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EARLY TERMINATION AND BARRIERS TO TREATMENT
IN PARENT AND CHILD THERAPY

by

Brittany L. Gresl, M.A.

A Dissertation submitted to the Faculty of the Graduate School,
Marquette University,
in Partial Fulfillment of the Requirements for
the Degree of Doctor of Philosophy

Milwaukee, Wisconsin

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ABSTRACT
EARLY TERMINATION AND BARRIERS TO TREATMENT
IN PARENT AND CHILD THERAPY

Brittany L. Gresl, M.A.

Marquette University, 2014

Young children typically experience challenging behaviors. However, 10-15% of young children experience clinical behaviors that can impact the child's typical development. These challenging behaviors are even more common in children from low-income, urban settings. If left untreated, such challenging behaviors may lead to more severe behaviors including aggression, violence, and anti-social behaviors. Research has demonstrated that participation in parent and child therapy (PCT) programs significantly reduces problematic child behaviors while increasing positive behaviors in both the child and the parent. However, PCT programs report rates of early termination as high as 70%. Research to reduce these early termination rates has historically focused on barriers to treatment including logistical conflicts, race, socioeconomic status, child age, and symptom severity. Despite attempts to address these variables and reduce early termination rates, progress has been slow in advancing the research in this area. In addition, few measures have been designed that are available to accurately assess how barriers to treatment impact treatment attendance and participation, particularly for families of young children living in poverty. The purpose of this study was to develop and pilot a clinician-report screening tool, the Treatment Barriers Scale (TBS), to assess barriers to treatment participation in primarily low-income, urban minority families receiving home-based therapy for their young child's challenging behaviors. Data from 330 families referred to a mental health clinic for behavior problems were analyzed to identify the utility of this new tool in screening treatment barriers in this population. The resulting 17-item scale consisted of two factors, labeled Treatment Process Barriers and the Operational Barriers. Each factor demonstrated acceptable levels of internal consistency (.82 and .80, respectively). Results indicated that children with more severe challenging behaviors and African American children had higher TBS scores, while children with an identified developmental delay had lower TBS scores than typically developing children. Moreover, children with more severe challenging behavior at pretest were more likely to be appropriate treatment terminators. Alternately, families with higher TBS scores were more likely to drop out of treatment prematurely. Limitations of the study and implications for future research and practice for similar programs were discussed.

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TABLE OF CONTENTS

ACKNOWLEDGEMENTS.....	i
LIST OF TABLES.....	vii
FIGURE.....	viii
CHAPTER	
I. INTRODUCTION.....	1
a. Background Context.....	1
b. Statement of the Problem.....	3
c. Purpose of the Study.....	4
d. Significance of the Study.....	5
e. Research Questions.....	6
II. REVIEW OF THE LITERATURE.....	7
a. Early Termination and Barriers to Treatment.....	7
i. Early Termination in Psychotherapy.....	7
1. Defining Early Termination.....	9
ii. Early Termination from PCT Programs.....	16
iii. Parent Child Interaction Therapy (PCIT).....	16
1. PCIT Overview.....	16
2. PCIT Outcomes Research.....	17
3. Early Termination in PCIT.....	20
iv. Incredible Years Parent Training Program (IY-PT).....	22
1. IY-PT Overview.....	22
2. IY-PT Outcomes Research.....	23
3. Early Termination in IY-PT.....	25

v.	Triple P- Positive Parenting Program (Triple P).....	26
1.	Triple P Overview.....	26
2.	Triple P Outcomes Research.....	27
3.	Early Termination in Triple P.....	28
vi.	Parenting Young Children Program (PYC).....	29
1.	PYC Overview.....	29
2.	PYC Outcomes Research.....	30
3.	Early Termination in PYC.....	31
vii.	Summary of Early Termination from PCT Programs.....	34
1.	Limitations.....	35
b.	Contributing Factors to Early Termination: Barriers to Treatment.....	38
i.	Ecological Systems Theory.....	38
1.	Individual Factors.....	39
2.	Microsystem.....	41
3.	Mesosystem.....	42
4.	Exosystem.....	43
5.	Macrosystem.....	44
ii.	Parent, Child, and Family Characteristics.....	45
iii.	Barriers-to-Treatment Model.....	48
1.	Stressors and Obstacles that Compete with Treatment.....	49
2.	Treatment Demands and Issues.....	50
3.	Perceived Relevance of Treatment.....	50
4.	Relationship with the Therapist.....	51
iv.	Barriers-to-Treatment Research.....	52

v. Summary of Contributing Factors.....	55
1. Limitations.....	56
c. Evaluation Methods.....	58
i. Measuring Barriers to Treatment.....	58
1. Characteristics of Accurate Screening Measures.....	58
d. Current Measures to Assess Barriers to Treatment.....	61
i. Barriers to Treatment Participation Scale (BTPS).....	61
1. General Description.....	61
2. Scales and Scoring.....	61
3. Normative Data.....	64
4. Psychometric Properties.....	64
5. Applications.....	65
6. Advantages and Disadvantages.....	66
ii. Reasons for Ending Treatment Questionnaire (RETQ).....	67
1. General Description.....	67
2. Scales and Scoring.....	67
3. Normative Data.....	68
4. Psychometric Properties.....	69
5. Applications.....	70
6. Advantages and Disadvantages.....	70
iii. Obstacles to Engagement Scale (OES).....	71
1. General Description.....	71
2. Scales and Scoring.....	71
3. Normative Data.....	72

	4. Psychometric Properties.....	72
	5. Applications.....	72
	6. Advantages and Disadvantages.....	73
	e. Summary and Conclusions.....	74
III.	METHODOLOGY.....	78
	a. Participants.....	78
	b. Intervention.....	78
	i. Treatment Program.....	78
	ii. Clinician Training.....	80
	c. Instruments.....	81
	i. Sociodemographic Questionnaire.....	81
	ii. Early Childhood Behavior Screen (ECBS).....	81
	iii. Parent Behavior Checklist (PBC).....	82
	d. Procedures.....	83
	i. Initial Development of the Scale.....	83
	ii. Field Testing of Scale.....	85
	iii. Data Analyses.....	85
IV.	RESULTS.....	89
	a. Overview.....	89
	b. Research Question One.....	90
	c. Research Question Two.....	95
	d. Research Question Three.....	96
	e. Research Question Four.....	97
	f. Summary.....	101

I.	Discussion.....	102
a.	Overview.....	102
b.	Research Question One – Treatment Barriers Scale (TBS).....	102
c.	Research Question Two – Demographic Variables.....	106
d.	Research Question Three – Parental Discipline, Nurturing, Expectations.....	110
e.	Research Question Four – Demographic Variables and Treatment Barriers.....	111
f.	Limitations.....	116
	REFERENCES.....	120
	APPENDIX A – Sociodemographic Questionnaire.....	132
	APPENDIX B – Consent Form.....	134
	APPENDIX C – Treatment Barriers Scale.....	136

LIST OF TABLES

Table 1: Participant Demographics.....	89
Table 2: Treatment Barriers Scale Descriptive Statistics.....	91
Table 3: Total Variance Explained.....	92
Table 4: TBS Items by Factor & Factor Loadings for Each Item.....	93
Table 5: Item- Total Statistics for items on TBS.....	94
Table 6: Linear Regression Results: Predictors of Treatment Barriers Scores.....	96
Table 7: Linear Regression Results: Predictors of Treatment Barriers Scores.....	97
Table 8: Model Summaries.....	97
Table 9: Logistic Regression Analysis of Predictors of Treatment Success.....	99
Table 10: Predicted and Observed Classification Table.....	100

FIGURE

Figure 1: Scree Plot.....	92
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CHAPTER I – INTRODUCTION

Background Context

Behavior problems in young children are common (Fox & Holtz, 2009), and often begin in the toddler and preschool years (Keenan & Wakschlag, 2000). These behaviors typically include externalizing behaviors like aggression, tantrums, noncompliance, destructiveness, and hyperactivity, and less frequently include separation anxiety and other internalizing disorders. For most children, these behaviors are a typical part of child development and will fade over time. However, a significant number of young children who have mild to moderate behavior problems continue to experience problem behaviors into the elementary school years (50%; Campbell, 1995). Living in poverty nearly doubles the risk of developing early behavior problems (Anthony, Anthony, Morrel, & Acosta, 2005). Shaw, Gilliom, & Giovannelli (2000) examined the stability of externalizing behaviors over time in a sample of 300 low-income boys and found that 62% of boys who scored above the 90th percentile on the Child Behavior Checklist (CBCL; Achenbach, 1991) externalizing scale at the age of two continued to experience clinically significant behavior problems at the age of six. Without early intervention, many children with early behavior problems go on to develop more serious and intractable behavior problems into adolescence and even adulthood such as violence, aggression, and anti-social behaviors (Breitenstein et al., 2007; Keenan, Shaw, Delliquadri, Giovannelli, & Walsh, 1998).

Early intervention programs that address these behaviors have been shown to be effective for families that are engaged in treatment (Eyberg, Nelson, & Boggs, 2008; Fox

& Holtz, 2009). These programs generally focus on decreasing challenging behaviors (e.g., aggression, temper tantrums) and increasing prosocial behaviors (e.g., listening, sharing, positive play) in children. Programs like Parent-Child Interaction Therapy (PCIT), the Incredible Years Parenting Training program (IY-PT), Triple P- Positive Parenting Program (Triple P), and the Parenting Young Children program (PYC) demonstrate that parent training is a well-recognized and accepted approach for decreasing child problem behaviors (Eyberg, Boggs, & Algina, 1995; Fox & Nicholson, 2003; Gross et al., 2009; Webster-Stratton, Reid, & Hammond, 2001).

While the effectiveness of these programs has been well-documented among children with a broad range of behavioral problems, retaining families who have been referred for services is a significant challenge for community settings offering these interventions to at-risk children and families (Mendez, Carpenter, LaForett, & Cohen, 2009). Dropout rates for parent and child therapy programs have been reported as high as 60% (Fox & Holtz, 2009; Kazdin, Holland, and Crowley, 1997b). Additionally, there is a limited body of literature regarding the effectiveness of these programs with low-income populations in the community, including ethnically diverse populations (Coard, Wallace, Stevenson, & Brotman, 2004). This is surprising given that ethnic minority children are disproportionately represented among those exhibiting behavioral and emotional problems (Gross et al., 2009). In addition, low-income African American and Latino children are less likely to access mental health services; for example, Latino children are 2.6 times less likely to have their mental health needs met than Caucasian children (Kataoka, Zhang, & Wells, 2002; SAMSHA, 2001). Complicating the work with these more stressed families are the presence of significant psychosocial barriers to their treatment

participation (Fernandez, Butler, & Eyberg, 2011; Reid, Webster-Stratton, & Beauchaine, 2002).

Statement of the Problem

Retaining children referred for mental health services is an ongoing concern for community agencies offering parent and child therapy (PCT), particularly for low-income families with limited access to resources (Fox & Holtz, 2009; Kazdin, et al., 1997b; Mendez et al., 2009). Efforts to understand the causes of premature termination from therapy have largely focused primarily on parent, child, and family characteristics and pretreatment variables including socioeconomic disadvantage, parent stress, symptom severity, and adverse parenting practices, to name a few (Armbruster & Kazdin, 1994). Despite attempts to address these variables and reduce early termination rates, progress has been slow in advancing the research on barriers to treatment (Kazdin, Holland, Crowley, & Breton, 1997a). In addition, few measures have been designed that are available to accurately assess the extent to which barriers to treatment impact treatment participation.

In order to provide effective services for young children with mental health needs, researchers need to look beyond these well-studied characteristics to examine what experiences and perceptions exist that prevent families from successfully completing treatment. A practical barriers-to-treatment model developed by Kazdin and colleagues (Kazdin et al., 1997a) associated barriers to treatment participation with stressors and obstacles during treatment, treatment demands, perceived relevance of treatment, and relationship with the therapist. The proposed relationship between these variables is one of an additive effect; that is, the more barriers to treatment a family reports has been

found to increase their risk of dropping out of treatment prematurely (Kazdin et al., 1997a). The four content areas identified by the barriers-to-treatment model provide a practical framework for barriers to treatment that can easily facilitate the identification of treatment barriers in child outpatient therapy and lead to a better understanding of how to improve treatment retention for children and families. However, while this model offers potential, it cannot be generalized to low-income families with very young children with mental health concerns because several barriers to treatment identified through this model are less relevant to PCT programs providing home-based services (e.g., PYC; Fox & Nicholson, 2003). In fact, relatively little is known about the mechanisms that perpetuate the high rates of early termination from parent and child therapy in low-income, urban, minority populations.

Purpose of the Study

The purpose of the current study was to develop and pilot a Treatment Barriers Scale to assess barriers to treatment participation in primarily low-income, urban minority parents receiving home-based therapy for their young child's behavior problems. This scale was generated from the theoretical literature on ecological systems theory (Bronfenbrenner, 1977), and on Kazdin's barriers-to-treatment model; it served to provide a brief assessment of barriers to treatment from the clinician's perspective during the treatment process. This study also intended to establish preliminary psychometric support for the Treatment Barriers Scale and its use with low-income families with very young children in the hopes of improving early identification of significant barriers to treatment in parent and child therapy. Finally, this study determined if the Barriers to Treatment Scale can predict successful from unsuccessful program completers.

Significance of Study

The need to address barriers to treatment participation in underserved families has been identified as a pressing concern by the United States Surgeon General (U.S. Public Health Service, 2000). PCT programs have demonstrated success for families who participate in treatment, but have also been associated with very high rates of early termination, often from multiply stressed families experiencing many obstacles to treatment participation. Despite this, there is a paucity of research among low-income, minority families. Furthermore, the research into early termination from PCT programs has generally focused on logistical, demographic, or child factors. This project is significant because it was designed to develop a sound measure to identify barriers to treatment in primarily low-income families receiving PCT for their young child's challenging behaviors in a home-based setting. Accurate identification of barriers experienced by families during treatment may advance our understanding of early termination and subsequently serve as the basis for providing more effective intervention to help retain families throughout the treatment process.

Research Questions

This study aimed to address the following research questions:

1. Does the Treatment Barriers Scale (TBS) generate empirically-derived factors with acceptable internal consistency?
2. How do pretreatment variables (i.e., ethnicity, gender, parent age, child age, presence of a developmental delay, and symptom severity) relate to treatment barriers and what are the mean differences between ethnic groups?
3. Do parental nurturing, expectations, and discipline style predict treatment barriers?
4. Do treatment barriers predict treatment outcome beyond the contribution of pretreatment variables?

CHAPTER II - REVIEW OF THE LITERATURE

In the current review, four of the most empirically studied parent and child therapy (PCT) programs to date will be examined: Parent-Child Interaction Therapy (PCIT; Eyberg, Boggs, & Algina, 1995), the Incredible Years Parent Training Program (Webster-Stratton, 1992), the Triple P-Positive Parenting Program (Sanders, 1999), and the Parenting Young Children Program (Fox & Nicholson, 2003). Key studies in these programs will be discussed and information regarding contributing factors that lead to early termination will be noted. In addition, this review will examine how barriers to treatment have been conceptualized in relation to early termination. Finally, this review will evaluate existing tools used to identify barriers to treatment participation and identify a rationale for developing a new screening tool to identify barriers to treatment specific to families with young children living in poverty.

Early Termination and Barriers to Treatment

Early Termination in Psychotherapy

In order to appreciate the complexity involved in assessing barriers to treatment participation that may lead to early termination in parent and child therapy (PCT) programs, it is important to have a working knowledge of how early termination has been defined in the literature (Kazdin & Mazurick, 1994; Wierzbicki & Pekarik, 1993). The construct essentially refers to a client making a unilateral decision to leave therapy prematurely against therapist advice (Kazdin, 1996). Early termination is an ongoing concern in outpatient child therapy, with nearly 50% of clients terminating prematurely (Wierzbicki & Pekarik, 1993). One explanation for the high rates of premature

termination is the inconsistency with which the term is operationalized and used in clinical research and practice.

High rates of early termination provide important implications for research, service delivery, and clinical practice (Snell-Johns, Mendez, & Smith, 2004). In terms of research, variability in operationalizing early termination has led to conflicting findings and a failure to replicate, which has made it difficult to advance research in the area of early termination (Kazdin & Mazurick, 1994). Families who drop out prematurely can threaten the validity of research outcomes, decrease statistical power, and limit generalizability (Kazdin, 1990). For example, one way of defining early termination that has been used is therapist judgment of dropout. While this method has been regarded as one of the more accurate methods for defining early termination, it is risky because of the possibility of low reliability among therapists (Swift, Callahan, & Levine, 2009).

In relation to service delivery, high dropout rates decrease staff productivity and limit face-to-face interactions with clients. When counselors are not seeing clients due to high rates of cancellations and “no shows”, they are missing opportunities to provide services to other families who may attend and benefit from treatment (Kazdin, Stolar, & Marciano, 1995). Families who dropout prematurely can also limit the time therapists are able to bill for direct services to clients, making it less appealing to work with populations with a high drop-out history (e.g., low-income).

In clinical practice, families who do not complete treatment are less likely to show benefits from treatment than those who do complete a treatment program (Prinz & Miller, 1994). Boggs and colleagues (2004) conducted a follow-up study that examined differences among completers and non-completers 1-3 years after standard PCIT

treatment in a sample of 46 children (36 boys, 10 girls). Children were originally referred to a child outpatient clinic for concerns regarding disruptive behavior; 74% were Caucasian, 15% were African American, 4% were Latino, and 4% identified with other groups. The children's mean age at the time of follow-up was 6 years, 7 months ($SD = 13.5$ months). Analyses revealed that families of children with disruptive behavior who sought treatment but then dropped out showed minimal to no change 10-30 months post-treatment ($M = 19.59$ months, $SD = 7.09$) compared to those who completed treatment ($F[1,44] = 9.24, p < .01$).

Defining early termination. Early termination (also referred to as attrition or dropout) has been defined as a client leaving therapy before completing a certain number of sessions or before showing adequate improvement (Hatchett & Park, 2003). Others have added that early termination must be against the advice of the clinical team (Kazdin, Holland, Crowley, & Breton, 1997). While early termination may seem easy enough to identify, researchers have failed to develop a uniform operationalization of the construct to measure (Hatchett & Park, 2003). Historically, conflicting views on what constitutes early termination have led to significant variability in the estimates of individuals who drop out (Swift et al., 2009). While some researchers have contended that early termination consists of failing to complete an entire therapy regime, others have used missed appointments, therapist clinical judgment, or failure to attend a final 'termination' session as definitions for early termination (Hatchett & Park, 2003). More recently, the early termination literature has recommended integrating multiple definitions together with measures of clinically significant or reliable change to provide an objective estimate of client improvement over the course of therapy (Swift et al., 2009).

Early termination based on duration. A duration-based classification of dropout from psychotherapy treatment is based solely on the number of sessions a client attends. Essentially, clients who fail to attend a prescribed number of sessions are considered dropouts. To determine an appropriate threshold, researchers often use a median-split method whereby clients who attend fewer than the median number of sessions are considered treatment dropouts (Swift et al., 2009). Strengths of this method are that it is relatively simple and reliable when an agreed upon number of sessions can be used to determine the cutoff number of sessions. Duration-based methods have been supported by the dose-effect literature that states that as the number of sessions increase, so does the proportion of clients who show improvement (Barkham et al., 2006). However, other investigators have argued that some clients improve after very few sessions and others do not improve after any given number of sessions. As such, using a duration-based approach to separating treatment completers from treatment dropouts may misclassify a large proportion of clients (Pekarik, 1985). Another major downfall of using this type of approach is that the number of sessions required to separate treatment completers from treatment dropouts differs by treatment approach and researcher, making this method highly unreliable across researchers and treatment modalities.

Early termination based on missed appointment. Using this method, clients are defined as treatment dropouts if they miss their last scheduled appointment. In other words, clients agree to attend a course of therapy but instead terminate by making a unilateral decision without contacting their therapists (Hatchett & Park, 2003). As with duration-based dropout, strengths of this method are that it can be highly reliable and easy to use. Unlike duration-based approaches, early termination based on missing the

last scheduled appointment offers some face validity and an improved ability to compare treatment outcomes across different studies. On the surface, judging whether a client terminates prematurely with this method seems simple (e.g., client either attends the treatment session or does not), but this method fails to account for the reasons why a client fails to attend a scheduled session. Swift and colleagues (2009) discussed four reasons why failure to attend a session could lead to misclassifying clients as treatment dropouts: (a) the client has recovered and decided not to pursue therapy on their own; (b) the client has recovered, and an extra-therapeutic event prevents them from attending their last session (i.e., a move); (c) the client misses a number of sessions in a row before resuming therapy; or (d) the client has not made any improvement, but discusses their decision to terminate therapy openly with the therapist and future sessions were not scheduled. Additionally, in their meta-analysis of psychotherapy dropout, Wierzbicki and Pekarik (1993) noted that defining dropout based on failure to attend a scheduled session is inherently conservative because it defines clients as completers if they attend at least one session and decline to schedule any further sessions.

Early termination based on failure to return after intake. This method refers to clients who attend an intake evaluation, but do not return for subsequent therapy sessions. Like other duration-based methods of assessing early termination, this method assumes that clients who have attended at least one session are appropriate terminators (Longo, Lent, & Brown, 1992). While highly reliable, this definition does not account for whether the client made any improvement in therapy, which has subsequently led researchers to question whether it accurately captures the construct of premature termination (Hatchett

& Park, 2003). Additionally, there is a question about whether clients to drop out after an intake are inappropriate terminators or simply failed to begin therapy (Garfield, 1994).

Early termination based on therapist judgment. According to this method, the therapist ultimately makes a decision regarding the termination status of a client after they stop coming to therapy. In research, this has been conducted by having the therapist indicate a yes/no response to the following question, “In your opinion, did the client terminate prematurely?” (Hatchett & Park, 2003). Using therapist judgment to determine the appropriateness of client termination has been cited as a preferred method since Gene Pekarik’s original 1985 study examining the effects of using different termination classifications in psychotherapy research. In this study, differences between dropouts and completers were examined for 18 variables in a sample of 152 outpatient cases where dropouts were classified by two procedures: a median-split procedure (duration-based classification) and therapist judgment. Results indicated significant differences in completers vs. non-completers on 11 of the 18 variables when using therapist judgment as the classifying criteria. No differences were noted when using the median-split procedure, suggesting that therapist judgment is an effective way to differentiate clients who will complete therapy from those who are likely to dropout. In a more recent meta-analysis of psychotherapy dropout, Wierzbicki and Pekarik (1993) cite face validity and flexibility as strengths of this approach and recommend the use of therapist judgment as a gauge for appropriate termination over other forms of early termination like duration-based methods.

