother Global Severity Index	-.01 (.93)	-.14 (.31)

Note: Italicized item demonstrates trending correlation between ACEs and attendance variables

Table 5.2 End of Treatment Symptom Checklist-90-R and Number Sessions Attended (Follow-up Period)

Group	Percentage Sessions Attended
GABI	
Mother Somatization	.38 (.02)*
Mother Obsessive-Compulsive	.05 (.78)
Mother Interpersonal Sensitivity	-.15 (.35)
Mother Depression	-.01 (.96)
Mother Anxiety	.44 (<.01)**
Mother Hostility	-.00(.99)
Mother Phobic Anxiety	-.05 (.76)
Mother Paranoid Ideation	-.07 (.66)
Mother Global Severity Index	.40 (.01)*

Note: STEP families did not attend sessions during follow-up period

Table 6.1 Baseline Interpersonal Support Evaluation List (ISEL) and Percentage Sessions Attended (Treatment Period)

Group	GABI	STEP
ISEL Total Score	-.22 (.16)	-.09 (.63)
Mother Appraisal Support	-.07 (.66)	-.04 (.85)
Mother Tangible Support	-.26 (.09)	-.15 (.41)
Mother Self Esteem Support	-.44 (<.01)**	.00 (.99)
Mother Belonging Support	-.09 (.58)	-.13 (.46)

Note: Italicized item demonstrates trending correlation between ISEL and attendance variables

Table 6.2 Baseline Interpersonal Support Evaluation List (ISEL) and Number Sessions Attended (Follow-up Period)

Group	Percentage Sessions Attended
GABI	
ISEL Total Score	-.14 (.40)
Mother Appraisal Support	-.09 (.57)
Mother Tangible Support	-.10 (.55)
Mother Self Esteem Support	-.33 (.04)*
Mother Belonging Support	-.07 (.67)

Note: STEP families did not attend sessions during follow-up period

Table 7.1: Hierarchical Linear Regression with Number of Sessions Attended during follow-up as the dependent, and maternal ACE variables as predictors

	Standardized Beta	t-value	Significance
First Step:			
Baseline ACE Protective Score	-.39	2.66	.01
Second Step:			
Baseline ACE Protective Score	-.30	1.84	.07
Baseline ACE Total Score	.19	1.14	.26

Note: R-squared at 1st step = .15, F-change=7.08, 1,40, p = .02; at 2nd step =.18, F-change=1.31, 1,39, p=.26

Table 7.1: Hierarchical Linear Regression with Number of Sessions Attended during follow-up as the dependent, and end of treatment SCL-90 as predictors

	Standardized Beta	t-value	Significance
First Step:			
End of Treatment SCL-90 Anxiety	.44	3.09	<.01
Second Step:			
End of Treatment SCL-90 Anxiety	.78	1.55	.13
End of Treatment SCL-90 Global Severity	-.36	-.70	.49

Note: R-Squared at 1st step=.20, F-change=9.52, 1,39, p<.01; at 2nd step=.21, F-change=.49, 1, 38, p=.49

FIGURE 1. Randomized Controlled Trial (RCT) Consort Diagram

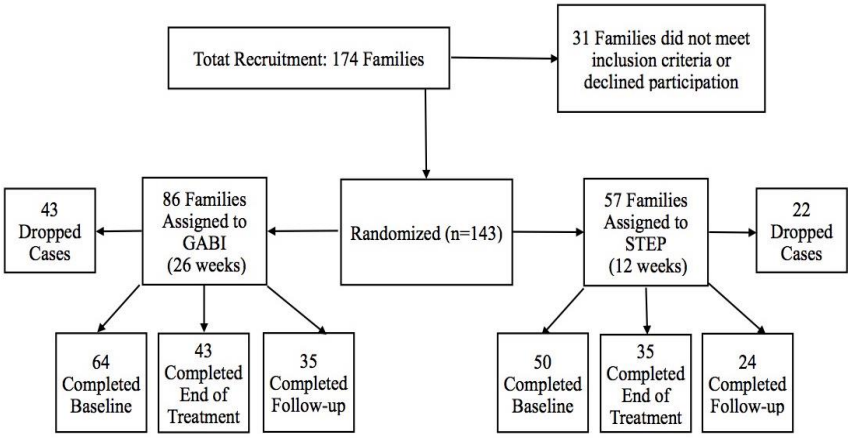

FIGURE 2: Adverse Childhood Experiences (ACEs) - Categories of Childhood Adversity

Abuse by Category

- Emotional
- Physical
- Sexual

Neglect by Category

- Emotional
- Physical

Household Dysfunction by Category

- Mother Treated Violently
- Parental separation or divorce
- Household Mental Illness
- Household Substance Abuse
- Incarcerated Household Member

FIGURE 3: Measures Collected at Baseline and End of Treatment

Measures Collected	GABI		STEP	
	Dropped following baseline	Retained through end of treatment	Dropped following baseline	Retained through end of treatment
Psychosocial Intake	20	41	13	32
Child ACEs	21	43	15	35
Parents ACEs	21	43	15	35
ASQ-SE-2	21	43	15	35
SCL-90-R	21	42	14	34
Stressors Checklist	18	39	9	32
ISEL	21	43	15	35
CIB	21	43	15	35