Despite its appeal, using therapist judgment has potential for low reliability for a variety of reasons (Barrett, Chua, Crits-Christoph, Gibbons, & Thompson, 2008). First, it

is possible that different therapists have different ideas about the goals of therapy and what constitutes dropout from therapy (Hatchett & Park, 2003). Research shows that therapists tend to feel therapy is more effective the longer the client stays in therapy (Reis & Brown, 1999), suggesting that therapist judgment may actually be more closely related to duration-based methods of determining termination. Additionally, therapists may be reluctant to classify clients as dropouts out of personal fear of feeling like they failed to provide adequate services. Given that therapists are highly involved in the therapy process, they have a preferential vantage point to gauge when dropout has occurred by their clients. However, differing biases and viewpoints of individual therapists could impact their judgment (Swift et al., 2009). Finally, therapist judgment has not been consistent with statistically based methods of judgment (Garb, 2005; Grove, Zald, Lebow, Snitz, & Nelson, 2000).

Early termination based on clinically significant and reliable change. In their review of operational definitions of early termination, Hatchett and Park (2003) conclude by encouraging researchers to disregard the inherently flawed definitions of early termination and instead look to develop more objective outcome criteria to determine early termination, namely through a new approach that includes a measure of clinically significant or reliable change. Clinically significant change (CSC) is indicated when (a) the client obtains a subclinical score on an objective outcome measure completed at every session and (b) that the change in the score reflects a reliable improvement (RC; Jacobson, Follette, & Revenstorf, 1984; Jacobson & Truax, 1991). Clients whose last scores met the criteria would be classified as appropriate terminators, while clients who did not meet the criteria would be classified as early terminators. CSC and RC methods

offer a promising direction for operationalizing early termination because they are logically valid and highly reliable (Swift et al., 2009). Swift and colleagues (2009) investigated using CSC and RC methods in a population of 135 adult clients seen at a university-based counseling center. They conducted therapy as usual and classified clients' termination status using 6 different methods (CSC, RC, median-split, intake-only, missed appointment, and therapist judgment). Kappa coefficients were calculated to determine the measure of agreement between methods. In general, the results showed acceptable levels of agreement between CSC and RC methods ($\kappa = .67$), and low levels of agreement between CSC and RC methods and other commonly used methods like therapist judgment ($\kappa = .04, .07$, respectively), the missed appointment method ($\kappa = .00, .06$, respectively), and the intake-only method ($\kappa = .05, .10$, respectively). It is worth noting that in this study, therapist judgment did not correspond to whether a client improved in therapy, which is consistent with literature suggesting that therapist judgment may actually correspond more closely with duration-based methods of determining dropout (Hatchett & Park, 2003).

While CSC and RC methods seem to be promising avenues to accurately assess early termination from therapy, they do exhibit a few potential limitations (Swift et al., 2009). Because this method relies heavily on symptom reduction, client issues that are not assessed through traditional measures (e.g., difficulty making a major life decision) could be overlooked in therapy. As a result, clients could potentially meet their goals of therapy without showing objective gains on a given measure. Additionally, CSC and RC methods are not static across measures, so it is possible that a client could show significant change with one measure but not on another examining the same construct. In

this way, a client would be classified as either a treatment dropout or completer simply based on the measure used to assess general outcome.

Early termination based on a multi-method approach. In consideration of the strengths and limitations of each method of assessing early termination, Swift and colleagues (2009) proposed using a multi-method approach. This approach would allow for a comprehensive look at client termination. For example, the combination of CSC and RC methods with therapist judgment would have the advantage of using both the therapist's perspective of whether the client has discontinued prior to completing the goals of therapy, and the added benefit of CSC and RC as objective measures of client recovery. Combining multiple approaches to assessing early termination could provide better reliability for assessing therapy outcomes for a client, but more research is needed to examine the reliability, validity, and utility of such an approach.

Early Termination from PCT Programs

Traditional child psychotherapy research has cited early termination as a major concern. Likewise, parent-child therapy (PCT) research has demonstrated harrowing numbers of clients who dropout, with estimates ranging from 12-70% (Chaffin et al., 2009; Lundquist & Hansen, 1998). Some of the most widely-used and researched PCT programs to date include: Parent-Child Interaction Therapy (PCIT; Eyberg, Boggs, & Algina, 1995), the Incredible Years Parent Training Program (IY-PT; Webster-Stratton, 1992), the Triple P-Positive Parenting Program (Triple P; Sanders, 1999), and the Parenting Young Children Program (PYC; Fox & Nicholson, 2003). These programs are manualized parent training interventions designed to treat behavior problems in young children by applying major tenets of established parenting, social learning, and attachment theories (Lyon & Budd, 2010). Each program addresses individual, systemic, and environmental factors related to the development of challenging behavior in your children, but is unique in its content delivery and approach to defining early termination.

Parent Child Interaction Therapy (PCIT)

PCIT overview. PCIT is an evidence-based parent training program for children ages 2-7 years with disruptive behavior that focuses on changing dysfunctional parent-child interactions (Eyberg, Nelson, & Boggs, 2008). PCIT is based on the principles of social learning theory (Bandura, 1977), research on parenting styles (Baumrind, 1967), and attachment theory (Ainsworth, 1979). Standard PCIT consists of coaching the parent through interactions with their child in two parts. The first part works on strengthening the parent-child relationship through Child-Directed Interaction (CDI). Play, praise, and

positive reinforcement are emphasized throughout this portion of the program. As parents master the skills in CDI, they move on to Parent-Directed Interaction (PDI), where they learn to give effective requests and implement appropriate discipline strategies. The ultimate goals of PCIT are: (a) that parents demonstrate more positive interactions with their child; (b) that parents report lower levels of parenting stress, marital distress, and depression; (c) that children exhibit less intense and fewer behavior problems; and (d) that children are more compliant with their parents' requests (Schuhmann, Foote, Eyberg, Boggs, & Algina, 1998).

PCIT outcomes research. PCIT is well researched within controlled clinical settings (e.g., academic lab or academic clinic), service clinic settings (e.g., outpatient/community mental health clinic or primary care clinic), or less frequently in the participant's home among predominantly Caucasian families. Treatment outcomes for PCIT have shown success in decreasing the frequency and intensity of child challenging behaviors (Eyberg et al., 1995). One study that demonstrates the efficacy of PCIT with parents of children ages 3-6 (M age = 4.9 years, SD = 1.03) was conducted by Schuhmann and colleagues (1998). Sixty-four children (52 boys, 12 girls) were referred to an outpatient clinic for the treatment of conduct problems. Participants were predominantly middle-to-lower-middle class Caucasian children (77%). All children met the criteria for one or more psychiatric diagnoses, with co-morbid ADHD and ODD being the most common (45%), followed by ODD alone (33%), CD and ADHD combined (20%), and CD alone (2%). Participants were randomized to either immediate treatment or a wait-list control following intake. The overall study dropout rate was 34%. Reasons for early termination or dropout were not reported. Pretreatment analyses

indicated that mothers' and fathers' IQ was significantly different across groups ($p < .05$). No other significant pretreatment differences between groups were reported. Analyses revealed statistically significant decreases in the mother-reported intensity of child challenging behaviors following traditional PCIT relative to a wait-list control, ($F[1, 38] = 36.18, p < .01$). Clinically, the results illustrated that behavioral intensity for both the treatment and control groups was clinically severe before treatment, and that only the treatment group decreased their behavioral intensity to within normal limits at the end of treatment. Similar results were obtained for mother-reported problem scores on the Early Child Behavior Inventory (ECBI), ($F[1, 38] = 28.42, p < .01$; Schuhmann et al., 1998; Eyberg & Pincus, 1999).

Despite the majority of PCIT studies being conducted with middle-class Caucasian families, PCIT has recently begun to be piloted in applied settings with ethnically diverse populations (Fernandez et al., 2011). Lyon and Budd (2010) conducted a pilot among 14 low-income, urban, ethnic minority families of children ages 2-7 years ($M = 3.7, SD = 1.4$) who were referred to an urban community mental health clinic for disruptive behavior disorders. Children were predominantly African American (50%), followed by multiracial (29%), and Latino (21%). Biological mothers were the primary caregiver in 86% of cases. Common psychiatric diagnoses included ODD (36%), ADHD (29%), and Disruptive Behavior Disorder, Not Otherwise Specified (21%). All families received the traditional PCIT treatment. Sixty-seven percent of the sample dropped out before completing treatment (completion being defined as attending at least one treatment session and then demonstrating mastery of both components of the PCIT program). Treatment completers attended an average of 14 sessions ($SD = 1.8$) and non-completers

attended an average of 6.4 sessions ($SD = 4.9$). The study yielded mixed findings. Treatment completers demonstrated quicker change on a scale of child behavior intensity than did treatment dropouts (effect sizes not available). Interestingly, the authors reported that some parents who dropped out of treatment still demonstrated clinically significant and reliable change before ending treatment. Also of interest, treatment completers reported more barriers to treatment participation than treatment dropouts including: concerns with medical insurance coverage for treatment (25% and 17%, respectively); loss of job or change of income (25% and 0%, respectively); new job (25% and 17%, respectively); and a close friend or relative got very sick or died during treatment (50% and 33%, respectively). In their recommendations, the authors speculate that the high rate of dropout (67%) in their study may be due to the low-SES nature of the sample placing participants at heightened risk for dropout.

Similarly, Matos and colleagues (2006) reported positive outcomes with a small pilot of Puerto Rican families ($N = 10$) with children between the ages of 4-6 with disruptive behavior and hyperactivity. Here, efforts were made to translate relevant treatment materials, seek feedback on the treatment process from parents and clinical psychologists from Puerto Rico, and make necessary revisions to the treatment program for future use. Treatment revisions included an increased amount of time for treatment to work through possible interferences with treatment such as transportation, socioeconomic status, family and work stressors, translating necessary materials, and modifying reading material to fit parents' reading ability. The authors reported that one family dropped out and could not be contacted to complete post-test assessments (10%). Results indicated that parents felt their child's behavior significantly improved following PCIT. Most

notably, children's behavioral intensity decreased ($t[8] = 6.35, p < .001$), the number of parent-reported problem behaviors decreased ($t[8] = 10.28, p < .001$), and parents' positive parenting practices improved ($t[8] = -5.67, p < .001$). The results of this study suggest that PCIT may be an acceptable intervention for this population. The success of this study was echoed in a study by McCabe and Yeh (2009) with a larger sample of 58 Mexican American families, providing further evidence that PCIT may be effective with diverse populations. Additionally, long-term follow-up studies of PCIT indicate that PCIT treatment outcomes are maintained one to three years after completion of treatment (Boggs et al., 2004).

Early termination in PCIT. Termination from PCIT is well defined through the use of a multi-method approach such that in order to complete PCIT, the family must: (a) obtain an ECBI score (Eyberg & Pincus, 1999) that is at least one-half of a standard deviation below the normative mean (<114), (b) the parent and the therapist must agree that the parent can effectively manage the child's behavior, and (c) the parent must demonstrate a mastery of child-directed and parent-directed skills as instructed during the treatment program (Lyon & Budd, 2010). Alternately, a family that simply discontinues treatment prior to meeting the completion criteria is considered a study dropout (Fernandez & Eyberg, 2009).

Reasons for early termination from PCIT have been investigated by comparing parent, child, and family characteristics of completers and dropouts (Boggs et al., 2004; Werba, Eyberg et al., 2006). Characteristics that have been associated with treatment dropout include higher maternal stress (Boggs et al., 2004; Werba et al., 2006), inappropriate parent behavior (e.g., criticism, smart talk; Werba et al., 2006), low

socioeconomic status (Fernandez & Eyberg, 2009), neutral or negative attitude toward treatment (Boggs et al., 2004), and slower improvement in symptoms (Lyon & Budd, 2010). Werba et al. (2006) investigated these factors, treatment outcomes, and attrition in PCIT. The sample consisted of 99 mother child dyads (M child age = 58.1 months) who were referred to an outpatient mental health clinic and had been diagnosed with oppositional defiant disorder (ODD) according to the DSM-III-R. The participants were randomly assigned to either an immediate ($n = 52$) or delayed ($n = 47$) treatment group. Of the 99 children in the study, 50 completed treatment, 31 were classified as treatment dropouts, and 18 dropped out after the pretreatment assessment but before treatment began (study dropouts). Overall attrition rate for treatment dropouts was 38%. Regression analyses were completed on 26 pretreatment variables including demographic characteristics, maternal characteristics, behavior management skills, child characteristics, and accessibility factors. Initial analyses demonstrated that the parent giving more frequent direct commands given during the dyadic parent-child interaction (DPICS-II; Eyberg, Bessmer, Newcomb, Edwards, & Robinson, 1994) differentiated treatment completers from non-completers ($p < .05$). When 5 of these measures were combined, the model including maternal stress ($d = .43$) and parent inappropriate behavior ($d = .42$; $\chi^2[2, N = 81] = 7.92, p = .02$) indicated that 84% of the treatment completers were correctly predicted by this equation. Moreover, the overall classification accuracy rate of 66% was greater than chance based on this model. The authors conclude that future research should continue to investigate the role of parent variables in treatment outcome.

In an attempt to pursue this avenue of research, Fernandez and Eyberg (2009) examined predictors of and reasons for early termination. Their sample consisted of 99 caregivers of 3-to-6-year-old children (69 boys, 30 girls) diagnosed with disruptive behavior disorders. Participants were primarily Caucasian (76%) lower middle class married mothers (M age = 33.75, SD = 9.5). All families received standard PCIT treatment in a controlled clinical setting. Thirty-six percent of families dropped out during treatment, with an additional 46% dropping out before 12 and 24 month follow-ups. Analyses revealed that lower socioeconomic status was the best predictor of whether a family would dropout or complete treatment ($r = 0.67$), followed by caregiver negative talk ($r = -0.48$), and positive talk ($r = 0.35$) during parent-child interactions prior to starting treatment. The most common reason for dropout amongst non-completers was a disagreement with the treatment approach (26%), followed by being too busy to participate in treatment (13%), having stressors that interfered with treatment participation (13%), and having logistical problems that interfered with attending treatment sessions (13%).

Incredible Years Parent Training Program (IY-PT)

IY-PT overview. The Incredible Years program is an evidence-based program for children ages 2-8 years old who present with early-onset conduct problems (Webster-Stratton, 1992; Webster-Stratton & Hammond, 1997). It is based on the tenets of social learning theory (Bandura, 1977) emphasizing the crucial role of effective parenting in determining a child's social competence and reducing conduct problems (Webster-Stratton, Reid, & Hammond, 2004). The program is comprised of three parts: a child training component, a parent training component, and a teacher training component.

These parts can be delivered separately or together, and have shown most effective when combined (Webster-Stratton & Hammond, 1997). Each component aims to address an area of functioning. The parent component (PT) aims to address family issues, including interpersonal communication and support, conflict resolution, and parenting skills. The child component (CT) teaches children social skills (e.g., cooperating with peers, sharing, teamwork, listening, compliance to requests) and conflict resolution through the use of videotape modeling during “Dinosaur School”. The teacher component (TT) provides guided instruction through workshops targeting proactive teaching, reinforcement programs, strategies to decrease disruptive behavior, and collaborative approaches for working with parents. The parent training program typically consists of groups of 10-12 parents meeting weekly for one-to-two-hour sessions for anywhere from 12-20 weeks.

IY-PT outcomes research. Research on IY-PT has shown moderate to large effect sizes. For example, in one study comparing treatment outcomes across domains for each component of the Incredible Years program (CT, PT, & TT) with a control group, mothers who completed the PT program showed decreased negative parenting behaviors ($d = .81$) and increased positive parenting behaviors ($d = .51$; Webster-Stratton et al., 2004). Likewise, children’s negative behaviors decreased at home ($d = .67$) and at school ($d = .35$). Cumulative effects were exhibited with the combination of CT, PT, and TT, such that the three combined components produced the strongest effects for each individual domain when compared to the PT only, PT + TT, CT only, and CT + TT groups relative to the control group. One-year follow-up of this sample indicated treatment gains were maintained for positive and negative parenting behaviors, child

negative behavior at home and child positive behavior at home (Webster-Stratton et al., 2004).

The Chicago Parent Program (CPP) has also demonstrated positive findings by applying IY-PT with low-income, diverse populations, including African American and Latino families (Gross et al, 2009). The program was designed as a result of previous PCT literature suggesting that middle and upper-class families benefit more from parent training programs than at-risk families, possibly due to at-risk parents believing that such programs do not understand or address their unique needs and higher levels of day-to-day stress (Lundahl, Risser, & Lovejoy, 2006). Gross and colleagues examined the generalizability of IY-PT to this more at-risk population. The sample consisted of 292 parents of 2-4 year old children enrolled in 1 of 7 daycare centers in the Chicago area. Children were predominantly African American or Latino (92%). Parents were assigned to either a treatment ($n = 156$) or control ($n = 136$) group. The treatment group received up to 11 weeks of IY-PT training ($M = 4.3$, $SD = 4.2$). As a result of the high variability in attendance, a median-split procedure was used to define low dose (0-5 sessions) and high dose (6-11 sessions) groups. Results showed that parents in the high dose group (completed 6 or more treatment sessions) demonstrated more consistency in following through with appropriate discipline, ($F[1, 818] = 6.99$, $p < .01$, $d = 0.29$, $\eta^2 = .04$), and decreased use of corporal punishment, ($F[1, 818] = 7.66$, $p < .01$, $d = -.30$, $\eta^2 = .02$). Regarding children's challenging behaviors, children of parents who attended 6 or more treatment sessions had fewer problems reported on a measure of behavioral intensity (ECBI Intensity scale; Eyberg & Pincus, 1999) following treatment ($F[1, 818] = 3.96$, $p <$

.05, $d = -.31$, $\eta^2 = .01$). These results are consistent with other studies of IY-PT in decreasing disruptive behavior in young children (Webster-Stratton & Hammond, 1997).

Early termination in IY-PT. Approaches to termination in IY-PT studies have generally been duration-based methods whereby attendance at a designated number of sessions is classified as treatment completion (Lavigne, LeBailly, Gouze, Binnns, Keller, & Pate, 2010). For example, in a community-based implementation of IY-PT, attending 7 or more treatment sessions constituted treatment completion (McGilloway et al., 2012). The average dropout rate is low relative to other PCT programs, and has been reported to be between 0-40%, with an average of approximately 20% (Drugli, Larsson, Fossum, & Morch, 2010; Dumas, Nissley-Tsiopinis, & Moreland, 2006; Lavigne et al., 2010; McGilloway et al., 2012; Webster-Stratton & Hammond, 1997). Part of the reason for low dropout rates may be because IY-PT participants are only defined as treatment dropouts if they fail to attend any treatment sessions after enrolling in IY-PT. Another reason may be a result of the participant demographics in IY-PT. Despite more community-based studies of IY-PT being generated, most of the documented research consists of low-to-middle class Caucasian families (Lavigne et al., 2010; McGilloway et al., 2012; Webster-Stratton & Hammond, 1997).

Reasons for dropout are not well-documented in IY-PT research; they range from not being reported, to practical or circumstantial barriers to program attendance (e.g., illness, change in employment status), disagreement with the treatment approach, negative parental attitude toward treatment (Peters, Calam, & Harrington, 2005), and loss of contact (Gross et al., 2009; McGilloway et al., 2012).

Triple P-Positive Parenting Program (Triple P)

Triple P overview. Triple P is a five-level treatment program of increasing intensity for children 0-12 years of age and their families delivered in either group or individual format (Sanders & Markie-Dadds, 1996). Triple P is draws on multiple models, including social learning theory (Bandura, 1977; Patterson, 1982), research in child and family behavior therapy (Sanders, 1992), and developmental research on parenting (Hart & Risley, 1995). It aims to improve family relationships while reducing risk factors associated with challenging behaviors; specific aims include working to enhance parent self-efficacy, promote a nurturing environment, and increase children's social, emotional, language, intellectual, and behavioral competencies through positive parenting practices (Sanders, 1999). Level 1 is a media-based parent information campaign called Universal Triple P that targets all parents interested in information about promoting their child's development through self-directed resources and telephone referral services. Level 2 is a brief selective intervention program called Selected Triple P that targets parents with specific concerns about their child's behavior or development through individual, group, or telephone-assisted consultation by a mental health care provider. Level 3 is a more focused parent-training intervention called Primary Care Triple P that is the same as level two except that the intervention is delivered through a brief 1-4 session treatment program that includes self-directed, individual, group, or telephone-assisted therapy. Level 4 (Standard Triple P) is for parents of children with more severe behavior problems that teaches positive parenting skills and the application of these skills to disruptive child behaviors. Level 5 (Enhanced Triple P) is designed to

treat parents of children with behavior problems who also have concurrent stressors such as family dysfunction, caregiver depression, anger problems, and caregiver conflict.

Triple P outcomes research. Most relevant studies of Triple P outcome research are related to Levels 4 and 5 (de Graaf, Speetjens, Smit, de Wolff, & Tavecchio, 2008). These studies of the Triple P program are well established in the literature and demonstrate that Triple P is effective in reducing dysfunctional parenting styles and improving parental competency for parents of children with severe behavior problems (de Graaf et al., 2008; Sanders, Markie-Dadds, & Turner, 2003). In one 2009 study, Wiggins and colleagues examined the effects of an enhanced group version of the Triple P program (Pathways Triple P, Level 5) on 60 Caucasian (Australian) parents of a child between the ages of 4 and 10 years old. Parents self-referred from a community outreach project and were randomly assigned to either intervention or wait-list control group. On average, parents were 38 years of age, had at least some college education, and were married. Intervention consisted of meeting for 2 hours weekly for 9 weeks. During the 9 weeks, parents worked on identifying beliefs and inter-generational influences that lead to negative interactions with their child and managing their child's misbehavior, as well as developing a more positive relationship with their child, encouraging desirable behavior, teaching their child new skills, spending quality time with their child, talking with their child, and showing more affection towards their child. Of the 60 parents who enrolled in the study, 27 completed the immediate intervention and 22 completed the intervention following the wait-list control (82% of the initial sample). Clinically significant and reliable change indices were used to determine the extent of clinically significant change. Results indicated that parents reported an improvement in the quality

of parent-child interaction ($F[4, 44] = 3.343, p = .01, \eta^2 = .23$). Specifically, parents reported increased parenting confidence ($\eta^2 = .20$), improved attachment ($\eta^2 = .10$), and greater parental involvement ($\eta^2 = .11$) following intervention compared to the control group. Examination of the means showed a significantly greater reduction in the use of harsh parenting practices ($F[3, 45] = 9.526, p < .001, \eta^2 = .38$), and reduction of blame and negative attitude ($F[3, 45] = 7.697, p < .001, \eta^2 = .33$).

Early termination in Triple P. In general, appropriate termination from Triple P is defined as completion of post-test measures. Dropout rates range from 0-33% (de Graaf et al., 2008; Markie-Dadds & Sanders, 2006; Roberts, Mazzucchelli, Studman, & Sanders, 2006). Several studies have examined the reasons for early termination from Triple P by comparing groups on pretreatment variables and found no differences between groups (Sanders et al., 2007; Sanders & McFarland, 2000). Others have found differences in severity of child problem behavior (Sanders, Markie-Dadds, Tully, & Bor, 2000; Bor, Sanders, & Markie-Dadds, 2002), ratings of depression or anxiety (Sanders et al., 2000), and even less-harsh parenting methods (Roberts et al., 2006) as predictors for early termination.

To examine the differences between completers and non-completers, Bor and colleagues (2002) compared 87 preschoolers with disruptive behavior and hyperactivity. In this study, families were randomly assigned to Level 4 Triple P, Level 5 Triple P, or a waitlist control group. Treatment groups received approximately 10 weeks of individual treatment at a community mental health center. Of the 87 families that participated, 20% dropped out before completing post-test measures. Analyses comparing treatment completers to dropouts indicated that caregivers who rated their child's behavior as more

problematic at pretreatment were significantly more likely to drop out of the treatment program ($F[1, 81] = 5.3, p < .05, d = 0.51$). No other child or caregiver pretreatment variables significantly differentiated the two groups. A logistic regression was conducted to evaluate whether specific caregiver risk factors (e.g., single parent, low SES, low education, substance use, criminal history, abusive towards child, mental illness) or combinations of these risk factors predicted treatment dropout and none were found to be significant.

Parenting Young Children Program (PYC)

PYC overview. PYC is a home-based program that primarily serves individual families of young children 0-5 years of age living in poverty (Fox & Nicholson, 2003). The PYC Program includes four main treatment elements: (a) strengthening the parent/child relationship through non-directive play; (b) helping parents maintain appropriate developmental expectations for their child and learn cognitive strategies to avoid emotionally and behaviorally overreacting to their child's challenging behavior in a negative manner; (c) using techniques to strengthen the child's pro-social behaviors such as positive reinforcement, establishing home routines, and giving good instructions; and (d) employing limit-setting strategies to reduce the child's challenging behaviors such as redirection, ignoring, response cost, and time-out. In the PYC Program, treatment strategies are explained to the parent and directly modeled by the clinician. Parents also practice each strategy with their child during the treatment sessions and receive immediate feedback from the clinician. The treatment program is designed to be completed in 8, once-weekly, treatment sessions; however, often more sessions are provided to meet the treatment goals.

The core treatment concepts and skills (child-led play, parent cognitive strategies, maintaining appropriate developmental expectations, procedures for strengthening pro-social behaviors and decreasing challenging behaviors) are covered within the first three sessions. The remaining sessions involve further tailoring the treatment plan to the unique strengths and needs of each child such as using planned ignoring for tantrums, establishing bed time routines for sleeping problems, and using social reinforcement to teach listening skills. A significant amount of time also is spent problem-solving with families when implementation difficulties arise (e.g., using a time-out in a very small and overcrowded apartment; encouraging siblings and extended family members to assist in treatment delivery). Further, during later sessions, a parent-coaching component is included where clinicians observed parents during their natural day-to-day interactions with their children and provide immediate feedback to parents as they implement treatment strategies.

PYC outcomes research. The PYC program is well-researched and has demonstrated positive outcomes in a non-traditional setting among ethnically diverse families (Fox, Keller, Grede, & Bartosz, 2007). Fox, Mattek, and Gresl (in press) examined the effectiveness of the PYC program among 356 primarily low-income parents of children under the age of 5 (M age completers = 2.81, SD = 0.90; M age non-completers = 2.94, SD = 1.02). Of the original 356 children referred for services over a two-year period, 109 families could not be scheduled for an intake evaluation (31%). In most cases, the clinic was unable to contact the family (e.g., phone disconnected, family had moved, parent did not respond to voice mails left by the clinician) to schedule an intake appointment (51%) or when contacted, the parents no longer desired services

(29%). Of the 247 families who completed a pre-test intake assessment, 10 were not eligible for inclusion in the study. Of the 237 remaining families, 99 dropped out of treatment before completing the post-treatment evaluation session (42%). The most common reasons for early termination included high no-show or cancellation rates ($n = 35\%$; families were terminated from treatment following three unexcused cancellations, caregivers not responding to repeated contacts following a missed session ($n = 34\%$), and caregivers no longer desiring services ($n = 20\%$); other reasons such as scheduling conflicts and the family moving also occurred. Characteristics that differentiated completers from non-completers showed that completing parents were older ($t[235] = 2.45, p = .015$), were less likely to be married ($\chi^2[1] = 8.96, p = .003$), and had fewer children living in their homes ($t[235] = 2.84, p = .005$) than non-completing parents. Families who completed the program completed an average of 13 ($SD = 3.45$) treatment sessions compared with 7 ($SD = 3.55$) for non-completers. Analyses compared completers to non-completers. Results for completers ($n = 138$) found that children's prosocial behaviors increased ($F[1,137] = 104.63, p < .001, d = 0.70$) and their challenging behaviors decreased ($F[1,137] = 105.18, p < .001, d = 0.83$) for families who completed post-test assessment. Additionally, following intervention parental expectations ($F[1,137] = 7.16, p = .008, d = 0.18$) and nurturing increased ($F[1,137] = 7.75, p = .006, d = 0.23$), and parent use of verbal and corporal punishment decreased ($F[1,137] = 29.19, p < .001, d = 0.46$). Clinically, the proportion of children who met the ECBI cutoff scores at pre-test changed significantly at post-test for the intensity ($\chi^2[1] = 20.34, p < .001$) and problem scores ($\chi^2[1] = 18.31, p < .001$). For the intensity measure,

77% met the cutoff criteria at pre-test compared to 42% at post-test; for the problem measure, 72% met the cutoff criteria at pre-test compared to 42% at post-test.

Early termination in PYC. The definition of appropriate termination from the PYC program has traditionally been when the family completes post-test measures. By this definition, even if a family goes through all treatment sessions, the family is considered a treatment failure without post-test assessment. This conceptualization of termination status may contribute to why the PYC program has experienced a high attrition rate across studies (0-64%; Carrasco & Fox, 2012). Other characteristics that have been associated with early termination from PYC include low-income status, older children, single-parent status, and being African American (Fox & Holtz, 2009).

In an attempt to accommodate for barriers to treatment that may affect completion of treatment, Carrasco and Fox (2012) examined treatment intensity on 166 families referred to an outpatient mental health clinic for concerns regarding their child's behavior problems. Children were predominantly African American (60%) and between the ages of 0-5 years ($M = 2.6$, $SD = .67$). Approximately 60% of the children had at least one developmental delay. Participants were randomly assigned to one of two groups: a standard treatment that included 8 treatment sessions over the course of 8 weeks or an intensity treatment that included 12 sessions in 8 weeks. There were no differences between groups on pretreatment variables. Caregivers in the treatment group were primarily African American (60%), single (80%) had equal to or less than a high school education ($M = 12.3$, $SD = 1.98$), and received at least one form of public assistance. Measures were taken to reduce barriers to treatment; for example, all treatment sessions took place in the home to eliminate child-care and transportation barriers. Furthermore,

all caregivers received a \$5 grocery store gift card at each session and when necessary were provided treatment supplies such as stickers, door gates for time-out, and safety latches for doors. Parents were also given a magnetic reminder card listing the day and time of their next appointment and received an appointment reminder postcard in the mail or a telephone call the day before each scheduled appointment. Despite the attempts to accommodate for barriers to treatment, 64% of the original 166 participants ($n = 106$) dropped out of treatment (defined as not completing posttest assessments), resulting in a final sample of 60 participants ($n = 30$ in each group, respectively). The most common reasons for early termination included: the clinician judged the family to have disengaged from treatment (e.g., frequent cancellations or no-shows at appointments; 38%); the clinician lost contact with the family (e.g., phone was disconnected, caregiver did not respond to mailings; 30%); and the family stated that the services were no longer desired (24%). Other reasons for early termination included the family changing residences or scheduling problems such as conflict with work or school schedules. Results of a series of analysis of covariance (ANCOVAs) indicated that both the standard and the intensity groups showed large gains ($d = .95$ to $.98$) from pretest to posttest on the ECBI's intensity scores, indicating that the severity of the children's behavior problems had reduced following the treatment program regardless of intensity of treatment. The standard and intensity groups showed moderate to large gains ($d = .72$ to $.89$) from pretest to posttest on the ECBI's problem scores, indicating that the problematic nature of the children's behavior had reduced following the treatment program. The clinical significance of these results is important. At intake, 26 children in the standard treatment group and 28 children in the intensity treatment group met the criteria for a DSM-IV-TR

Axis I diagnosis with oppositional defiant disorder being the most common. At post-test, of the children with a psychiatric diagnosis at intake, 16 in the standard group (62%) and 17 children in the intensity group (61%) no longer met the criteria for a diagnosis.

Summary of Early Termination from PCT Programs

Despite differences in how material is delivered and their approach to defining termination, the programs are similar in that each program focuses on educating parents through the use of empirically supported techniques (e.g., non-directive play, praising positive behaviors, differential attention, child compliance, limit setting, natural consequences) to increase the child's positive, prosocial behaviors and decrease challenging behaviors. With the exception of PYC, the PCT outcomes research reviewed has been primarily conducted in controlled clinical settings (e.g., academic clinics) among married, middle-class, Caucasian caregivers. However, most of the above programs have begun to establish empirical support for intervention with diverse populations. Early termination is a problem in all four programs; the highest reported dropout rates tend to come from PCIT (56%; Fernandez et al., 2011) and PYC (64%; Carrasco & Fox, 2012).

Similar to research on early termination in general outpatient psychotherapy, PCT programs have failed to develop a uniform operationalization of early termination to measure (Hatchett & Park, 2003). The multi-method approach utilized by PCIT is the most reliable of the four programs. By using clinically significant and reliable change, clinical judgment, and mastery of parent-directed skills, the program reports treatment outcomes more accurately (Lyon & Budd, 2010). Alternately, IY-PT generally employs a duration-based gauge of treatment completion, most often in the form of a median-split

procedure. Triple P and PYC also use a dichotomous procedure to determine termination status, which is almost exclusively completion of post-test measures.

Many PCT studies have investigated reasons for early termination and found a variety of characteristics that are associated with dropout. Higher maternal stress is the most commonly reported predictor of dropout across PCT programs. Other factors include low SES (Fernandez & Eyberg, 2009; Kazdin et al., 1997a; Marcynyszyn, Maher, & Corwin, 2011), harsh or inappropriate parenting practices (e.g., negative talk, corporal punishment; Fernandez & Eyberg, 2009; Gross et al., 2009; Sanders et al., 2000; Werba et al., 2006), increased severity of child problem behaviors (Kazdin & Mazurick, 1994; Sanders et al., 2000; Bor et al., 2002), disagreement with the treatment approach (Peters et al., 2005), and single-parent status (Kazdin et al., 1997b). Several PCT outcomes studies have also contacted participants who dropped out of treatment to solicit their reason for discontinuing treatment. Participants commonly cite problems with transportation to treatment sessions (Krupnick & Melnikoff, 2012), scheduling conflicts (Kazdin et al., 1997b), and a change in residence (Carrasco & Fox, 2012), and different parent expectancies about therapy (Nock & Kazdin, 2001) as reasons for dropping out of treatment. The majority of PCT outcomes research acknowledges that early termination is a problem and that barriers to treatment need to be addressed in order to better understand the nature of how these characteristics impact treatment participation.

Limitations. Despite research demonstrating that participation in PCT programs significantly reduces child challenging behaviors and increases positive parenting (Eyberg et al., 2008), significant gaps remain to be investigated. First, PCT programs utilize different definitions for early termination and many studies failed to even describe

their definition of early termination. IY-PT studies in particular tend to have ambiguous definitions of dropout, sometimes including participants that did not attend any treatment sessions in their group of treatment completers. Generally, IY-PT studies utilize a duration-based median split procedure to differentiate appropriate terminators from dropouts. While highly reliable, this dichotomous method is limited because it assumes clients who have been in treatment longer fare better than those who dropout and may misclassify a large proportion of clients as a result (Swift et al., 2009). Although IY-PT research indicates more positive outcomes for clients who attend 7 or more sessions, other PCT programs have demonstrated that treatment intensity (attending more sessions) is not related to increased positive treatment outcomes (Carrasco & Fox, 2012). Other programs categorize participants as early terminators if they fail to complete post-test assessments. This method is inherently conservative, and may fail to account for families that attend treatment sessions but miss the post-test session. It also does not accurately account for therapeutic change, which could occur after any number of treatment sessions (Swift et al, 2009). Research indicates that parents tend to end therapy when a satisfactory level of gains has been achieved (Barkham et al., 2006). Therefore, using a dichotomous procedure to determine termination inherently limits generalizability because it only captures treatment duration (Hatchett & Park, 2003). Using a continuous measure (e.g., clinically significant or reliable change) would provide better reliability and validity, and has the additional benefit of increasing effect sizes and power in statistical analyses (Cohen, 1983).

Another limitation to PCT research is that most of the research reported thus far has focused on children from intact, Caucasian, middle-class families (Coard, Wallace,

Stevenson, & Brotman, 2004). These families typically were provided treatment services for their young children with challenging behavior problems in a group format at academic clinics or university settings. As such, the efficacy of these well-controlled studies is called into question when utilized in high-risk community-based settings. The literature regarding the effectiveness of these programs with low-income populations in the community, including ethnically diverse populations, is limited (Coard et al., 2004). This is surprising given ethnic minority children are disproportionally represented among those exhibiting behavioral and emotional problems (Gross et al., 2009). What's more, low-income African American and Latino children are less likely to access mental health services; for example, Latino children are 2.6 times less likely to have their mental health needs met than Caucasian children (Kataoka, Zhang, & Wells, 2002; SAMSHA, 2001). Complicating the work with these families are the reported higher rates of treatment dropout and the presence of significant psychosocial barriers to treatment participation in highly stressed families (Fernandez et al., 2011; Reid, Webster-Stratton, & Beauchaine, 2002).

Finally, efforts to understand who drops out of treatment and why they do so have focused primarily on characteristics of the family (e.g., SES; Armbruster & Kazdin, 1994). The variables that encompass these broad characteristics (e.g., transportation problems, parent mental health concerns, increased severity of child behavior problems) have provided a basis for identifying the correlates of early termination (often through a comparison of treatment completers and non-completers), but have not advanced our understanding of why families drop out of treatment or how to prevent early termination (Kazdin et al., 1997a). For example, studies such as Fox and Holtz (2009) have taken

specific measures to address barriers to treatment by providing individualized home-based services, monetary incentives, and treatment supplies and appointment reminders, but have not reported a decrease in their rate of early termination. Moreover, several PCT studies that identify characteristics that predict early termination report inconsistent results, which create a challenge to providing interventions to address early termination. In order to better understand experiences and perceptions of the family during treatment that predicts early termination, it is necessary to examine the conceptual underpinnings of the variables that may be involved. A subsequent goal is to generate a reliable and valid measure of these variables as a basis for intervening to help retain families in treatment.

Contributing Factors to Early Termination: Barriers to Treatment

Barriers to treatment participation are integral to a discussion about early termination within PCT programs. Limitations to research on barriers to treatment in this population are evident, and assessments that aid in predicting treatment outcomes are scarce. Therefore, a discussion on contributing factors to early termination and barriers to treatment is important to review.

Ecological Systems Theory

Explanations for high dropout rates include a combination of factors that interfere with treatment attendance, participation, or completion (Nock & Ferriter, 2005). These factors can be interpreted from an ecological systems framework (Bronfenbrenner, 1979). Originally proposed by Urie Bronfenbrenner, this approach allows for a broader perspective on human development characterized by accommodations made throughout the lifespan between the person and changing environments they occupy. In this model,

factors that interfere with treatment participation exist on an individual or ontogenic level and four subsequent levels: the microsystem, the mesosystem, the exosystem, and the macrosystem. While individual factors (e.g., age, race, gender) play a role, each individual exists within a unique microsystem (e.g., home, family, school settings) that is part of a larger exosystem (e.g., parent's job) that may contribute to treatment attendance and adherence (Snell-Johns, Mendez, & Smith, 2004). Finally, all of these levels are encompassed within the overall macrosystem that consists of cultural values and beliefs in a population (e.g., spiritual beliefs, cultural traditions, political views). Bronfenbrenner also discussed an additional level, the chronosystem, that encompasses the patterning of environmental events and inter-generational trends over the life course (e.g., considering how job opportunities for women have increased in the past several decades; Santrock, 2008). Factors that interfere with treatment are found at each level. However, disentangling them to identify specific factors that contribute to early termination has been difficult due to the complex associations among them that create compounding effects (e.g., a single-parent may be heading a low-income, minority family; Snell-Johns et al., 2004). Further evaluation is needed to examine the relationships between and within each level to determine the significance each plays in identifying barriers to treatment participation in PCT. Thus, the structures of the ecological environment serve as a framework for this review of factors that explain the processes by which treatment barriers affect participation in PCT programs.

Individual factors. Individual factors include variables such as ethnicity, gender, age, temperament, and symptom severity (Bronfenbrenner, 1979). While ethnicity and gender have not shown consistent evidence for differences between completers and non-

completers individually (Lavigne et al., 2010), minority individuals are less likely to utilize mental health services and more likely to terminate prematurely (Kazdin et al., 1995; McCabe et al., 1999). Age and symptom severity also have shown to predict attrition such that the more severe a child's problems are, the less likely a family is to complete therapy (Kazdin, Mazurick, & Bass, 1993; Snell-Johns et al., 2004).

Additionally, externalizing problems may be treated differently by age group, with older children exhibiting more conduct-like problems (e.g., aggression, lying, stealing) and younger children showing more oppositional behavior (e.g., temper tantrums, noncompliance; Lahey, 1991). In an attempt to distinguish early from late treatment dropouts in general child outpatient behavioral therapy, Kazdin and Mazurick examined correlates of early termination in a group of 257 children (56 girls, 201 boys) ages 4 to 13 years referred for externalizing behaviors and found that individual factors such as minority group status, symptom severity, and lower IQ were associated with dropout after 6 or fewer sessions; while child history of antisocial behavior and poor adaptive functioning at school predicated dropout between 7-14 sessions.

Other studies have shown that ethnic minority status is related to premature termination from general child outpatient therapy. Kazdin, Stolar, and Marciano (1995) examined the factors that predicted dropping out of treatment among lower middle class Caucasian and African American children. Participants included 279 children (58 girls, 221 boys), ranging in age from 3-13 years ($M = 9.6$, $SD = 2.2$); 64.5% were Caucasian and 35.5% were African American. Most children met criteria for at least one psychiatric disorder. The majority of caregivers were biological mothers (91.5%) whose ages ranged from 20 to 55 years ($M \text{ age} = 33.7$, $SD = 5.4$); 43.7% came from single-parent

households. Families who completed treatment were compared to those who terminated early against the advice of the clinical team. Initial comparisons of Caucasian and African American families indicated that African American families were lower in SES, reported worse living conditions, had a higher proportion of single-parent households, and were more likely to receive public assistance compared to Caucasian families. African American children were also more likely to have a significant history of antisocial behavior. Results of analyses comparing rates of dropout indicated that African American families dropped out more often than Caucasian families (59.6% and 41.7%, respectively; $\chi^2(1, N = 279) = 8.29, p < .01$). Both Caucasian and African American families were at an increased risk of dropping out of treatment based on perceived amounts of parent stress, higher rates of child antisocial behavior, mother history of antisocial behavior, and use of adverse child-rearing practices. Differences between the two groups indicated that Caucasian families were at an increased risk based on lower SES, maternal age, single-parent status, and severity of overall child symptoms, which were not evident for African American families.

Microsystem. The microsystem exists between the individual and their immediate surroundings (e.g., home, school). This is a bidirectional interaction where the individual influences their microsystem and factors in the microsystem are, in turn, affected by the individual. Microsystem factors that have been found to be related to mental health outcomes include single-parent status, parental expectations, social isolation, and parent mental health (Miller & Prinz, 1990; Snell-Johns et al., 2004). Additional microsystem contexts that may play a role in participation in PCT programs

include caregiver-child relationships, parent-child attachment, and immediate family environment (Hong, Algood, Chiu, & Lee, 2011).

Kazdin, Mazurick, and Bass (1993) examined ecological factors related to dropping out of therapy in 160 children (36 girls, 124 boys) ages 5-to-13 (M age = 10.1). The majority of the sample was comprised of Caucasian (61%) lower middle class children who met criteria for at least one DSM-III-R diagnosis. Common diagnoses included Conduct Disorder (50%) and Oppositional Defiant Disorder (35%). Biological mothers were identified as the primary caregiver in most families (89.5%). Participants were randomly assigned to one of two groups at intake, which included either cognitive problem-solving skills training (PSST) or parent management training (PMT). In PSST, children were seen individually for 20 to 25 weekly one-hour sessions. In PMT, parents were provided 16 weekly 1 to 2 hour sessions. Of the original 160 participants, 62 (39%) dropped out. Results of analyses found a number of factors were associated with an increased likelihood of premature termination and poor treatment outcome, including microsystem factors such as single-parent status, parent age (younger), belonging to a minority group, parent stress, adverse life events, and adverse parenting practices. Moreover, the accumulation of factors placed families at increased risk for dropping out, ($\chi^2[19, N = 140] = 77.6, p < .001$); 50% of families who terminated prematurely had 8 or more risk factors.

Mesosystem. On the next level of the hierarchy, the mesosystem has been used to characterize interactions between microsystem factors. Examples of mesosystem factors include the interaction of environmental and genetic factors, as well as family interactions with the school, the healthcare system, the child's peer group, and the child's

day care (Bronfenbrenner, 1986). The processes operating are not independent of one another; instead, they interact to influence the developmental trajectory of the individual. One example of how mesosystem interactions impact treatment participation is the effect of poverty on parenting practices. Experiencing poverty may result in higher parent stress levels and increased child behavior problems, which in turn are responsible for the child's negative interactions with peers at school (Eamon, 2001). Likewise, children living in poverty may experience unsupportive school environments that adversely affect their socioemotional development, which may make it more difficult for parents to provide nurturing and supportive parenting towards them in the home. As a result of these multifaceted variables interacting with family functioning, families living in poverty may be more likely to have increased rates of dropping out of outpatient child therapy (Kazdin & Armbruster, 1994).

Exosystem. The exosystem level, or community level, represents the interactions between systems that the individual does not have control over (Bronfenbrenner, 1986). These structures may include places the individual does not necessarily have any direct contact with, such as a parent's place of employment, parent's social networks, community programming or resources available, the neighborhood in which the individual is raised, and communication and transportation (Bronfenbrenner, 1977). Though these factors do not necessarily come in contact with the individual, they can have implications for how the individual develops. For example, children living in poverty in inner cities are more likely to experience conduct problems than children living in more affluent urban areas, and prevalence rates of disruptive behavior disorders in children with less access to specialized resources are higher (Tolan & Guerra, 1994).

Additionally, ethnic minority families living in low-income neighborhoods are not only less likely to seek help for mental health treatment (Snowden, 1999), but are also more likely to drop out of treatment (Kazdin & Mazurick, 1994), and less likely to have positive treatment outcomes overall (McKay, Gonzales, Quintana, Kim, & Abdul-Adil, 1999). Similarly, parent resistance to accessing mental health services as a result of preconceived mental health stigma or expectancies about their child's therapy may impact whether the child ultimately receives mental health services (Nock & Ferriter, 2005).

Macrosystem. While the previous systems have referred to specific contexts in which the individual comes in contact with, the macrosystem consists of the “blueprints”, or general prototypes of the contexts (e.g., a school classroom structure; Bronfenbrenner, 1977). It includes economic, educational, social, legal, and political systems that the micro-, meso-, and exo- systems are comprised. This includes cultural values towards mental health service utilization (Krupnick & Melnikoff, 2012). For example, Latino families have been described as placing strong value on the importance of family and self-reliance that may lead to ambivalence about seeking help from outside sources (Alvidrez, 1999). Additionally, attitudes towards child behavior problems may affect whether a family is likely to seek treatment. African American families have been described as valuing parental authority and may see their child's behavior problems as requiring discipline rather than psychotherapy (Gaw, 1993). Thus, these families may be more likely to terminate early if they do not agree with the treatment approach (Kazdin, Mazurick, & Bass, 1993).

The history and reforms of children's mental health services occur at the macrosystem level, and contribute to how policies are developed to provide mental health services to children (Bringewatt & Gershoff, 2010). For example, while not specifically related to children, the Community Mental Health Movement of the 1960's led to the development of outpatient community mental health clinics that provided services to children and families (Lyons, 2004). While this initial movement spurred conversation on the topic of children's mental health, policies enacted around this time offered insufficient resources and manpower to support children in need (Bringewatt & Gershoff, 2010). Additionally, it fostered an overemphasis on treatment rather than prevention. Continued reforms have since sought to better address the mental health needs of children through the development of prevention and early intervention programming like PCT programs. The PYC program is an excellent example of a PCT program designed to address the mental health needs of very young children living in poverty (Fox & Holtz, 2009). Other programs have begun piloting studies with these more challenging populations as well (Lyon & Budd, 2010; Matos et al., 2006). Despite efforts to improve the current mental health system, various barriers, including a lack of coordination among service providers, fragmented services, and unavailability of services to low-income children and families impede the child mental health system (President's New Freedom Commission on Mental Health, 2003).

Parent, Child, and Family Characteristics

Parent, child, and family characteristics have been shown to be associated with treatment participation and outcome (Armbruster & Kazdin, 1994). In fact, most research to date has focused on parent, child, and family characteristics as a primary means to

understanding who drops out of treatment and why (Kazdin, 1990; Wierzbicki & Pekarik, 1993). While these variables have shown to be reliable predictors of dropout from outpatient therapy, they represent a broad set of characteristics and have demonstrated limited ability to specify mechanisms within these populations that may be underlying early termination. For example, socioeconomic disadvantage is correlated with a number of negative social outcomes (U.S. Public Health Service, 2000), but there are multiple reasons to explain why a low socioeconomic status family may drop out of treatment. Some of these reasons may include poor physical or mental health, lack of reliable transportation, lack of insurance coverage, multicultural issues (e.g., language barriers), and meeting basic family needs (e.g., housing, food) before addressing other family issues, to name a few (Bringewatt & Gerschoff, 2010, Wadsworth, 2010).

Kazdin (1990) initially examined the parent, child, and family characteristics between completers and non-completers in children referred to an outpatient clinic for conduct problems. Participants included 81 children (15 girls, 66 boys) between the ages of 7-13 (M age = 10.3); 65.4% of children were Caucasian and 34.6% were African American. The majority of children met criteria for either conduct disorder (51%) or oppositional defiant disorder (39%). Biological mothers were the primary caretaker in 86.7% of cases; 49.4% of families were headed by a single parent. Results of analyses comparing the two groups revealed that among families who dropped out, children evidenced more severe conduct disorder symptoms and more delinquent behaviors; mothers reported greater stress from their relations with the child, their own role functioning, and life events; and families were at greater socioeconomic disadvantage than those who remained in treatment (effect sizes unavailable).

A 1994 study by Kazdin and Mazurick examined the child, parent, and family factors that predicted early termination at different points over the course of treatment in a sample of 257 children ages 4-to-13 (M age = 9.80) referred for the treatment of oppositional, aggressive, and antisocial behavior. The majority of families were Caucasian (59.9%) lower SES families that had a median family income of \$12,000. The primary caretaker was the child's biological mother in 91% of cases (M age = 34.3). Of the original sample, 122 (47%) dropped out prior to completion of treatment. Participants were considered treatment dropouts based on a unilateral decision to discontinue therapy on the part of the parent against the advice of the clinical team. Early dropouts were participants who attended fewer than 6 sessions, while late dropouts included participants who terminated between 7 and 14 weeks of treatment. Of the 122 cases that dropped out, 75 (29% of the original sample) were classified as early dropouts, and 47 (18% of the original sample) were classified as late dropouts. Dropouts attended an average of 3.8 (early dropouts) and 10.8 (late dropouts) treatment sessions, while completers attended an average of 22 sessions. Results of regression analyses comparing treatment completers to dropouts found that maternal age ($r = .43$), single-parent status ($r = .46$), child history of antisocial behavior ($r = -.44$), child contact with antisocial peers ($r = -.43$), income level ($r = .40$), and number of conduct disorder symptoms ($r = -.43$) were associated with early termination from therapy. Specific characteristics that differentiated early and late dropouts were minority status, family income, poor living accommodations, adverse family child-rearing practices, child contact with antisocial peers, and poor adaptive functioning at school.

Barriers-to-Treatment Model

In order to better explain the constellation of factors that contribute to early termination, Kazdin and colleagues (1997) developed a barriers-to-treatment model. The barriers-to-treatment model proposes that families experience multiple barriers that interfere with treatment participation and increase the risk of dropping out. Assumptions of this model include that barriers to treatment exist above and beyond the well-studied parent, child, and family characteristics such as socioeconomic disadvantage, minority status, single-parent households, and adverse child-rearing practices (Olfson et al., 2009). Parental attitudes regarding treatment, lack of transportation, finding childcare for other children during treatment sessions, treatment costs, a poor relationship with the therapist, and parent mental health status have been implicated as some of the barriers that interfere with the therapy process (Fernandez & Eyberg, 2009; Garcia & Weisz, 2002; Kazdin, Holland, & Crowley, 1997; Snell-Johns et al., 2009).

Kazdin and colleagues (1997a) studied barriers to treatment in a sample of 260 children (59 girls, 201 boys) ranging in age from 3-14 years ($M = 8.4$, $SD = 2.7$); 63.5% of the children were Caucasian, 26.9% were African American, 6.9% were Latino, and 3% were from other groups. Children's IQ based on the WISC-R ranged from 56-144 ($M = 97.7$, $SD = 17.6$). The majority of children met criteria for more than one psychiatric diagnosis (76.1%). In most cases, the primary caretaker was the biological mother (93.8%) whose ages ranged from 20 to 56 years ($M \text{ age} = 34.1$, $SD = 6.2$). Participants were primarily from middle-class families (Hollingshead, 1975). Results indicated that families who experienced higher numbers of perceived barriers were more likely to drop out of treatment and have higher rates of cancellations and no-shows compared to

families who experienced lower numbers of perceived barriers. Results also found that barriers to treatment contributed uniquely to premature termination when parent, child, and family characteristics were controlled, confirming that barriers to treatment do not overlap with, and are not explained by parent, child, and family factors (Kazdin et al., 1997a). Instead, parent-reported barriers to treatment added significant variance to the prediction model ($F[1, 233] = 28.50, p < .001, R^2 \text{ change} = .10$). Moreover, therapist-reported barriers to treatment added additional support in explaining the variance in the model when parent, child, and family characteristics were controlled, ($F[1, 233] = 65.09, p < .001, R^2 \text{ change} = .20$).

Kazdin and colleagues' study (1997a) used various instruments to develop a conceptual understanding of barriers to treatment, which resulted in dividing barriers into four thematic areas: stressors and obstacles that compete with treatment, treatment demands and issues, perceived relevance of treatment, and relationship with the therapist. A scale that formally assessed these areas was developed for both parents and therapists called the *Barriers to Treatment Participation Scale* (BTPS; Kazdin et al., 1997a).

Stressors and obstacles that compete with treatment. This area of barriers reflects obstacles that interfere with participating and coming to treatment, such as transportation and logistical issues getting to and from therapy, significant illness of another child, getting into an argument with a significant other over the relevance of treatment, problems with other children in the home that interfere with treatment, scheduling appointment times, not having the energy to attend treatment, crises at home that made it difficult to attend treatment, inclement weather, and treatment adding to other stressors. Additionally, Krupnick & Melnikoff (2012) highlighted that difficulties in

obtaining care such as transportation problems, lack of childcare, and work scheduling conflicts may make seeking treatment overwhelming for low-income high-need families. These families typically rely on public transportation and may be unable to support the cost of attending treatment. Furthermore, keeping track of treatment sessions via calendar or appointment reminder may be beyond their means. As such, cost, inconvenient clinic locations, transportation, limited clinic hours, and difficulties obtaining childcare contribute to stressors and obstacles that may prevent families from attending and adhering to a treatment program.

Treatment demands and issues. Barriers that comprise this area are items related to concerns and complaints about treatment, including, the child refusing to come to treatment, the length of treatment (too many weeks), the cost of treatment, inaccurate billing for services received, confusion about treatment approach and related didactic information, discomfort with treatment setting, perceived difficulty, and concerns over lack of control in what goes on in treatment. In a 1999 study examining treatment barriers on families receiving parent management training, Kazdin and Wassell found that the demandingness of treatment and perceived relevance of treatment were the two sources of barriers most strongly related to therapeutic change for the child, and ultimately the best predictors of treatment outcome.

Perceived relevance of treatment. This group of barriers reflects the extent to which a family believes therapy is relevant to treating their child's problems. Specifically, it includes items that reflect expectations about treatment, how necessary treatment seems, perceived importance and focus of treatment, perception of problems being treated, and effectiveness of treatment overall. Stevens, Kelleher, Ward-Estes, and

Hayes (2006) examined post-therapy perspectives on perceived barriers to participation in parent and child therapy in a sample of 186 families referred from four community mental health centers. Children were between the ages of 5-17 (M age = 10.3, SD = 3.4); 67.9% were Caucasian, 28.3% were African American, 0.5% were Latino, and 3.3% were identified as other or multiracial. Fifty-five percent of the children qualified for at least one psychiatric disorder. Clinicians were contacted by phone to determine the status of a client's standing after 4 or more weeks of the family not engaging in therapy. If the clinician indicated the client had dropped out of therapy, the parent and the clinician were mailed questionnaires to complete. Numerous efforts were made to maximize data collection including providing reminder calls, giving participants the option of completing the measures over the phone, and offering a \$20 incentive to families for completing measures. Response rates were modest; 72 parents (27%) and 153 clinicians (56%) responded. Interestingly, the only difference that emerged between responders' and non-responders' demographic data was that parents of children with Medicaid were more likely to have returned the post-therapy questionnaires. Therefore, responses may reflect bias perceptions of families from lower SES backgrounds. Notwithstanding these limitations, results of analyses indicated that low perceived relevance of treatment and relationship problems between the clinician and family were the most prominent reasons for early termination. Children who met treatment goals reported fewer barriers regarding perceived relevance of treatment ($t[138] = 5.35, p < .01$) and relationship problems between family and therapist, ($t[135] = 2.64, p < .01$).

Relationship with the therapist. The fourth group of barriers consists of barriers relevant to the therapeutic alliance, such as comfort level with the therapist, perceived

support from the therapist, therapist disclosure regarding treatment, and likeability of the therapist overall. Kazdin, Marciano, and Whitley (2005) provide evidence of the importance of the child-therapist and parent-therapist alliance to the treatment process in a study of children referred for oppositional, aggressive, and antisocial behavior. Participants included 185 children (138 boys, 47 girls) aged 3-14 (M age = 7.2, SD = 2.6). Most of the children in this sample were Caucasian (80%) and came from middle class families; mothers were the primary caretaker in 93% of cases. Participants were randomly assigned to receive either parent management training (PMT) alone or in combination with cognitive problem-solving skills training (PSST) for approximately 12 weeks (Kazdin, 2003). Measures were completed before, during, and at the end of treatment by parents, children, and therapists. Results indicated no differences in alliance as a function of the child's gender, age, minority group status, or therapist. After controlling for socioeconomic disadvantage, parent psychopathology, stress, and child dysfunction, it was clear that a stronger therapeutic alliance between the child and the therapist predicted greater therapeutic change for the child ($r = .64$). According to the therapist ratings, the parent-therapist alliance was also positively related to therapeutic change. More positive parent-therapist and child-therapist alliances were related to the presence of fewer barriers to treatment as evidenced by scores on the *Barriers to Treatment Participation Scale – Parent Version* (Kazdin et al., 1997a). Stronger alliances were also related to increased treatment acceptability by parents and children.

Barriers-To-Treatment Research

The results of the 1997 Kazdin et al. study were echoed in the 1999 study by Kazdin and Wassell. In this study, the authors examined predictors of therapeutic change

and barriers to treatment among children who attended outpatient therapy for disruptive behavior problems. Participants included 200 mostly middle-class children (45 girls, 155 boys) ranging in age from 3-13 ($M = 7.9$, $SD = 2.7$). The majority of children were Caucasian (71%), followed by African American (21.5%), Latino (5%), and those that belonged to other groups (3%). Most children met criteria for one or more psychiatric diagnoses (M disorders = 2.3). Primary caregivers were the child's biological mother in 93% of cases; mother's age ranged from 20-56 ($M = 34.7$, $SD = 6.2$); 38% of children came from single-parent households. In order to determine the association between barriers to treatment and treatment outcome, the researchers tracked the number of cancelled sessions, number of times the family did not show up for treatment, and number of times a family was more than 20 minutes late to a treatment session. Results demonstrated that families with greater socioeconomic disadvantage, parent psychopathology, parent-reported stress, and severity of child symptoms had less therapeutic improvement from pre-to post-test. Individually, these items showed small-to-medium effect sizes (.10 to .30; Cohen, 1988), however, when entered together, the variables from these domains significantly predicted therapeutic change ($F[13, 181] = 5.88$, $p < .001$, $R = .57$, $R^2 = .32$). In addition, families who experienced more barriers to treatment participation improved less over the course of treatment. Alternately, perceptions of fewer barriers to treatment facilitated greater therapeutic change. Perceived relevance of treatment, demandingness of treatment, and relationship with the therapist showed the highest correlations with therapeutic change. Interestingly, treatment attendance was not significantly related to therapeutic change.

Using Kazdin and colleagues (1997a) barriers-to-treatment model, Nock and Kazdin (2001) evaluated parents' pretreatment expectancies for their child's psychotherapy in relation to participation in treatment. Participants included 405 children (92 girls, 313 boys) ranging in age from 2-15 (M age = 8.17, SD = 2.83). Of the 405 originally referred children, 62.5% were Caucasian, 24.2% were African American, 5.7% were Latino, and 4.9% were identified as belonging to other groups. Full scale IQ scores as reported on the WISC-R ranged from 56 to 144 (M = 98.23, SD = 17.08). Most children in the study met criteria for one or more psychiatric diagnoses (M disorders = 2.27). Primary caregivers were biological mothers in 91.4% of cases; 47.9% of children came from single-parent households. Socioeconomic status (Hollingshead, 1975) included (from lower to higher): Class I (11.6%), class II (16.6%), class III (28.0%), class IV (28.5%), and class V (15.3%); 27.5% of families received some form of public assistance. Participants were randomly assigned to either a problem-solving skills training group (PSST) or parent management training (PMT) group following intake. The average duration of treatment for all participants was 16.31 weeks (SD = 8.42). Results of analyses indicated that parent (stress and psychopathology), child (older child, severity of symptoms, history of antisocial behaviors), and family characteristics (socioeconomic disadvantage, ethnic minority group status, single-parent status) significantly predicted barriers to treatment, treatment attendance, and early termination. Parents with lower expectations for treatment (e.g., dissatisfaction with treatment approach, inaccurate beliefs about the structure of treatment) experienced a higher number of barriers to treatment. Moreover, parent expectancies of treatment were related to barriers to

treatment, treatment attendance, and early termination even when demographic variables were controlled.

Summary of Contributing Factors

In general, research assessing barriers to treatment has demonstrated an association between parent, child, and family characteristics and early termination in the context of an ecological systems framework. Characteristics at the ontogenic, microsystem, mesosystem, exosystem, and macrosystem levels affect treatment acceptability, attendance, and participation in PCT. Recently, research has identified a barriers-to-treatment model that proposes barriers to treatment exist in one of four groups: stressors and obstacles that compete with treatment, treatment demands and issues, perceived relevance of treatment, and relationship with the therapist (Kazdin et al., 1997a). Other studies have identified specific characteristics that are considered barriers to treatment including parent expectancies for treatment (Nock & Kazdin, 2001) and treatment motivation (Drieschner, Lammers, & Van der Staak, 2004). While research indicates that barriers to treatment are not accounted for by parent, child, and family characteristics alone, the research supports the idea that these characteristics can predict the number of barriers experienced. For example, Nock and Kazdin (2001) found that parent (e.g., parent psychopathology and parent stress), child (e.g., age, severity of psychiatric symptoms, and history of antisocial behavior), and family characteristics (e.g., socioeconomic disadvantage, ethnic minority group status, and single-parent status) predicted barriers to treatment. Moreover, as the perception of barriers increased, so did the rate of early termination. Conversely, families with fewer child, parent, and family risk factors benefitted from fewer barriers, which served as a protective factor.

Several factors have been identified that affect whether a family is likely to benefit from treatment including demographic differences; parent, child, and family characteristics; and barriers to treatment participation. An ecological systems perspective offers a theoretically grounded understanding of factors affecting attendance and participation in treatment, while the barriers-to-treatment model serves as a guide for conceptualizing the experience of specific barriers to treatment in PCT programs (Nock & Ferriter, 2005). In concert, these two models demonstrate a thorough framework for understanding how treatment barriers affect treatment participation and treatment outcomes.

Limitations. This review has focused on the conceptual underpinnings of barriers to treatment in the context of parent and child therapy. Empirical studies have demonstrated a strong relationship between barriers to treatment and early termination; however, despite recent advances in identifying barriers to treatment participation, research in assessing the role that specific barriers play in treatment outcome has significant limitations.

First, the research conducted on parent, child, and family characteristics associated with early termination has been inconclusive. Some researchers have found a pattern between demographic variables (e.g., minority status), while others have reported contradictory results. For example, most of Kazdin's work in this area has identified socioeconomic status and minority status as robust predictors of treatment participation and outcome (Kazdin et al, 1995). Conversely, Stevens et al. (2006) found no association between treatment participation and these factors. These disparities could be a result of

limitations of the Stevens et al. study, but also should be considered in the context of accurately assessing barriers to treatment.

Second, the body of research that has examined barriers to treatment participation has limited external validity. Most studies have been conducted primarily with Caucasian, lower to middle SES children over the age of 6 in controlled clinic settings. Only a handful of studies could be located that document barriers to treatment in community or home-based settings among ethnic minority individuals with young children. Fortunately, an increase in awareness that minority individuals tend to have poorer treatment outcomes has led to a call for the development of culturally competent strategies that have direct implications for promoting therapeutic change (Snell-Johns et al., 2004; Surgeon General, 1999). As researchers expand the generalizability of their findings, recruitment and dropout rates should be reported as well as effect sizes to allow comparison of outcomes across different designs and target groups.

Finally, studies that do attempt to implement strategies for promoting change among families have had little success (Snell-Johns et al., 2004). For example, some PCT programs have taken measures to specifically address barriers to treatment as described in the literature by offering incentives (e.g., monetary, treatment supplies, prizes for children), providing home-based therapy, and offering more frequent treatment sessions (Carrasco & Fox, 2012). While these are effective for some families, overall they have not decreased early termination rates. Given the failure to advance barriers to treatment research to the intervention level, the widespread investigation of demographic variables and their impact on early termination may not be the most fruitful line of research. Studies that have investigated more complex variables (e.g., parent expectancies,

relationship with the therapist) have demonstrated stronger associations with treatment participation and outcome (Nock & Kazdin, 2001; Wierzbicki & Pekarik, 1993). Specific recommendations for future research should include considerations of clinical significance and practical measures that provide meaningful data for researchers to determine the effectiveness of their interventions across studies.

Evaluation Methods

Accurately identifying barriers to treatment participation is critical to involvement in PCT programs. Identifying and addressing current gaps in the literature and areas of research provide an opportunity to extend researchers' ability to more sensitively measure barriers to treatment participation in valid and reliable ways.

Measuring Barriers to Treatment

Various approaches to assessing treatment participation are available to assist practitioners working with children and families including child, parent, and therapist report scales (Colonna-Pydyn, Gjesfjeld, & Greeno, 2007; Dumas et al., 2007; Garcia & Weisz, 2002; Kazdin, Holland, Crowley, & Breton, 1997), as well as interview assessments (Kazdin & Mazurick, 1994). However, directly observable behavior of treatment engagement may be best assessed by therapist-report (Drieschner et al., 2004). Since most existing assessment measures on barriers to treatment emphasize parent and therapist report, the focus of this review will be on self-report (parent and therapist-report) measures. The available assessment instruments will be described and critically evaluated using standard measurement evaluation criteria including the initial development of the measure and general description (e.g., theoretical bases, item

selection), scales and scoring, normative data, psychometric properties (i.e., reliability, validity), the measure's applications, and advantages and disadvantages, as well as cultural considerations as available.

Characteristics of accurate screening measures. Due to inconsistent findings with regard to parent, child, and family characteristics that predict treatment outcomes and specific barriers to treatment that contribute to early termination in PCT programs, it will be important to identify which aspects to consider when evaluating measures. It is also important to consider the limitations of the current research that has failed to demonstrate adequate variation in sampling procedures and lack of consideration for cultural variables. The *Standards for Educational and Psychological Testing* (1999), prepared by the American Psychological Association (APA), in collaboration with two other associations related to testing, the American Educational Research Association (AERA) and the National Council on Measurement in Education (NCME) provides a comprehensive guide for test construction, evaluation, and documentation, as well as addresses professional and technical issues of test development for use in psychology and other settings. This resource provides recommendations on the selection of measures that were reviewed from the empirical literature in the following assessment areas: (a) what is being measured; (b) researchers' definition of early termination in study; (c) measure design including recording of information, reporting of information (e.g., child, parent, therapist), scoring, and administration time; (d) population and age range; (e) cost; and (f) utility. It should be noted that most measures will not meet or exceed every standard. Instead, these standards will be integrated along with recommendations from the empirical literature on the assessment of barriers within a specific context.

An important element to keep in mind when selecting measures is evidence of the reliability and validity of the measure. Assessments must have evidence of reliability, including internal consistency, test-retest, and inter-rater reliability. Internal consistency refers to the degree of items on a measure evaluate the same construct (e.g., barriers), while test-retest refers to the stability of the measure over time, and inter-rater reliability is the level of agreement between multiple respondents. Acceptable reliability coefficients are generally .80 and above (Wasserman & Bracken, 2003). Measures should also demonstrate adequate validity (Neukrug & Fawcett, 2010). Validity studies should include content validity, which is how well the content of a measure reflects what it is intended to measure. Concurrent validity is also important, which is a high correlation between the new measure and an already established measure that has demonstrated accuracy with the same construct. Concurrent validity can also help establish content validity. There should also be proof of discriminant and convergent validity which demonstrates the degree of relationship between the measure being evaluated and other measures (Neukrug & Fawcett, 2010).

Another important characteristic of assessment tools is that they are standardized on a large and current randomized sample that is closely reflective of the general population in terms of age, ethnicity, education, and socioeconomic status, among other parameters (AERA et al., 1999). Moreover, cross validation for different groups should be stable. Measures should have administration and scoring procedures that are clear and simple so mistakes are minimized; be written at a reading level below that of the projected rater; and be brief and cost-effective to maximize utility (AERA et al., 1999). One of the main criticisms of assessments by mental health professionals is that they are

too long and cumbersome to be useful in a community setting, where brevity and clinical value are virtues (Greeno, Colonna-Pydyn, & Shumway, 2007).

Current Measures to Assess Barriers to Treatment

Reviewing existing measures and the contributions that add to the understanding of barriers to treatment within a socio-ecological barriers-to-treatment framework is an important first step in identifying how to capture barriers to treatment in valid and reliable ways. Current measures that have been used to identify barriers in clinical practice have assisted in the development of treatment planning and goal setting in general child psychotherapy, and have potential to contribute to predicting treatment outcomes.

Barriers to Treatment Participation Scale (BTPS)

General description. The Barriers to Treatment Participation Scale (BTPS; Kazdin, Holland, & Breton, 1991) identifies barriers to treatment attendance, participation, and completion in outpatient child therapy. The measure is administered in an interview format and is designed to be completed by either parent or therapist in person or by telephone at the end of treatment. This scale has been the most frequently cited in parent child therapy research on barriers to treatment participation in outpatient mental health settings (Kazdin et al, 1997a).

Scales and scoring. The BTPS includes 44 items and questions broken down into 4 thematic areas including Stressors and Obstacles that Compete with Treatment, Treatment Demands and Issues, Perceived Relevance of Treatment, and Relationship with the Therapist. A separate Critical Events Scale was created to distinguish perceived

barriers associated with treatment participation from specific events (e.g., moving, change of job) over the course of treatment that could also precipitate dropping out. This scale consists of 14 items, bringing the total number of items to 58. Items were developed as a result of focus group discussions with therapists who were asked to draw on their cases that dropped out of treatment and to identify obstacles and barriers to treatment that these cases experienced. The factor structure of the BTPS has been disputed (Colonna-Pydyn, Gjesfjeld, & Greeno, 2007). Based on initial factor analyses, a one-dimensional structure was proposed to the BTPS. The one-dimensional structure (total barriers score) is the basis for the published measure (Kazdin et al., 1997a). However, recent research (Colonna-Pydyn et al., 2007) has identified two factors of the BTPS based on the responses of parents of children between the ages of 6 and 17 recruited from four community mental health clinics ($N = 464$). These factors are labeled Treatment Expectations and External Demands. Further validation of these factors has precipitated discussion on shortening the measure to adapt it to community settings (Colonna-Pydyn et al., 2007).

On the respective measure, parents and therapists are asked to indicate the degree to which a barrier occurs on each of the four subscales. The measure is rated on a 5-point Likert rating scale (1= *never a problem* to 5= *very often a problem*). Scores range from 44 to 220. The critical events scale uses a dichotomous yes/no response format to indicate whether the informant considers each event relevant. Critical events scores range from 0 to 14. Total scores on all scales reflect the degree to which treatment barriers are impacting therapy, where higher scores indicate increased levels of perceived barriers to treatment. BTPS total raw scores can be easily computed by hand. A median-split method

is typically used to differentiate high and low perceived barriers groups (Kazdin et al., 1997a). One study trichotomized their sample to differentiate low, medium, and high levels of perceived barriers to treatment (Kazdin & Wassell, 1999).

Stressors and obstacles that compete with treatment. This subscale consists of 20 items related to events that interfere with participate in and coming to treatment, such as conflict with a significant other about coming to treatment (e.g., “I had a disagreement with my husband about whether we should continue treatment”), problems with other children that interfere with treatment (e.g., “Getting a babysitter so I could come to the sessions), treatment service (e.g., “scheduling of appointment times for treatment”), and adding to other stressors (e.g., “I experienced a lot of stress in my life during treatment”). Scores on this scale range from 20 to 100.

Treatment demands and issues. This subscale consists of 10 items related to concerns and complaints about treatment, including that treatment was confusing (e.g., “information and handouts seemed confusing”), too long, costly, difficult (e.g., “my child had trouble understanding the treatment”), or demanding (e.g., “I felt this treatment was more work than I expected”). Scores range from 10 to 50.

Perceived relevance of treatment. This scale is comprised of 8 items reflecting the extent to which treatment was seen as relevant to the child’s problems (e.g., “my child now has new or different problems”), was viewed as important (e.g., “I felt treatment did not seem important as the sessions continued”), and met parental expectations (e.g., “treatment did not seem to be working”). Scores on this scale range from 8 to 40.

Relationship with the therapist. This scale is comprised of 6 items related to the parent’s alliance and bonding with the therapist including the extent the parent liked the

therapist (e.g., “I did not like the therapist”), perceived support from the therapist (e.g., “I did not feel the therapist supported my efforts”), and felt comfortable disclosing information to the therapist (e.g., “I felt I had to give too much personal information to the therapist”). Scores on this scale ranged from 6 to 30.

Critical events scale. This scale consists of 14 dichotomous yes/no items and identifies specific events that may lead to treatment termination, such as moving away, not having insurance coverage for treatment, a major shift in family structure during treatment (e.g., new baby, divorce, child moves out), change in job status, other mental health problems taking precedence over treatment, the presence of abuse in the family, terminal illness in the family, placement in a residential or day treatment program, changing schools during treatment, and legal problems that would interfere with meeting for treatment (e.g., traffic violations, arrest). Scores on this scale range from 0-14.

Normative data. The BTPS parent and therapist versions have been standardized with a sample of 260 predominantly Caucasian (63.5%) children 3 to 14 years old from an outpatient clinic. These standardization norms are representative of the general child and adolescent population from the 2010 U.S. Census data (U.S. Census, 2010). Unfortunately, the normative data are not stratified by age, gender, or socioeconomic status. While representative of the general U.S., much of the data on the BTPS is based primarily on samples comprised of too few low-income ethnic minority children.

In the initial evaluation of the BTPS, early termination was defined as premature termination on the part of the parent, who explicitly noted that they did not wish to continue treatment or when they did not come in for at least three consecutive weeks, and then failed to return after direct contact to reschedule (Kazdin et al., 1997a). Based on the

parent version of the scale, the dropout rate was different for families with low versus high barriers to treatment based on a median-split method, with 19% of families who experienced fewer barriers to treatment (low group) dropping out, and 57% of families who experienced more barriers to treatment (high group) dropping out ($p < .001$).

Psychometric properties. Few studies have demonstrated the psychometric properties of the BTPS (Kazdin et al., 1997a; Kazdin et al., 1997b). The data that is available for the BTPS demonstrates good internal consistency for both the parent and therapist versions (.86 and .90, respectively). Coefficient alphas for the subscales were acceptable for both the parent (range = .61-.80) and therapist (range = .76-.87) versions. Rating agreement between parents and therapists was found to be moderately correlated, ($r[239] = .45, p < .001$; Kazdin et al., 1997b). The validity of the BTPS has been reported in a handful of studies. Convergent and construct validity is supported by a high correlation with continuous measures of participation in treatment (weeks in treatment, cancellations, no shows; Kazdin et al., 1997a). Families high on perceived barriers have shown to be more likely to drop out of treatment, spend fewer weeks in treatment, and have higher rates of cancellations and no shows prior to dropping out. These findings are consistent across both parent and therapist versions of the scale.

The critical events scale is separate from most analyses of the total barriers score. It was created for the purposes of discriminant validity and to establish that barriers during treatment are not the same or explained by the occurrence of major life events that impede participation in treatment. Correlations between the total barriers score and the critical events scale are not significant in both parent and therapist versions of the scale ($r_s = .11$ and $.01$, respectively; Kazdin et al., 1997a).

Applications. The BTPS has been applied mostly in the context of child outpatient treatment. Results of the validation of the BTPS revealed that higher levels of perceived barriers to treatment were associated with premature termination (Kazdin et al., 1997a). As levels of perceived barriers increased, so did treatment dropout. These results were true for both the parent and the therapist versions of the scale. Interestingly, results of the initial validation also indicated that fewer perceived barriers to treatment participation reported by the parent (regardless of therapist evaluation of barriers) acted as a protective factor for families (e.g., less risk of premature termination). Subsequent analyses have confirmed these outcomes (Colonna-Pydyn et al., 2007; Kazdin et al., 1997b; Kazdin & Wassell, 1999; Lavigne et al., 2010). Given these implications, the BTPS offers the potential to identify possible foci for intervention to improve participation in treatment.

Advantages and disadvantages. Strengths of the BTPS include that it assesses for a broad range of barriers that may impact treatment participation and outcome (Kazdin et al., 1997a). Additionally, both the parent and therapist versions of the scale can be easily administered in person or over the telephone. Both versions of the scale are easily scored; both have evidence of good reliability and validity (Kazdin et al., 1997; Stevens et al., 2006). The utilization of the two measures allows for multi-informant assessment.

While the BTPS provides useful information regarding prediction of treatment outcomes, it has a number of limitations. The first of which includes the use of retrospective reporting on the part of the parent and the therapist. The scale was assessed at the end of treatment, putting therapists and parents at risk for recall bias. Completing

the scale at an earlier point in treatment would be less problematic. Second, the length and format for administration are time-consuming and cumbersome to complete in a community-based setting. A shorter scale would be easier to administer and complete for parents and therapists. A 20-item parent and therapist version of the BTPS has been developed, but has yet to be standardized with a representative sample (Colonna-Pydyn et al., 2007). Third, since the majority of the sample during development of norms was Caucasian (63.6%) and reported incomes above the federal poverty level, the results of the validation and testing of the scale are unable to be generalized to a diverse, low-income, urban population of children and families (Colonna-Pydyn et al., 2007). Fourth, scoring for the BTPS is not standardized; raw scores are divided based on a median-split method that determines whether a family is experiencing low or high barriers to treatment. This method creates a challenge for researchers who seek ways to establish clinical significance of perceived barriers to treatment. Finally, since the scale was developed in the context of an academic clinic-based setting with older children, some of the item content (e.g., finding a place to park at the clinic, bad weather, and transportation) may not be appropriate for a younger population in more non-traditional settings (e.g., home-based). Use of this tool in such a setting would require further evaluation and significant adaptation.

Reasons for Ending Treatment Questionnaire (RETQ)

General description. The Reasons for Ending Treatment Questionnaire (RETQ) assesses reasons for ending child outpatient therapy in children and adolescents (ages 7-18 years old; Garcia & Weisz, 2002). The RETQ was adapted from a longer questionnaire by Gould, Shaffer, & Kaplan (1985). Garcia and Weisz simplified the response scale and

item wording, added new items, and combined a handful of original items to reduce redundancy. The RETQ is designed to be completed by a parent or caregiver at the end of treatment. To date, this scale has been minimally used in research, and only employed in a community setting (Garcia & Weisz, 2002).

Scales and scoring. The RETQ is a 41-item measure that includes items about the therapeutic relationship, practical problems, appointment problems, time and scheduling concerns, and financial barriers related to treatment participation. Based on initial factor analyses and scree test, a six-factor structure was proposed. The authors used loadings of .35 as a cutoff for inclusion of items. The factors include (in order of factor loadings) Therapeutic Relationship Problems (15 items; e.g., “the therapist didn’t seem to understand”, “my child or I didn’t like the therapist”), Family and Clinic Practical Problems (10 items; e.g., “someone in my family got sick”, “we moved away from the area”), Staff and Appointment Problems (7 items; e.g., “the appointment they gave us interfered with my child’s school”, “The staff member I spoke with did not seem interested in helping”), Time and Effort Concerns (4 items; e.g., “we didn’t have enough time”, “it took too much effort to go”), Treatment Not Needed (3 items; e.g., “I didn’t really feel that my child had a problem”), and Money Issues (2 items; e.g., “the services cost too much”). The first factor, Therapeutic Relationship Problems, accounted for 16% of the total variance for the measure.

On the respective measure, parents are asked to rate each factor. However, the scale for rating items was not reported in the original standardization. Based on item content, higher scores indicate higher levels of perceived barriers to treatment

participation. Since further clarification is needed on scoring the measure, cutoff scores and clinical significance are unable to be reviewed at this time.

Normative data. The RETQ has been standardized on a sample of 344 families from 10 community clinics. Families were predominantly Caucasian (51%), followed by other groups (19%), African American (16%), and Latino (14%). Most of the sample fell in the lower middle SES range (Hollingshead, 1975). Early termination was retrospectively defined by coding clinical judgments as to whether therapy had been appropriately terminated. Sixty-one participants dropped out in 5 or fewer sessions; 60 participants dropped out after 6 or more sessions. All cases were included in analyses regardless of the time that they dropped out of treatment.

Authors compared the sample of 344 cases that completed the RETQ to 134 general clinic cases that did not complete the RETQ and found no differences on demographic variables; however, number of treatment sessions was lower for the RETQ group than for non-RETQ cases ($M = 13$ vs. 19 , $p < .05$).

Psychometric properties. To assess for test-retest reliability, the authors administered the RETQ at two times for 36 participants ($M = 11.33$ day interval, $SD = 4.83$). The test-retest correlation and coefficient alpha computed for each factor, respectively, were .91 and .91 for Therapeutic Relationship Problems; .84 and .79 for Family and Clinic Practical Problems; .88 and .75 for Staff and Appointment Problems; .93 and .71 for Time and Effort Concerns; .76 and .67 for Treatment Not Needed; and .93 and .72 for Money Issues (Garcia & Weisz, 2002). The RETQ demonstrated excellent inter-rater reliability ($\kappa = .86$), which was assessed by two raters independently for 30 cases.

Results of initial validation examining correlations of RETQ scores with parent, child, and family characteristics found that SES predicted higher scores on Time and Effort Concerns ($\beta = .16, p < .05$). The authors speculated that higher SES families were more likely to report stopping treatment because it was not convenient for their schedules. Additionally, higher externalizing scores on the Child Behavior Checklist (CBCL; Achenbach, 1991) were associated with higher scores on Therapeutic Relationship Problems ($\beta = .25, p < .01$) and Staff and Appointment Problems ($\beta = .20, p < .05$). Furthermore, early termination from therapy was predicted by higher scores on the Therapeutic Relationship Problems scale ($p < .05$) and the Money Issues scale ($p < .05$; Garcia & Weisz, 2002).

Applications. The RETQ has good potential to be used in clinical work in community-based settings. It has been used in a community setting to identify different subtypes of barriers to treatment (e.g., relationship problems, logistical problems, financial problems, etc.) in “real-world youth clinical care” (Garcia & Weisz, 2002, pp. 442). However, limited research is available demonstrating the RETQ’s clinical utility beyond the initial validation.

Advantages and disadvantages. The RETQ is one of the few available measures that has been validated in a community-based setting. It distinguishes between six different categories of barriers to treatment, and is technically sound with adequate psychometric properties. At face value, the items are clear and easy to understand.

Regarding the limitations, the RETQ has not been validated on children under the age of 7 even though children younger than 7 years of age enter therapy (Fox et al., 2007). Another disadvantage of the current literature base on the RETQ is that the sample

provided as evidence for reliability and validity primarily consists of Caucasian middle-class families (Garcia & Weisz, 2002). Therefore, clinicians and researchers are advised to be careful in the interpretation of the RETQ for direct application to low SES and ethnically diverse families. Additionally, the RETQ is a parent-report scale, and thus is subject to reporting bias based on how the parent perceives barriers to treatment. The authors acknowledge that the method used to identify early termination (clinical judgment) is subjective beyond whether a child completed a structured treatment manual, and should be noted as a limitation (Garcia & Weisz, 2002). Finally, at 41 items in length, the measure may be interpreted as long and cumbersome for a community-based setting. Further clarification is needed on scoring the RETQ, including statistical cutoff scores, in order to establish its clinical utility.

Obstacles to Engagement Scale (OES)

General description. The Obstacles to Engagement Scale (OES) was developed to assess the extent to which personal and intervention obstacles may limit participation in treatment (Dumas et al., 2007). The OES was created from items drawn or adapted from the Parental Opinions Questionnaire (Prinz & Miller, 1994), the Barriers to Program Participation Questionnaire, and the Inclination to Enroll Questionnaire (Spoth, Redmond, Kahn, & Shin, 1997). The construction of the scale was a result of personal communication with authors of the aforementioned scales, and as such, is not available for review.

Scales and scoring. The OES is a 14-item measure intended to be completed at the beginning of treatment. It has four subscales including: Personal or Family Stressors and Obstacles (4 items, e.g., “would alcohol or drug problems in your family stop you

from attending?”), Relevance of and Trust in the Intervention (4 items; e.g., “would the belief that a parenting program does not work stop you from attending?”), Intervention Demands (4 items; e.g., “would talking about parenting with people you don’t know stop you from attending?”), and Time and Scheduling Demands (2 items; e.g., “would having to find time to go to sessions stop you from attending?”). The factor structure is reportedly a one-dimensional structure, but this was not reported in detail in the validation or subsequent studies (Chaffin et al., 2009; Dumas et al., 2007). On the respective measure, parents are asked to rate the extent to which each item is a barrier on a Likert scale from 1 to 4 (1 = *definitely no*, 4 = *definitely yes*). Scores range from 14-56. High scores reflect high levels of perceived obstacles to treatment. OES raw scores are quickly and easily computed by hand. No cutoff for significance could be determined from any studies that utilized the OES.

Normative data. The OES was originally tested on 451 mothers or maternal caregivers of children between the ages of 3 and 6 who agreed to participate in a structured parenting program at two different geographic locations ($n = 311$ and $n = 140$). Mothers at both locations were primarily African American (70% and 45%), followed by Caucasian (25% and 44%), and other (5% and 11%). The authors reported that 49% of the sample attended more than half of the treatment sessions (4 or more); though a formal definition for early termination or dropout was not reported.

Psychometric properties. Only 2 studies could be located that discussed any psychometric properties of the OES. The original study by Dumas et al., (2007) demonstrated moderate to low internal consistency for each subscale (.73, .77, .77, and .40, respectively). However, Chaffin and colleagues (2009) utilized the OES in a sample

of 192 parents referred for parenting services and found a high coefficient alpha for the overall scale ($\alpha = .97$). The discrepancy between coefficients for these studies was not addressed in the Chaffin et al. (2009) study. Limited research on other psychometric properties of the OES is available.

Applications. The OES is relatively brief, and can be administered quickly in a number of settings including psychology clinics (Chaffin et al., 2009) and schools (Dumas et al., 2007). When administered as a screening measure, the OES identifies problem areas that can be targeted during treatment. The OES has received less use as an outcome tool, and effects of the tool in practice settings remain to be tested.

Advantages and disadvantages. The OES assesses a range of barriers with very few items in clinic-based settings and schools. The scale is brief, and can be easily administered and scored. Additionally, the data available are ethnically heterogeneous. Therefore, the results may be more applicable to low-income high-risk families than other, less heterogeneous measures.

The greatest disadvantage of the OES is the lack of available psychometric data demonstrating its reliability and validity in the general population. Only 2 studies to date could be located that reviewed this tool, and no studies were available that specifically addressed the evaluation and validation of the tool in the context of child outpatient treatment. Furthermore, the studies that were available for review provided limited information regarding how the items were created and initially selected. While this measure demonstrates strengths that suggest it has potential to be utilized to screen barriers to treatment participation, further clarification of the item selection, psychometric properties, and validation are needed before it can be considered a possible option.

Summary and Conclusions

Despite increasing attention paid to barriers to treatment in the literature, available screening tools are limited. Tools that are available have not addressed at-risk families with young children living in poverty. There is a clear consensus in the research that poverty and other negative socio-ecological factors place children at a higher risk of developing behavior problems at a young age (Fernandez & Eyberg, 2009; Fox & Holtz, 2009). Without intervention, many of these children go on to develop more serious and intractable behavior problems into adolescence and even adulthood (Breitenstein et al., 2007; Keenan, Shaw, Delliquadri, Giovannelli, & Walsh, 1998). Early intervention PCT programs that address these behaviors have been shown to be effective for families who are engaged in treatment (Bresten & Eyberg, 1998; Fox & Holtz, 2009). While programs that reduce children's challenging behaviors are successful, the challenge remains to identify reasons for high dropout rates. This is critical because attrition adversely affects research, service delivery, and clinical practice in the mental health field. Thus, the long term goal of this research will be to develop programs that are effective and reduce attrition.

Historically, early termination has been difficult to operationalize in psychotherapy. Consequently, studies examining early termination in the context of child outpatient treatment have yielded different results. Most research has defined early termination in one of four ways: early termination based on duration of treatment, therapist judgment, missed last session, and failure to return after intake. Recently, research has acknowledged the limitations to using different criteria to determine early termination, and has recommended using a multi-method, multi-informant approach to

defining termination based on clinically significant or reliable change. Researchers studying early termination should incorporate these recommendations whenever possible to ensure consistent reporting across studies.

The use of PCT programs for early child behavior problems is successful in reducing childhood aggression, tantrums, and noncompliance, as well as increasing positive parenting behaviors (Webster-Stratton & Hammond, 1997). Programs like Parent-Child Interaction Therapy (PCIT), the Incredible Years Parenting program (IY-PT), Triple P-Positive Parenting Program (Triple P), and the Parenting Young Children program (PYC) demonstrate that PCT programs are a well-recognized and accepted approach for decreasing child problem behaviors. However, a systematic review of these four evidence-based PCT programs reveals high dropout rates despite empirical support for the effectiveness of their programming. Efforts to understand who drops out of treatment and why they do so have focused primarily on a priori parent, child, and family characteristics. A closer look into how early termination is defined across PCT programs demonstrates inconsistency in operationalizing early termination and in reporting dropout rates that has led to significant variability in findings. Consequently, PCT programs have not adequately identified or addressed characteristics that interfere with treatment participation. Another limitation is that most PCT research has been conducted with Caucasian, middle-class families in controlled clinical settings. Additional evaluation is needed with ethnically diverse lower SES populations in community settings to determine the clinical applicability of these models.

Due to the complex associations and compounding effects among factors that may interfere with treatment participation, it is beneficial to evaluate reasons for early

termination in PCT programs from an ecological systems perspective. This approach allows for consideration of external environments on the functioning of individuals in the context of the family and the larger, surrounding community. From this perspective, numerous barriers to treatment exist at multiple levels of the broader ecology, preventing families from benefitting from mental health services (Snell-Johns et al., 2004). Barriers to treatment can be conceptualized from a barriers-to-treatment model, which proposes that families experience barriers that play a significant role in participation in treatment, and that those barriers contribute to dropping out above and beyond the contribution of parent, child, and family characteristics (Kazdin et al., 1997a). Barriers to treatment that have been studied in child outpatient treatment include stressors and obstacles that compete with treatment, treatment demands, perceived relevance of treatment, and the quality of the therapeutic relationship. The literature has demonstrated that experiencing an increased number of perceived barriers to treatment has been directly linked to treatment outcomes; specifically, higher rates of dropping out, fewer weeks in treatment, and higher rates of cancellations and no-shows.

Current tools to measure barriers to treatment have demonstrated limited reliability and validity for use in the general population. Moreover, most measures have not been validated with urban, lower SES and ethnically diverse populations. Only three measures that address barriers to treatment participation in child psychotherapy and PCT programs could be located for the purposes of this review; measures that were reviewed have significant shortcomings. For example, the BTPS is appropriate for use in determining retention in outpatient therapy for children and adolescents between the ages of 3-14 via parent and therapist report, but has not been validated with very young

children in urban, low SES populations (BTPS; Kazdin et al., 1997a). Likewise, the RETQ has been validated in community-based settings, but only with children ages 7-18 (Garcia & Weisz, 2002). Other efforts that have been used to identify barriers to treatment in order to distinguish dropouts from completers have focused exclusively on parent, child, and family characteristics (e.g., socioeconomic disadvantage, single-parent families, gender, age; Armbruster & Kazdin, 1994; Werba et al., 2006).

Given the relationship between poverty and high rates of early termination in PCT programs as well as subsequent problems in research, service delivery, and clinical practice (Kazdin, 1996), a new measure is needed that can identify barriers that play a role in treatment participation in PCT programs with low-income, ethnic minority families. Creating a tool that would accurately assess barriers to treatment participation in this population may allow for a more comprehensive understanding of barriers to treatment and offer a stepping stone to providing more effective culturally-sensitive treatment for young children with behavior problems in this population.

Chapter III – METHODOLOGY

Participants

The participants in this study included 330 children from Milwaukee County, consecutively referred from November 2009 to March 2012 to a clinic that was specifically developed to address mental health problems in very young children (Fox et al., 2007). Children were referred to the clinic by over 40 sources, including parents, other caregivers, medical providers (e.g., nurses, physicians), social service agencies (e.g., schools, daycare centers, Birth-To-Three organizations) and parents themselves. Eligibility criteria for this study included: (1) the child was under 6 years of age; (2) the child did not have significant physical disabilities, serious medical conditions, or present with symptoms indicative of Pervasive Developmental Disorder or significant cognitive impairment; (3) the child was referred for significant behavioral or emotional concerns (e.g., aggression, oppositional defiance, tantrums, hyperactivity, destructiveness, self-injury); (4) the family completed an intake evaluation and at least three treatment sessions; and (4) the child's parent or guardian signed a consent form approved by Marquette University's Institutional Research Board. If the parent or guardian declined to participate in this research project, the same treatment program was offered to the family, but their data were not included in this study.

Intervention

Treatment program. An individualized format of the Parenting Young Children (PYC) Program for young children was utilized (Fox & Nicholson, 2003). The PYC Program includes four main treatment elements: (a) strengthening the parent/child

relationship through non-directive play; (b) helping parents maintain appropriate developmental expectations for their child and learn cognitive strategies to avoid emotionally and behaviorally overreacting to their child's challenging behavior in a negative manner; (c) using techniques to strengthen the child's pro-social behaviors such as positive reinforcement, establishing home routines, and giving good instructions; and (d) employing limit-setting strategies to reduce the child's challenging behaviors such as redirection, ignoring, response cost, and time-out. In the PYC Program, treatment strategies were explained to the parent and directly modeled by the clinician. Parents also practiced each strategy with their child during the treatment sessions and received immediate feedback from the clinician. The treatment program was voluntary and designed to be completed in eight, once-weekly, treatment sessions; however, often more sessions were provided to meet the treatment goals. Treatment sessions were approximately 90 minutes in length.

The core treatment concepts and skills (child-led play, parent cognitive strategies, maintaining appropriate developmental expectations, procedures for strengthening pro-social behaviors and decreasing challenging behaviors) were covered within the first three treatment sessions following an initial intake session. The remaining sessions involved further tailoring the treatment plan to the unique strengths and needs of each child such as using planned ignoring for tantrums, establishing bed time routines for sleeping problems, and using social reinforcement to teach listening skills. A significant amount of time also was spent problem-solving with families when implementation difficulties arose (e.g., using a time-out in a very small and overcrowded apartment; encouraging siblings and extended family members to assist in treatment delivery).

Further, during later sessions, a parent-coaching component was included where clinicians observed parents during their natural day-to-day interactions with their children and provided immediate feedback to parents as they implemented treatment strategies.

Treatment outcomes for the PYC program have demonstrated decreased frequency of child challenging behaviors, as well as increased positive parent-child interactions during play, improved parental expectations and higher levels of nurturing at post-test in families that complete the treatment program (Fox & Holtz, 2009). Notably, these results have been shown to be effective across ethnicity, with low-income African American, Caucasian, and Latino families showing similar levels of improvement with treatment (Gresl, Fox, & Fleischmann, in press). Moreover, outcomes from the PYC program have demonstrated long-term maintenance of treatment gains at one year follow-up (Fox, Mattek, & Gresl, 2012).

Clinician training. Clinicians were master's level therapists and graduate students in counseling and psychology programs who received practicum and internship course credit for their participation in this study. All clinicians received extensive training and supervision in four modules: (a) working with diverse families of young children with and without developmental delays who live in poverty and maintaining personal safety in the home setting; (b) clinical skills needed for interacting with children less than six years of age and their caregivers; (c) treatment theory, program content and procedures; and (d) assessment administration and data collection. Training included didactic instruction based on a comprehensive training manual, reviewing relevant empirical literature articles, watching treatment program videotapes and rating parent-child interactions to ensure inter-rater reliability, shadowing treatment sessions, and a

gradual assumption of the role of lead clinician in the field under close supervision. Each clinician participated in ongoing weekly supervision (group and individual) for assistance on specific issues that arose with families and for feedback on their performance while implementing the treatment program. In general, clinicians completed training within approximately 4-5 months, at which time they began carrying a caseload of five-to-seven families. As most of the children's homes were located in unsafe neighborhoods, clinicians often provided treatment services in pairs and had access to an on-call supervisor if needed.

Instruments

Sociodemographic Questionnaire. The sociodemographic questionnaire (see Appendix A) was filled out by the intake clinician during the intake interview in order to obtain background information about the participants. Caregiver variables on the questionnaire included their age, race, relationship to child, receipt of public assistance, employment status, and annual household income. Child variables on the questionnaire included age, gender, racial/ethnic identity, and history of developmental delays (if applicable).

Early Childhood Behavior Screen (ECBS). The Early Childhood Behavior Screen (Holtz & Fox, 2012) is a 20-item self-report instrument developed specifically for very young children (0 to 5-years-old) from low-income backgrounds. The ECBS includes 10 positive behavior items (e.g., listens to you, shares toys) and 10 challenging behavior items (e.g., hits others, has temper tantrums) and is written at a 3.9 grade level. The scale instructions asked caregivers to rate each item based on their perception of the frequency of their child's behavior over the past week using a 3-point scale (1 =

rarely/never, 2 = *sometimes*, 3 = *almost always/always*). Total scores on the challenging behavior scale range from 10 to 30 with higher scores indicating a higher frequency of challenging behaviors. Total scores on the positive behavior scale range from 10 to 30 with higher scores indicating a higher frequency of positive behaviors. Field-testing of the ECBS was conducted with a representative, diverse sample of 439 parents from a low-income urban community. Examination of reliability of the ECBS found the Challenging Behavior Scale (.87) and Positive Behavior Scale (.92) obtained good levels of internal consistency. The 10-item Challenging Behavior Scale demonstrated adequate levels of concurrent validity ($r = .75$) with the Eyberg Child Behavior Inventory (ECBI; Eyberg & Pincus, 1999). In addition, the ECBS Challenging Behavior Scale acquired adequate levels of sensitivity (82%) and specificity (80%) based on its relationship with the ECBI.

Parent Behavior Checklist (PBC). The PBC (Fox, 1994) is a 32-item rating scale that was designed to measure the behaviors and expectations of parents of young children between the ages of 1 year and 4 years, 11 months. The PBC consists of three scales that were empirically derived through factor analyses: Expectations – 12 items that measure parents’ developmental expectations (e.g., “My child should be quiet while I’m on the phone”); Discipline – 10 items that assess parental responses to children’s problem behaviors (e.g., “I yell at my child for whining”); and Nurturing – 10 items that measure specific parent behaviors that promote a child’s psychological growth (e.g., “My child and I play together on the floor”). Items are rated using a 4-point frequency scale (4 = *almost always/always*, 3 = *frequently*, 2 = *sometimes*, and 1 = *almost never/never*). The range of total scores for each subscale are: Expectations (range = 12 - 48) with higher

scores indicating higher parental expectations, Discipline (range = 10 - 40) with higher scores indicating more frequent use of verbal and corporal punishment (e.g., yelling, spanking), and Nurturing (range = 10 - 40) with higher scores suggesting more frequent use of positive nurturing activities. From a representative sample of 1,140 mothers, the following internal consistencies using coefficient alphas were reported: Expectations = .97, Discipline = .91 and Nurturing = .82. Test-retest reliabilities for each of the three subscales were: Expectations = .98, Discipline = .87 and Nurturing = .81.

Procedures

Initial development of the scale. Approval from Marquette University's Institutional Review Board for the proposed study was obtained as part of the ongoing research efforts of the Behavior Clinic (see Appendix B). Items for the scale were initially developed based on a review of current measures, such as the Barriers to Treatment Participation Scale (BTPS; Kazdin et al., 1997a), and a review of the empirical literature on barriers to treatment. The language used in the development of the items was written in concise and concrete language so clinicians could complete it quickly and accurately with parents from all educational levels. An effort also was made to include items that would capture the unique barriers experienced by low-income families. The goal was to create an item list that was simple yet comprehensive in terms of treatment barriers occurring in at-risk families. After an initial list was generated, a sample of professionals ranging in age from 22 to 58 ($n = 12$; 2 male, 10 female) with a wide range of experience (one to thirty five years) in working with young urban children and their families (e.g., psychologist, counselors, doctoral students) were recruited to rate each item on clarity (e.g., clear, somewhat clear, unclear) and relevance (e.g., relevant,

somewhat relevant, not relevant). Clarity was defined as simple, concise, and the degree to which clinicians could understand what each item means. Relevance was defined as an appropriate fit for families receiving home-based therapy for their young child's challenging behaviors and degree to which the clinician felt that the item was important in predicting treatment outcomes. The recruited professionals were given an opportunity to write comments regarding each individual item below the item. They were asked to provide feedback on items or content areas that they believe should be added to improve the measure's ability to capture the essence of barriers to treatment. Finally, they were asked to give their general feedback and comments about the scale including title, instructions, item content and wording, scoring format, and number of items.

Changes and adjustments on the original scale were made according to the following criteria: (a) if 80% of the professional raters considered any item "not relevant", it was removed from the measure; (b) if 80% of the professional raters considered any item "unclear", the wording of the item was revised. Of the 23 original items, 17 items were retained for the final scale. The scale instructions asked clinicians to rate each item based on a 3-point (1 = *good*, 2 = *fair*, 3 = *poor*) Likert scale. This rating scale was selected to match the purpose of the measure in that it is brief, easy to score, administer, and interpret. A three-point rating structure has demonstrated success in prior research with highly regarded measures (e.g., CBCL; Achenbach, 1991). Sample items that were retained on the scale included to what extent basic needs were being met in the home, the clinician's sense of the parent's motivation to participate in treatment, the clinician's judgment of parental comprehension of treatment strategies, family attendance at treatment sessions, parent implementation of treatment based on percent of time the

family completed a weekly treatment report, clinician perception of child change, clinician rapport with parent, and availability of parent support networks, to name a few. Following alterations to the original scale, field-testing began. A full copy of the scale, entitled the Treatment Barriers Scale, is included in the Appendix (see Appendix C).

Field testing of scale. Clinicians completed the scale independently after meeting with a family for the third treatment session. This time frame was selected so that clinicians had the opportunity to get to know the family and observe characteristics that could be potential barriers to treatment (e.g., home environment, number of people in the home, availability of toys for child, basic needs met). It also allowed the clinician to accomplish a significant amount of the treatment protocol across the first three sessions to gauge parent motivation, engagement, and cooperation with treatment procedures.

Data analyses. All study data were entered into the computer using the statistical package for social sciences (SPSS) version 18.0 (SPSS, 2009). Content validity of the measure was assessed through expert ratings of the scale's ability to assess barriers to treatment.

The first research question (i.e., Does the TBS generate empirically derived factors with acceptable internal consistency?) was analyzed through a principal component factor analysis with varimax rotation to define the underlying structure among items on the scale. Factors were extracted with eigenvalues greater than 1.0, and a parallel analysis with the Monte Carlo Principal Components Analysis (PCA) Program confirmed the overall factor structure for the scale. A scree plot was examined to further confirm the factor structure. Following the PCA and the elimination of some items, the retained items with eigenvalues greater than one and factor loadings greater than .40 were

the focus of the remaining analyses. Items that “cross loaded” at .40 or higher on two or more factors were either discarded or assigned to the factor that had the highest loading based on the clinical importance of the item (Tabachnick & Fidell, 2007). The next step was to determine how the items comprising each factor correlated with each other and with the total score on each factor. A reliability analysis was then conducted to determine the internal consistency of the total measure using coefficient alpha, as well as the internal consistency for each factor of the scale. Acceptable internal consistency has been defined as an alpha value of .80 or higher (Wasserman & Bracken, 2003).

The second research question for this study (i.e., How do pretreatment variables explain treatment barriers and what are the mean differences between ethnic groups?) was analyzed using a multiple regression to determine the degree of relationship between TBS total scores (outcome criterion) and child gender (0 = male, 1 = female), presence of a developmental delay (0 = no, 1 = yes), parent age (i.e., rounded to the nearest year), ethnicity, receipt of public assistance (0 = no, 1 = yes), and child age (i.e., 0-5 years of age). For the analysis, ethnicity was dummy coded with the excluded category, Caucasian, as the baseline. Cohen’s *d* (Cohen, 1988) was also calculated as an effect size to determine the standardized mean difference. Effect sizes for Cohen’s *d* were classified as follows: 0.2 = small, 0.5 = moderate, and 0.8 = large.

The third research question (i.e., Do parental nurturing, expectations, and discipline style predict treatment barriers?) was analyzed using ordinary least squares (OLS) multiple regression to determine the degree of relationship between the scales. Semi-partial *r*’s were used to determine the degree of relationship for each subscale with the TBS. The final research question (i.e., Do treatment barriers predict treatment

outcome beyond the contribution of pretreatment variables?) was analyzed using a binary logistic regression to determine the degree of relationship between treatment outcome (outcome criterion; 0 = dropout, 1 = completion) and child gender (0 = male, 1 = female), presence of a developmental delay (0 = no, 1 = yes), parent age (i.e., rounded to the nearest year), ethnicity, symptom severity at intake, public assistance (0 = no, 1 = yes), and child age (i.e., 0-5 years of age). For the analysis, ethnicity was dummy coded with the excluded category, Caucasian, as the baseline. Pretreatment variables were entered in block 1 of the logistic regression, symptom severity in block 2, and TBS scores in block 3.

Following recommendations for best practice by Swift et al. (2009), a multi-method approach was initially planned to be used to operationalize early termination. Within this definition, participants would need to fail to demonstrate the following: (1) reliable change on the Early Childhood Behavior Screen's challenging scale (ECBS; Holtz & Fox, 2012) from their pretest score to their last obtained score during treatment (reliable change); (2) a score below the cutoff for clinical significance on the ECBS based on their most recent treatment session (clinically significant change); and (3) improvement in the frequency with which parents implement treatment strategies based on the most recent available treatment report (reliable change based on therapist judgment). Alternately, participants who met or exceeded these three criteria would be considered treatment completers.

Unfortunately, utilizing a multi-method approach to operationalize early termination was not realistic for the current study. As a result, only the first criterion, reliable change on the ECBS challenging scale, was utilized to operationalize appropriate

termination. In addition, all participants attended a minimum of three treatment sessions, as the TBS was completed by the clinician following the third treatment session. The reason for this change was due, in large part, to collecting data prior to deciding how to operationalize termination. This made it difficult to incorporate other methods of defining early termination for several reasons. First, the population served by the Behavior Clinic is not normally distributed. Therefore, establishing a clinical cutoff score for the ECBS within the population served by the Behavior Clinic would have required significant time and testing beyond the scope of the current study to determine an appropriate score to utilize as a cutoff because most children present with more severe behaviors than in the general population (Holtz & Fox, 2012). Second, in reviewing literature that used both reliable change and a clinical cutoff (Lyon & Budd, 2010) it became apparent that using both methods within the current population seemed too conservative. Third, treatment report data collected changed throughout the data collection for this study such that therapist perception of parent implementation of treatment strategies data were not obtained during the majority of data collection for the current study. Future studies should look to expanding the operationalization of early termination to include multiple methods, including therapist judgment (Swift et al., 2009; Wierzbicki & Pekarik, 1993).

CHAPTER IV – RESULTS

Overview

The demographic data of the participants including age, gender, public assistance, child primary diagnosis, and race is displayed in Table 1. The following chapter will describe the results of the statistical analyses of the dependent variables performed using the Statistical Package for the Social Sciences (SPSS 18.0 for Windows) program. This study utilized a principal components factor analysis, Monte Carlo PCA parallel analysis, two linear regressions, and a binary logistic regression.

Table 1. *Participant Demographics*

	<i>M</i>	<i>SD</i>	<i>n</i>	%
Child				
Age	3.17	1.07		
Male			221	67.0
Female			109	33.0
Race				
African American			163	49.4
Latino			70	21.2
Caucasian			40	12.1
Multiracial			57	17.3
Primary Diagnosis				
Oppositional Defiant Disorder			147	44.5
ADHD			17	5.2
Separation Anxiety			10	3.0
PTSD			7	2.1
Reactive Attachment Disorder			4	1.2
Other			132	40.0
Developmental Delay			153	48.0
Caregiver (mother, father, grandparent, foster parent, etc.)				
Age	30.04	8.51		
Race				
African American			167	50.6
Latino			80	24.2
Caucasian			59	17.9
Mixed/Other			24	7.3
Receiving Public Assistance			290	87.9

Research Question One

To address research question one (i.e., does the Treatment Barriers Scale generate empirically-derived factors with acceptable internal consistency), a principal components factor analysis was used to determine the overall factor structure of the scale. Because the factors were not expected to correlate at more than a moderate level, a varimax rotation was utilized to determine the most meaningful factor structure. Means, standard deviations, skewness, and kurtosis for the 17 Treatment Barriers Scale (TBS) items are shown in table 2. Nine of the 17 items were heavily skewed, indicating that the majority of clinicians rated those items similarly. For example, *basic needs met* (range 1-3, $M = 1.15$, $SD = .42$), was positively skewed, suggesting that most clinicians reported that families' basic needs were being adequately met. Despite several items being skewed, all items were included in the principal components analysis because they may demonstrate the ability to predict the extent to which treatment barriers impact treatment outcome in parent-child therapy.

The Kaiser-Meyer-Olkin measure of sampling adequacy ($KMO = .89$) indicated a high degree of common variance among the items suggesting that the factors resulting from the analysis accounted for a substantial amount of the variance. Bartlett's test of sphericity was significant ($\chi^2 = 2031.160$; $df = 136$, $p < .001$), indicating that no assumptions were violated.

Table 2. *Treatment Barriers Scale Descriptive Statistics*

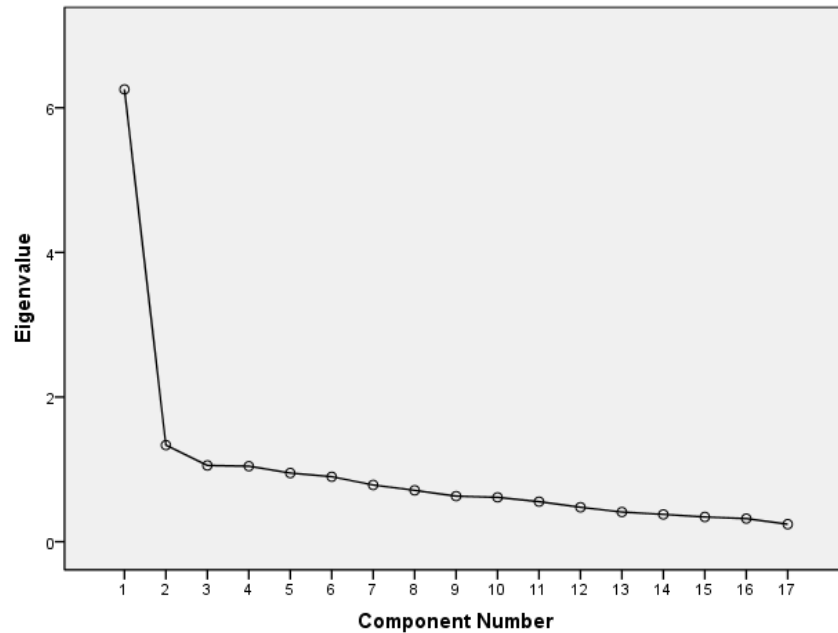
TBS Item	Mean	SD	Skewness	Kurtosis
Home Routines	1.72	.689	.429	-.858
Basic Needs	1.15	.417	2.76	7.27
Quality of Parental Supervision	1.51	.590	.691	-.485
Multiple Caregiver Cooperation	1.71	.745	.535	-1.03
Support for Primary Caregiver	1.78	.747	.390	-1.12
Caregiver Mental Health	1.34	.594	1.56	1.36
Caregiver Physical Health	1.22	.486	2.25	4.23
Caregiver Participation in Session	1.34	.572	1.50	1.23
Caregiver Learning Ability	1.32	.529	1.38	.942
Caregiver Implementation of Treatment	1.61	.615	.483	-.639
Caregiver Ability to Manage Stress	1.57	.626	.632	-.553
Caregiver Perception of Change	1.53	.658	.867	-.359
Caregiver Treatment Focus on Child	1.24	.476	1.79	2.36
Treatment Attendance	1.57	.741	.874	-.659
Clinician Observation of Change	1.33	.501	1.10	.004
Clinician Sense of Caregiver Motivation	1.31	.553	1.61	1.66
Quality of Caregiver/Clinician Rapport	1.18	.392	1.84	1.87

Four factors were initially extracted with Eigenvalues greater than one (See Table 3). A parallel analysis with the Monte Carlo PCA Program resulted in retaining two of the four original factors. These two factors accounted for a substantial amount of variance. The scree plot supported this two factor structure (See Figure 1). The factor analysis was rerun on all of the variables extracting only two factors because the remaining two-factor structure provided the best representation of the scale. The two factors demonstrated a moderate correlation with one another ($r = .68$), but given the two factor structure proposed by the PCA, the parallel analysis, and the scree plot, both factors were retained for further analysis.

Table 3. *Total Variance Explained*

Component	Initial Eigenvalues			Rotation sums of	Monte Carlo Parallel
	Total	% of Variance	Cumulative %	Squared Loadings	Analysis
1	6.254	36.790	36.790	3.542	1.4066
2	1.335	7.856	44.646	2.467	1.3289
3	1.055	6.204	50.850	2.087	1.2619
4	1.045	6.146	56.996	1.594	1.2093

Extraction Method: Principal Components Analysis

Figure 1. *Scree plot*

As stated in the methods section, only items that had factor loadings above .40 were intended to be selected for inclusion. Overall, the communalities were high, but the communalities found in 2 of the 17 items had indices below the .40 threshold suggested for the social sciences (Velicer & Fava, 1998). Specifically, caregiver physical health (.346) and caregiver treatment focus on child (.383) had relatively low communalities suggesting low levels of reliability with the total scores in the two factor solution (See Table 4). However, those items were retained for continued analysis due to the large

sample size and the low number of factors (McCollum, Widaman, Zhang, & Hong, 1999). The 17 items together explained 44.65% of the total variance.

The overall coefficient alpha for the scale was .88. Of the 17 items, 7 items loaded on factor one (i.e., items 8, 10, 12, 14, 15, 16, 17; See Table 4). This factor comprised items related to the treatment process and explained 37% of the variance in the scale. Items included caregiver participation, caregiver implementation of treatment, caregiver perception of change, treatment attendance, clinician observation of change, clinician sense of parent motivation, and the quality of the caregiver and clinician relationship (For mean item scores see Table 5). Given the emphasis on barriers related to the process of treatment, factor one was entitled Treatment Process Barriers. A reliability analysis revealed the internal consistency for this factor was .82.

Table 4. *TBS Items by Factor & Factor Loadings for Each Item*

Treatment Process Barriers	Factor Loading
Caregiver participation in session	.814
Caregiver implementation of treatment	.657
Caregiver perception of change	.598
Treatment attendance	.462
Clinician observation of change	.452
Clinician sense of caregiver motivation	.840
Quality of caregiver/clinician rapport	.782
Operational Barriers	
Home routines	.539
Basic needs	.659
Quality of parental supervision	.573
Multiple caregiver cooperation	.509
Support for primary caregiver	.462
Caregiver mental health	.727
Caregiver physical health	.346
Caregiver learning ability	.504
Caregiver ability to manage stress	.683
Caregiver treatment focus on child	.383

The 10 remaining items loaded on factor two, which comprised items related to caregiver ability to meet child needs in home environment (i.e., 1, 2, 3, 4, 5, 6, 7, 9, 11, 13; See Table 4) and was labeled Operational Barriers. This factor explained 8% of the variance in the scale. This factor included items regarding established home routines, basic needs met, quality of caregiver supervision, caregiver cooperation, caregiver support, caregiver mental health, caregiver physical health, caregiver learning ability, caregiver ability to manage stress, and caregiver treatment focus on child (For mean item scores see Table 5). A reliability analysis revealed the internal consistency for this factor was .80.

Table 5. *Item-Total Statistics for Items on TBS*

Treatment Process Barriers	Mean	Corrected item- total correlation	Alpha if Removed
Caregiver participation in session	1.34	.630	.872
Caregiver implementation of treatment	1.61	.632	.871
Caregiver perception of change	1.53	.638	.871
Treatment attendance	1.57	.414	.881
Clinician observation of change	1.33	.449	.878
Clinician sense of parent motivation	1.31	.683	.870
Quality of caregiver/clinician rapport	1.18	.556	.876
Operational Barriers			
Home routines	1.72	.619	.872
Basic needs	1.15	.473	.878
Quality of parental supervision	1.51	.573	.874
Multiple caregiver cooperation	1.71	.503	.877
Support for primary caregiver	1.78	.335	.885
Caregiver mental health	1.34	.465	.878
Caregiver physical health	1.22	.385	.880
Caregiver learning ability	1.32	.611	.873
Caregiver ability to manage stress	1.57	.615	.872
Caregiver treatment focus on child	1.24	.402	.880

Research Question Two

To address research question two (i.e., how do pretreatment variables including race, gender, parent age, child age, presence of a developmental delay, public assistance, and symptom severity explain treatment barriers and what are the mean differences between ethnic groups), a standard linear regression was used. Predictor variables were entered into the regression in two blocks. Block one consisted of demographic variables and block two consisted of a measure of symptom severity (ECBS challenging subscale). The predictor variable of race was dummy-coded into separate binary variables and Caucasian was excluded as a predictor in the regression.

With regard to treatment barriers, the regression results indicated that Model 1 (demographic variables) was a significant predictor of treatment barriers scores on the TBS that accounted for 8.8% of the variance within these scores ($F[8, 290] = 3.52, p \leq .001, R^2 = .088$). Within Model 1, two demographic variables were significant predictors of TBS scores – presence of a developmental delay and identifying as African American (See Table 6). Model 2 (demographic, and child symptoms severity variables) was also found to be a significant predictor of treatment barriers scores on the TBS that accounted for 11.7% of the variance within these scores ($F[9, 289] = 4.25, p \leq .001, R^2 = .117$). The addition of child symptom severity in Model 2 significantly increased its predictive ability over that of Model 1 ($F[1, 289] = 9.35, p \leq .05$).

To examine potential differences in Treatment Barriers Scale scores (TBS) by ethnicity, a one-way ANOVA was computed. Results revealed a significant difference in TBS scores across ethnic groups $F(3, 326) = 7.706, p \leq .001$. Bonferroni post-hoc comparisons of the four groups indicated that the Caucasian group ($M = 22.20, SD =$

5.18, 95% CI [20.54, 23.86]) had significantly lower TBS scores than the African American group ($M = 25.86$, $SD = 6.30$, 95% CI [24.89, 26.84]), $p \leq .01$. Comparisons between the Caucasian group and the other two groups were not statistically significant. Effect sizes were moderate between African American and Caucasian groups ($d = .634$), and small between Latino and Caucasian groups ($d = .083$) and Multiracial and Caucasian groups ($d = .339$).

Table 6. *Linear Regression Results: Predictors of Treatment Barrier Scores*

Domain/Predictor	<i>df</i>	R^2	<i>B</i>	β	<i>t</i> or <i>F</i>	<i>p</i>
Model 1	8	.088			3.52	.001**
Child Gender	290		-.018	-.001	-.025	.980
Child Age	290		-.174	-.032	-.555	.579
Developmental Delay	290		-1.93	-.136	-2.37	.018*
African American	290		3.28	.276	3.09	.002*
Latino	290		.285	.020	.235	.814
Multiracial	290		1.27	.080	1.02	.309
Public Assistance	290		.862	.048	.810	.418
Caregiver Age	290		-.027	-.038	-.660	.510
Model 2	9	.117			4.25	.000**
Child Gender	289		-.385	-.030	-.532	.595
Child Age	289		-.035	-.006	-.113	.910
Developmental Delay	289		-1.83	-.129	-2.28	.023*
African American	289		2.69	.226	2.52	.012*
Latino	289		.306	.021	.256	.798
Multiracial	289		1.07	.069	.886	.377
Public Assistance	289		.447	.025	.423	.673
Caregiver Age	289		-.022	-.031	-.546	.585
Pretest ECBS Challenging	289		.259	.181	3.06	.002*

Notes: * $p \leq .05$. ** $p \leq .001$

Research Question Three

To address research question three (i.e., do parental levels of discipline, nurturing, and expectations predict treatment barriers), a standard linear regression was utilized. Predictor variables were entered into block one and included pretest subscale T-scores from the Parent Behavior Checklist assessing levels of parental discipline, nurturing, and

expectations. The results of the regression indicated that Model 1 was not a significant predictor of treatment barrier scores on the TBS ($F[3, 324] = 1.51, p = .213, R^2 = .014$; See Table 7).

Table 7. *Linear Regression Results: Predictors of Treatment Barrier Scores*

Domain/Predictor	<i>df</i>	R^2	<i>B</i>	β	<i>t</i> or <i>F</i>	<i>p</i>	<i>part</i>
Model 1	3	.014			1.51	.213	
Pretest PBC Discipline	327		.051	.088	1.51	.131	.083
Pretest PBC Nurturing	327		-.030	-.065	-1.14	.254	-.063
Pretest PBC Expectations	327		-.006	-.013	-.231	.817	-.013

Notes: * $p \leq .05$. ** $p \leq .001$

Research Question Four

To address research question four (i.e., do treatment barriers predict treatment outcome beyond the contribution of pre-treatment variables), a binary logistic regression was performed to assess the extent to which scores on the TBS explained treatment success. The model contained eight independent variables that were entered into the regression in three blocks. The variables child's age, child's race, child's gender, public assistance, presence of a developmental delay and primary caretaker age were entered into the first block of the regression. Block two included a measure of symptom severity (e.g., ECBS challenging subscale), and block three of the regression included aggregate scores from the Treatment Barriers Scale (See Table 8).

Table 8. *Model Summaries*

	Omnibus			Hosmer & Lemeshow			Cox & Snell	Nagelkerke
	χ^2	<i>df</i>	<i>p</i>	χ^2	<i>df</i>	<i>P</i>	R^2	R^2
Block 1	6.092	8	.637	10.15	8	.254	.020	.028
Block 2	60.26	9	.000**	18.43	8	.018*	.183	.249
Block 3	86.31	10	.000**	27.12	8	.001**	.251	.343

Note: * $p \leq .05$ ** $p \leq .001$

The model containing all of the predictors in block 1 was not found to be statistically significant (χ^2 [8, N = 299] = 6.09, $p = .637$), indicating that the model was unable to distinguish between participants who terminated therapy and those who terminated inappropriately based on their demographic and other family characteristics. The block 1 model as a whole explained between 2.0% (Cox and Snell R square) and 2.8% (Nagelkerke R Square) of the variance in termination status, and correctly classified 64.2% of cases (See Table 10). As shown in Table 9, none of the predictor variables made a unique statistically significant contribution to the model.

The model containing all of the predictors in block 2 was statistically significant (χ^2 [9, N = 299] = 60.26, $p \leq .001$), indicating that the model was able to distinguish between participants who appropriately and inappropriately terminated therapy. The block 2 model as a whole explained between 18.3% (Cox and Snell R Square) and 24.9% (Nagelkerke R Square) of the variance in termination status, and correctly classified 72.6% of cases (See Table 10). As shown in Table 9, only one of the predictor variables made a unique statistically significant contribution to the model – child symptom severity. The predictor recorded an odds ratio of 1.29 indicating that for every point scored on the ECBS challenging subscale, the parent(s) were 1.29 times more likely to be appropriate terminators, controlling for other factors in the model.

Table 9. *Logistic Regression Analysis of Predictors of Treatment Success*

Predictor	df	Wald	p	B	Odds	95% C.I.	
						Lower	Upper
Block 1							
Child Age	1	.078	.780	.032	1.03	.825	1.29
African American	1	.202	.653	.172	1.19	.561	2.51
Latino	1	.023	.879	-.066	.936	.399	2.20
Multiracial	1	.006	.940	.034	1.03	.430	2.49
Child Gender	1	1.41	.236	-.309	.734	.440	1.22
Developmental Delay	1	.028	.867	.050	1.05	.588	1.88
Public Assistance	1	3.54	.060	.704	2.02	.971	4.21
Caregiver Age	1	.206	.650	-.007	.993	.965	1.02
Block 2							
Child Age	1	2.04	.153	.179	1.20	.936	1.53
African American	1	.881	.348	-.406	.666	.286	1.56
Latino	1	.015	.903	-.059	.943	.366	2.43
Multiracial	1	.067	.796	-.130	.879	.329	2.35
Child Gender	1	.004	.951	-.018	.983	.559	1.73
Developmental Delay	1	.292	.589	.181	1.20	.622	2.31
Public Assistance	1	1.18	.278	.444	1.56	.699	3.48
Caregiver Age	1	.064	.800	-.004	.996	.964	1.03
ECBS Challenging	1	43.66	.000**	.253	1.29	1.20	1.39
Block 3							
Child Age	1	2.12	.145	.190	1.21	.937	1.56
African American	1	.026	.871	-.073	.930	.386	2.24
Latino	1	.015	.902	-.061	.940	.352	2.51
Multiracial	1	.000	.998	-.001	.999	.360	2.77
Child Gender	1	.018	.895	.040	1.04	.577	1.88
Developmental Delay	1	.000	.991	.004	1.00	.498	2.02
Public Assistance	1	1.99	.159	.617	1.85	.786	4.37
Caregiver Age	1	.126	.722	-.006	.994	.960	1.03
ECBS Challenging	1	51.40	.000**	.313	1.37	1.26	1.49
TBS Score	1	22.61	.000**	-.133	.876	.829	.925

Notes: * $p \leq .05$. ** $p \leq .001$

The model containing all of the predictors in block 3 was statistically significant $\chi^2 [10, N = 299] = 86.31, p \leq .001$), indicating that the model was able to distinguish between participants who appropriately and inappropriately terminated therapy. The block 3 model as a whole explained between 25.1% and 34.3% of the variance in

appropriate termination status, and correctly classified 79.6% of cases (See Table 10). As shown in Table 9, two of the predictor variables made a unique statistically significant contribution to the model – child symptom severity and Treatment Barrier Scale score. Again, child symptom severity was the strongest predictor of termination appropriateness, recording an odds ratio of 1.37. This indicated that for every additional point scored on the ECBS challenging subscale, the parent(s) were 1.37 times more likely to be appropriate terminators, controlling for other factors in the model. Treatment Barriers scale score was also a predictor of termination appropriateness, with an odds ratio of .876. This indicated that for every additional point scored on the TBS, the parent(s) were .876 times more likely to be appropriate terminators, controlling for other factors in the model.

Table 10. *Predicted and Observed Classification Table*

	Predicted		Percent Correct
	Inappropriate Terminator	Appropriate Terminator	
Block 0 - Observed			
Inappropriate Terminator	0	110	0
Appropriate Terminator	0	189	100
Overall Percentage			63.2
Block 1 – Observed			
Inappropriate Terminator	12	98	10.9
Appropriate Terminator	9	180	95.2
Overall			64.2
Block 2 - Observed			
Inappropriate Terminator	53	57	48.2
Appropriate Terminator	25	164	86.8
Overall			72.6
Block 3 - Observed			
Inappropriate Terminator	69	41	62.7
Appropriate Terminator	20	169	89.4
Overall			79.6

Summary

Regarding the development of the Treatment Barriers Scale, a principal components analysis initially supported and a Monte Carlo parallel analysis confirmed a two factor structure for the TBS. The first factor consisted of 7 items related to the process of treatment and was entitled Treatment Process Barriers. The second factor consisted of 10 items related to environmental factors relevant to the caregiver's ability to focus on treatment during the process and was called Operational Barriers. The coefficient alpha for the overall scale and both subscales was high, suggesting that the scale was internally consistent.

Regression analyses found that presence of a developmental delay, identifying as African American, and child symptom severity were significant predictors of treatment barriers scores on the TBS. Together, these variables accounted for a small amount of the overall variance in TBS scores (i.e., 9-12%). Measures of parental discipline, nurturing, and expectations were not found to significantly predict treatment barrier scores based on a linear regression. Moreover, logistic regression analyses revealed no demographic variables that, at pretest, predicted early termination. However, child symptom severity and TBS scores were found to be significant predictors of treatment success, predicting whether a family will terminate appropriately 80% of the time.

CHAPTER V – DISCUSSION

Overview

The current study sought to fill a gap in the research by examining the role of treatment barriers among low income, urban, minority families of children with challenging behaviors and what ability these barriers, together with family demographic variables, have to predict early termination from parent-child therapy. Specifically, a new screening tool was developed and tested to assess barriers to treatment in this population. The overall results of this study suggested that the Treatment Barriers Scale (TBS) was an internally consistent measure that may have value in predicting treatment outcome for families engaged in the current PCT program. Additionally, this study found that treatment barriers vary significantly among children with a developmental delay, those who identify as African American, and children with more severe challenging behaviors. Finally, the Treatment Barrier Scale (TBS) and the severity of the child's challenging behaviors before treatment were found to be significant predictors of treatment outcome from the PCT program. The results of the current study provided a number of implications for home-based early intervention among low-income, urban, minority families of children with challenging behaviors.

Research Question One – Treatment Barriers Scale (TBS)

This study was the first step in the development of the Treatment Barriers Scale (TBS), a brief clinician-completed screening tool designed to identify barriers to treatment in low-income, urban, minority families seeking in-home PCT for their young child's challenging behaviors. Although young children in families from low-

socioeconomic status (SES) backgrounds are considered to be at high risk for experiencing barriers to treatment (Snell-Johns et al., 2004), there are few well-developed screening tools validated for use with PCT programs. Tools designed specifically for low SES families are scarcer, making it difficult to identify those in need of further evaluation and supportive services (Kazdin, 1996).

The initial analyses of the TBS resulted in two empirically-derived factors including Treatment Process Barriers and Operational Barriers. The data obtained on the two factors demonstrated a moderate correlation between them, but the factor analysis, Monte Carlo analysis, and scree plot detected a two-factor structure, suggesting the factors measure two separate constructs. As a result, the two factors on the TBS may serve distinct, important clinical functions. The treatment process factor will allow practitioners to screen caregivers' level of commitment to the process of therapy including their motivation to engage in treatment, attendance in treatment sessions, participation in treatment, and implementation of treatment techniques. The importance of parent commitment to PCT programs is well established (Nock & Ferriter, 2005), and parents who do not perceive treatment to be relevant are more likely to terminate prematurely (Kazdin et al., 1997a; Stevens et al., 2006). Thus, targeting caregiver commitment to the process of therapy would be beneficial to improve treatment outcome.

Likewise, the operational barriers factor will allow practitioners to identify structural barriers that may be impacting the caregiver's ability to learn and/or focus on treatment including routines in the home, degree to which basic needs are being met, amount of supervision provided in the home, level of caregiver cooperation, and other caregiver characteristics such as physical and mental health, learning ability, and ability

to manage stress. This factor is similar to other treatment barriers measures that have identified family stressors and obstacles as an important area to assess when looking at how barriers affect treatment outcome (Kazdin et al., 1997b). Moreover, it is important for the clinician to recognize these barriers early in treatment to be able to advocate for the family by providing appropriate resources to address these obstacles as quickly as possible (e.g., referring the caregiver to an individual counselor, providing education about food pantries or temporary housing options, connecting the family with child care services).

Both factors on the TBS demonstrated good reliability suggesting the items within each factor measure unitary constructs. The internal consistency scores on the TBS (treatment process factor $\alpha = .82$; operational factor $\alpha = .80$) are comparable to that of the previously established BTPS (.76-.87; Kazdin et al., 1997a) and higher than that of the other measures described such as the RETQ (.67-.91; Garcia & Weisz, 2002) and the OES (.40-.70; Dumas et al., 2007). The internal consistency scores of the factors were not optimal but were consistent with the suggested level for screening tools (.80; Wasserman & Bracken, 2003). The internal consistency scores on the TBS were lower than expected, likely as a result of two major design aspects: the low number of items on the factors (7 and 10, respectively) and the three-point response category. Reliability decreases as the number of items decrease, but because the scale has a relatively high correlation between items, the factors still reached acceptable levels of reliability. Additionally, some items that did not have a strong relationship to the operational factor (i.e., caregiver physical health, caregiver treatment focus on child) in the initial factor analysis were retained for their potential predictive ability and further analysis. Theoretically, the retention of these

items would decrease the internal consistency of the scale, but the factors were not affected by the inclusion of these items with the current sample (see Table 5).

The development of this scale has several implications for clinical treatment and future research. First, the internal consistency of this scale suggests that it has sound psychometric properties and has potential as a useful screener of treatment barriers in low-income, urban, minority families of young children with challenging behaviors. These findings are important because the TBS is the first scale of its kind to assess barriers to treatment in this population. In comparison, the BTPS is developed for children ages 7-18 receiving clinic-based outpatient therapy and includes items that are inappropriate for low SES young children receiving home-based therapy for challenging behaviors.

The TBS is also a valuable tool because it has been designed to be easily administered and completed by clinicians. The TBS took approximately five minutes for clinicians to complete. With the use of the TBS, early identification of treatment barriers will hopefully lead to early intervention and support to improve the quality of life for both children and their families. Early identification of treatment barriers is vital to improving treatment outcomes (Bringewatt & Gershoff, 2010). This is critical given the high rates of early termination in low-income, urban, minority families (Carrasco & Fox, 2012).

While the initial steps of development of the TBS are complete, this study identified future areas of research that will test the TBS's validity, and further strengthen its reliability and clinical utility. Given the scarcity of other screening tools of its kind, it will be difficult to establish construct validity as well as levels of specificity and

sensitivity based on comparisons with similar measures. However, in order for the tool to be confidently utilized in a clinical setting, it will require further investigation in this area. The next step to increase the clinical utility of the TBS would be to establish meaningful norm scores on the measure based on the current sample. Normative scores will aid in the interpretation of the TBS, allowing clinicians to identify families who score above average that would warrant additional services or intervention.

Question Two – Demographic Variables

The present results demonstrated that there is significant variation in treatment barriers experienced by the population served by the Behavior Clinic (see Table 6). These differences accounted for a small amount of the overall variance in treatment barriers as reported with TBS scores (8-12%). At pretest, three variables (i.e., presence of a developmental delay, African American race, and child symptom severity) were found to be significantly related. Specifically, parents who reported that their child had a developmental delay (e.g., gross motor, fine motor, speech, cognition) tended to have lower scores on the TBS following its administration after the third treatment session, while parents of African American children and children who had more severe challenging behaviors tended to have higher scores on the TBS.

The findings regarding the presence of a developmental delay are interesting given that children with disabilities are characteristically at increased risk for behavior problems and related negative outcomes (Holtz, Carrasco, Mattek, & Fox, 2009). Approximately 50% of the current sample had one or more developmental delays. While specific data on this is unavailable, it may have been that parents of children with developmental delays in this sample were also receiving services for their child's delay

(e.g., Birth-To-Three) concurrent with Behavior Clinic services. Because more than 50% of children who are referred to the Behavior Clinic have one or more developmental delays (Fox et al., 2012), the clinic is accustomed to working with children who are receiving other therapies (i.e., speech, physical, occupational therapy). Receiving multiple supportive services may have provided additional support for parents so that by the time the clinician completed the TBS after the third treatment session, the parents were receiving enough support to buffer treatment barriers they were previously experiencing. This result is not unexpected given past research that indicates children with and without developmental delays experience similar reductions in challenging behavior, enrichment in the parent-child relationship, and improvement in parenting behavior and skills with PCT (Holtz et al., 2009).

The present results indicating that identifying as African American predicted higher scores on the TBS is consistent with literature that suggests minority children experience more barriers to treatment and are at a higher risk of dropping out of treatment (Armbruster & Kazdin, 1994; Lavigne et al., 2010; Nock & Kazdin, 2001). It is also consistent with research that suggests that minority children, particularly African American and Latino children living in poverty, are disproportionately represented among those experiencing behavioral and emotional problems (Gross et al., 2009). The current finding suggests that there is a need to provide interventions that address treatment barriers in this population, however, interventions that are categorized as well-established evidence-based treatments for use with minority youth are virtually nonexistent (Huey & Polo, 2008). Therefore, even when African American families

engage in treatment, PCT services may not meet their immediate concerns as parents raising young children in highly stressful environments (Gottfredson et al., 2006).

The finding suggesting that having more severe challenging behaviors at pretest predicted higher scores on the TBS completed after session three is consistent with literature that suggests that parents of children with more severe challenging behaviors experience greater stress and are more likely to be early terminators (Bor et al., 2002). This result is not surprising given how stressful it must be for a parent to have a young child who hits, kicks, bites, scratches, and tantrums on a regular basis. Parents who begin working with PCT programs have often reached a place where their child's behaviors are so severe they no longer enjoy spending time with their child (Fox et al., 2012). Higher scores on the TBS after the third treatment session may indicate that these families continue to struggle with managing their child's severe behaviors throughout treatment, which may make it difficult for them to participate and effectively implement treatment strategies. Moreover, hands-on PCT programs require practicing and demonstrating a specific set of skills, which take time and energy to see positive outcomes. With a particularly difficult child, parental motivation may wane throughout treatment as the parent continues to struggle to attend treatment sessions, practice strategies, and be consistent in their efforts (Chaffin et al., 2009).

These results have several implications for future research and practice. First, despite past research that has suggested children with disabilities are at increased risk for developing behavior problems, families of children who have developmental delays may not necessarily be experiencing more barriers to treatment than families with typically developing children. It is important when working with a family with a child who has a

developmental delay to ask about other services the family is receiving, as providing specific services that address the delay and behavior separately may be beneficial to reducing the number of barriers to treatment experienced by these families. Second, it is clear from this finding that African American families are experiencing significantly more barriers to treatment than Caucasian, Latino or multiracial families. Specifically, African American families scored 2.69 points higher on the TBS compared to Caucasian families. This finding could be incorporated to the Behavior Clinic protocol by offering African American families a supplemental intervention prior to beginning the Behavior Clinic treatment program to assess readiness for treatment and provide additional support to families who need it. The Behavior Clinic may consider adapting a similar intervention to one designed by Chaffin and colleagues to improve retention in child welfare families receiving PCIT (Chaffin et al., 2009). By providing a combination of motivational support and behavioral intervention, the Behavior Clinic may have a better chance at retaining families with multiple barriers to treatment who may otherwise be at high risk for early termination. Finally, the results of this analysis suggested that parents of children with more severe challenging behaviors were likely to experience more treatment barriers. It may be the case that these parents were under increased stress due to parenting a child with more severe behaviors. Despite the effectiveness of the Behavior Clinic treatment program in decreasing the severity of child challenging behaviors (Fox et al., 2012), motivational factors such as readiness to change parenting behaviors and commitment to consistently attending, participating, and practicing treatment recommendations may be particularly salient issues for parents of children with the most severe challenging behaviors. Alternately, this finding may suggest that parents of

children with more severe challenging behaviors may inherently be experiencing more barriers to treatment (e.g., chaotic housing, lack of caregiver cooperation, inability to meet basic needs) that function to perpetuate their child's challenging behaviors. In this regard, addressing a family's barriers to treatment would be the first step to decreasing the severity of the child's behavior. Future research should explore the connection between child symptom severity and treatment barriers in low-income, urban, minority families to parcel out the effect of barriers to treatment on the development and maintenance of child challenging behaviors in this population.

Question Three – Parental Discipline, Nurturing, Expectations

The present results demonstrated that parental expectations, nurturing, and discipline style did not predict TBS scores within the population served by the Behavior Clinic (See Table 7). This result is unexpected as parental discipline style has been associated with the development and maintenance of behavior problems (Kazdin et al., 1997a). Additionally, in a study examining barriers to children's mental health services in low-income families, Owens and colleagues (2002) found that parents who reported barriers perceived more difficulties with parenting their child compared with parents who did not report any barriers. Thus, one might predict that parents who report greater use of verbal and corporal punishment at pretest would experience more barriers to treatment than those with a more authoritarian parenting style. This result is also surprising given past research that has linked adverse parenting practices with early termination from therapy (Roberts et al., 2006).

Despite the inability to predict treatment barriers based on parenting practices in this study, these results have important implications for future research and practice in

this area. First, given the past research that has indicated a link between parenting practices and treatment barriers, further study in this area for low-income, urban minority parents involved in PCT may be an important line of research to clarify this association. Second, because the measure that was being used to assess parenting practices in this study (PBC) was a parent-report assessment, it may be that parents were reluctant to honestly share their negative parenting practices at intake with an unfamiliar clinician. As a result, parental expectations, nurturing, and discipline style may have reflected socially desirable responses, perhaps in part out of fear of being reported for child abuse. Finally, the finding of significant TBS score differences among African American and Caucasian parents in the preceding question indicates that treatment barriers may vary as a function of racial group membership (Lavigne et al., 2010). This may include parenting practices as well. This suggests that additional research is needed to explore the racial group differences in treatment barriers within this population. Such research will help shed light on how to structure interventions differently when working with parents of a particular racial group who experience barriers to treatment.

Question Four – Demographic Variables and Treatment Barriers

The results of research question four demonstrated that child symptom severity and TBS scores are significant predictors of early termination (See Table 8). The results indicated that parents who viewed their children's behaviors as more problematic at pretest were significantly more likely to be appropriate terminators when controlling for other factors in the model. Alternatively, parents who had higher scores on the TBS were significantly more likely to be classified as inappropriate terminators. The model including child symptom severity explained a moderate amount of the variation in early

termination (18 – 25%) and correctly classified 73% of the cases (See Tables 8, 10). The model including TBS scores was the best fit, which also explained a moderate amount of variation in early termination (25 – 34%) and correctly classified 79% of the cases (See Tables 8, 10).

Child symptom severity. The finding regarding child symptom severity in Model 2 contradicts existing research (Roberts et al., 2006) that has found more problematic child behaviors at pretest to be characteristic of early terminators. It also contradicts the finding in the second research question indicating that the severity of child behavior problems predicted higher TBS scores. However, it is consistent with literature that suggests that parents who indicated their children’s behaviors were less problematic at pretest were more likely to drop out of treatment early (Reid et al., 2002). It may also support existing PCT research that found that parents who were classified as early terminators had more compliant children at the initial intake evaluation (Carrasco & Fox, 2011).

These findings are unexpected as one might predict that parents of children with more severe behavior problems would experience greater difficulty complying with treatment. However, there are several reasons this result may have occurred. First, it may be that less-problematic children are treated more quickly and once their behaviors are “good enough”, their parents drop out of treatment. Alternatively, it may be that parents of children with more problematic behaviors are in greater distress and as a result may be more motivated to participate in treatment to decrease their child’s challenging behaviors. Second, it is likely that children with more severe problem behaviors at pretest were more likely to be appropriate terminators as a result of the definition used for “appropriate

termination” in this study. This study utilized a reliable change index (RCI; Jacobson & Truax, 1991) of the ECBS challenging behavior screen that assessed the severity of child challenging behaviors at pretest, and again at every treatment session. A change of five points was established to meet the reliable change criterion based on a standard deviation of 4.23 and a coefficient alpha of .87 for the ECBS challenging behavior scale (Holtz & Fox, 2012). Scores on the ECBS challenging scale were collected at each treatment session, and of the 330 participants, 207 (62.7%) met the five-point change during treatment. That is, caregiver report of child behavior problems decreased by at least five points on the ECBS challenging behavior scale. Given this criterion for appropriate termination, it may have been that children with more severe behaviors in the beginning of treatment were more likely to make a 5-point decrease in challenging behavior throughout treatment than children with milder challenging behavior from the beginning. This definition of appropriate termination was utilized for two reasons. First, the early termination literature has recommended integrating multiple definitions together with measures of clinically significant or reliable change to provide an objective estimate of client improvement over the course of therapy (Swift et al., 2009). Second, given the nature of the population served by the Behavior Clinic, many families who may be successful in treatment are lost to attrition because they lack a formal post-test to signify they “completed” treatment. Thus, a reliable change index offers a logically valid and reliable measure of behavioral improvement during PCT without expecting the family to “complete” the entire course of treatment (Swift et al., 2009).

These findings have several implications for future research and practice. First, clinicians may be tempted to view families of children with extremely severe challenging

behavior as families that are unlikely to follow through with treatment because it would be too difficult for them to commit to implementing the treatment program with the severity of their child's challenging behaviors. The findings here suggest the opposite—that parents of the most behaviorally disordered children are the ones that are most likely to make significant change in the program. Specifically, for every one point increase on the ECBS challenging subscale, the likelihood of the parent being an appropriate terminator increased by 1.28 times. This finding could be included in the Behavior Clinic training program to help new clinicians overcome potential biases towards more difficult cases. This finding could also be incorporated into the intake assessment at the Behavior Clinic to help clinicians assess a parents' risk of early termination before the first treatment session. Second, this finding demonstrated that parents of children with less-severe challenging behaviors were more likely to be inappropriate terminators. Perhaps these parents only need one to two sessions to make the changes they need in managing their child's behaviors. As a result, the Behavior Clinic may consider establishing a cutoff score on the ECBS to determine the treatment needs of the family at the time of referral. Parents who score below the cutoff could receive a brief intervention whereas parents who score above the cutoff could receive the full PCT program. Alternately, this finding may suggest that the operationalization of early termination used in this study may be inaccurate. It may have inappropriately have classified families with children with less severe challenging behavior at pretest as inappropriate terminators because they did not meet the RCI criteria throughout treatment. These families may represent a subgroup of families who require little training to effectively incorporate techniques which facilitate a rapid decrease of their child's milder challenging behaviors. Because

such children may not require more intensive treatment, their parents may not report significant challenging behavior, which would subsequently miscategorize them as inappropriate terminators. Future research should continue to explore alternative operationalizations of early termination that more accurately discern between appropriate and inappropriate terminators. Additionally, this research should focus on combining multiple methods such as reliable change, clinical significance, and duration-based methods to determine early termination to get the most accurate account of families who appropriately complete PCT.

Barriers to treatment. The findings regarding TBS scores in Model 3 are consistent with Kazdin's Barriers-to-treatment model that suggests that multiple barriers to treatment increase the likelihood that parents will drop out of treatment prematurely (Kazdin et al., 1997a). Based on this model, the relation between TBS scores and treatment participation provides evidence for convergent validity for the TBS (e.g., treatment barriers are related to dropping out of treatment). When parent, child, and family characteristics were controlled, perceived barriers based on therapist perceptions contributed significantly to the prediction of who drops out of treatment. As a result, this finding also provides evidence for incremental validity (i.e., the measure adds to other measures and constructs already known to predict participation in treatment). This result is not surprising as one would expect that families struggling to attend, participate, and implement treatment due to multiple barriers to treatment would be more likely to drop out than those who are able to fully participate in the treatment program.

These findings have important implications for future research and practice. First, other predictors of treatment participation (e.g., socioeconomic disadvantage, single-

parent family) do not provide strong leads for intervening in treatment, whereas measuring perceived barriers to treatment emphasizes proximal influences that emerge during treatment which can be addressed (Kazdin et al., 1997a). For example, higher scores on the item *clinician sense of parent motivation* might be addressed early in treatment by explicit efforts to convey the process of treatment by specifically addressing parental concerns. The Behavior Clinic may also consider using motivational interventions such as weighing the pros and cons of change, using testimonials from other parents, and encouragement to commit to a plan for change prior to beginning the treatment program. Second, given the association between the TBS and early termination, the TBS may be beneficial for future use of early identification of cases at risk for dropping out or for evaluating the extent to which an intervention can decrease perceived barriers to treatment. For example, the Behavior Clinic may consider having a clinician complete the TBS at multiple points during treatment to gauge perceived barriers to treatment post-intervention. Finally, this scale is the first of its kind to examine treatment barriers in low-income, urban, minority families receiving PCT. The initial support garnered by this finding suggests that the TBS has potential as a useful screening tool for treatment barriers that contribute to early termination in this population. A line of work worth pursuing is to determine the TBS's clinical utility with the goal of developing a tool that can effectively 1) identify families at-risk for early termination and 2) develop interventions to improve participation and reduce attrition.

Limitations

There were a number of limitations to this study. First, the study sample pool was not obtained through random selection and none of the participants were mandated to

complete therapy. As a result, self-selection bias may impact the results in that only the parents who were most internally motivated to receive help completed the study. This bias could have skewed the sample to include more motivated parents. This would have influenced the finding that parents of children with more severe challenging behaviors were more likely to appropriately terminate treatment (research question four). Second, while the demographic representation of the sample is consistent with the Behavior Clinic population (Fox et al., 2012), it does not provide equal representation across race and is not considered a normal distribution. This may have skewed the sample to include more families experiencing multiple barriers to treatment. This would have influenced the finding that African American parents had significantly higher TBS scores than Caucasian parents (research question two). Third, the findings regarding child symptom severity may be limited due to the instrument used to measure challenging behavior. Because the ECBS is a self-report measure, parents may tend to over-report their child's challenging behavior to communicate their need for support, which, in turn, may skew the results of this study. It may be that parents who report very severe challenging behavior at pretest learn throughout treatment that their parental expectations are inappropriate for their child's age or developmental level. Subsequently, parents may report significantly lower challenging behavior based on newly learned developmentally appropriate expectations for their child's behavior rather than an actual decrease in the child's challenging behavior. Moreover, behavior that is perceived by one parent as extremely severe may be perceived by another parent as only moderately severe. Thus, the definition of appropriate termination utilized in this study inherently limits the study's findings. Utilizing a five point decrease on the ECBS challenging scale is indeed reliable,

but vulnerable to bias as a result of the subjectivity of the measure used to determine child symptom severity. Future research should include a measure of the clinician's perception of the child's symptom severity in addition to the ECBS to improve the concurrent validity of the ECBS.

In scale development, any study is inherently limited in its ability to support the construct of the scale. Therefore, other limitations deserve comment in relation to interpretation of the TBS. First, the study was conducted with a convenience sample of participants. Low-income, urban, minority families characterized the majority of the sample. In general, these families tend to have higher rates of behavioral and emotional problems, disadvantage, and difficult living circumstances (Kazdin, 1996). These same factors are pertinent to the TBS. It is possible that treatment barriers as measured by the TBS in this study are particularly applicable to this population, and as such cannot be generalized to other populations without additional investigation. A second limitation of the TBS is its focus on the clinician's perception of the family's experience of barriers to treatment. The views of the parent and the child were not solicited, although they would likely contribute significant understanding to treatment barriers in this population. Other research on barriers to treatment has successfully incorporated parent experiences of barriers to treatment (Kazdin et al., 1997a). An important future step in the development of the TBS would be to solicit input from parents on their experience of barriers to treatment. Third, despite the fact that research shows that typical dropout from Behavior Clinic services occurs around the fourth session (Fox & Holtz, 2009), completion of the TBS after the third treatment session may have further skewed the analyses examining the impact of barriers to treatment on treatment outcome (research question four).

Completing the TBS after the third session likely missed a subset of families struggling with treatment barriers that were too distressing to continue treatment through the third session. Fourth, only one clinician completed the TBS for each administration, and thus, no inter-rater reliability is available. Finally, since this is the first measure of its kind to screen for treatment barriers in low-income, urban, minority families receiving in-home PCT, no other measure could be found to be used for comparison purposes. Therefore, the TBS needs to be tested with additional rigor to determine whether it can accurately discriminate whether a family is likely to appropriately complete treatment.

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APPENDIX A

SOCIODEMOGRAPHIC QUESTIONNAIRE

Intake Form

Intake Date: _____ Clinician (s): _____

Date of last Health Check: _____

Pediatrician/Primary Care Physician: _____

Phone number: _____ Fax: _____

Child's Medicaid/BadgerCare Number: _____
(Number must be 10 digits)

****Ask to see child's Forward Card to verify correct spelling of name and verification of number****

Child & Family Information

Child's name: _____ (including middle name/initial)

Nickname: _____ Sex: M F

DOB: _____ Race: _____ ID #: _____

Address: _____ City: _____ Zip: _____

Phone: _____ Alternate Phone: _____

School/Childcare name: _____ Phone: _____

Days/Times attend: _____

Primary Caregiver: _____ Age: _____ Race: _____

Relationship to child: _____ Do you receive public assistance: Y N

Employer: _____ Phone: _____ Shift: _____

Household Income (circle one) \$0-\$9,999 \$10,000-\$14,999 \$15,000-\$22,999
\$23,000-\$33,999 \$34,000-\$49,999 \$50,000-\$74,999 \$75,000 or more Unknown

Health: _____

Additional Caregiver: _____ Age: _____ Race: _____

Relationship to child: _____ Time spent with child: _____

Employer: _____ Phone: _____ Shift: _____

Health: _____

Who lives in the home (names, ages, relationship): _____

Significant family mental health history: _____

Child Health

Birth weight: _____ Weeks gestations: _____

Drug use during pregnancy: Y N (If yes, please describe _____)

Tobacco use during pregnancy: Y N (If yes, please describe _____)

Alcohol use during pregnancy: Y N (If yes, please describe _____)

Medications used during pregnancy: _____

Pregnancy or delivery complications: _____

Significant past health problems: _____

Current health concerns: _____

Medications: _____

Prescribing Physician: _____ Phone Number: _____

Lead tested: Y N Date: _____ Level: _____

Areas of concern:

Hearing: Y N Vision: Y N Activity Level: Y N Peer Relations: Y N Mood: Y N

Comments: _____

Assessed for developmental delay: Y N If no, concerns: _____

Agency: _____ Date: _____

Results: No Delays Cognitive Delay Language Delay Motor Delay

Type of services: ST PT OT Spec. Ed Other: _____

Frequency of services: _____ Location: Home Center

APPENDIX B

CONSENT FORM



MARQUETTE UNIVERSITY PARENT PERMISSION FORM

Behavior Clinic: Treatment Intensity Project

Dr. Robert Fox, Professor of Counselor Education and Counseling Psychology and
Director of the Behavior Clinic at Penfield Children's Center

Your child has been invited to participate in this research study. Before you agree to allow your child to participate, it is important that you read and understand the following information. Participation is completely voluntary. Whether or not you choose to allow your child to participate in this project will have no effect on your child's treatment or relationship with the clinic. Please ask questions about anything you do not understand before deciding whether or not to give permission for your child to participate.

PURPOSE: I understand that the purpose of this research study is to determine what predicts how successful our treatment program is for young children with behavior problems. I understand that my child will be one of approximately 300 participants in this research study.

PROCEDURES: I clearly understand the following procedures will be part of this project following my initial orientation to the program after my child has been referred: (1) Intake Session – I will be participating in an interview with my child, observed interacting with my child, completing surveys, answering interview questions, and having my child's development and behavior assessed. These procedures will require two hours to complete: (2) Treatment Sessions – I will meet with clinic staff for 8 or more 1 to 1 1/2-hour treatment sessions in my home. I will be expected to implement a new form of play with my child and a treatment program including strategies designed to improve my child's behavior that will require up to one hour of my time each day in my home. (3) Post-Test Session – After the treatment sessions are over, I will meet with a staff member for one hour to repeat the intake procedures and a treatment satisfaction form. (4) Short-Term Follow-up Session – About 4-6 weeks after the post-test session, I will meet again with clinic staff for one hour to repeat the post-test session. At that time I may request additional services from the Behavior Clinic. (5) Long-Term Follow-up Session – About 6 months to one year after the post-test session, I will meet again with clinic staff for one hour to repeat the post-test session. At that time I may request additional services from the Behavior Clinic. These treatment records and procedures will be collected and used to tailor our treatment program to meet your child's unique needs and will be collected and used regardless of whether or not you agree to participate in the research project.

DURATION: I understand that my child's participation will consist of one intake session, eight or more treatment sessions, and a post-test session over a period of 10-16 weeks. Following the post-test session, I will be asked to participate in one short-term follow-up session 4-6 weeks after treatment has completed and again 6 months to one year after treatment completion. The duration of your participation will be the same regardless of whether or not you agree to participate in the research project.

RISKS: I understand the risks associated from my participation in this study including: the ongoing parenting stress I may experience in managing my child's behavior and the emotional discomfort my child may experience as I implement new procedures to improve his/her behavior.

BENEFITS: I understand the benefits associated with my participation in this study including: I will have an improved understanding of my child and his/her behavior; I will learn effective strategies to better manage my child's behavior; I will have ongoing professional support as I work to improve my child's behavior; and I will observe improvement in my child's behavior. I also understand that my participation in this study may assist other parents who are experiencing similar behavior problems with their young children.

CONFIDENTIALITY: I understand that all information my child and I reveal in this study will be kept confidential. All of my child's data will be assigned an arbitrary code number rather than using my child's name or other information that could identify my child as an individual. When the results of the study are published, my child will not be identified by name. The data for this study will be kept in a locked file cabinet at Penfield Children's Center. I understand that the data will be destroyed by shredding paper

Initials: _____

Date: _____

documents and deleting electronic files seven years after the completion of the study. I understand that the research records may be inspected by the Marquette University Institutional Review Board or its designees and (as allowable by law) state and federal agencies. I understand that the clinic staff are mandated reporters and are required by law to report child abuse and neglect to the authorities.

COMPENSATION: Not applicable.

VOLUNTARY NATURE OF PARTICIPATION: I understand that participating in this study is completely voluntary and that my child may withdraw from the study and stop participating at any time without penalty or loss of benefits to which my child is otherwise entitled. If I chose to withdraw from this study, my child's research records will be destroyed. I also understand that if I choose not to participate in the Behavior Clinic, I will be referred to alternative family services in the community.

CONTACT INFORMATION: If I have any questions about this research project, I can contact Dr. Robert Fox at (414) 345-6351 or email him at robert.fox@marquette.edu. If I have questions or concerns about my child's rights as a research participant, I can contact Marquette University's Office of Research Compliance at (414) 288-7570.

I HAVE HAD THE OPPORTUNITY TO READ THIS PARENT PERMISSION FORM, ASK QUESTIONS ABOUT THE RESEARCH PROJECT AND AM PREPARED TO GIVE MY PERMISSION FOR MY CHILD TO PARTICIPATE IN THIS PROJECT.

Please choose and check the appropriate consent option box, add the date of consent, and obtain the appropriate signatures.

☐ **Option A** I, the person signing below, understand the above explanations. On this basis I consent to participate voluntarily in the Behavior Clinic Research Study.

_____	_____
Parent/Legal Guardian Signature(s)	Date
_____	_____
Parent/Legal Guardian's Name(s)	Child's Name
_____	_____
Researcher Signature	Date

☐ **Option B** I, the person signing below, understand the above explanations. On this basis I do not consent to participate in the Behavior Clinic Research Study but would like to voluntarily participate in the full range of clinical services offered by the Behavior Clinic.

APPENDIX C

TREATMENT BARRIERS SCALE

Child Name: _____ Clinician: _____ Date: _____

1. Home Routines	Good	Fair	Poor
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Good = regular home routines apparent; consistent bedtime routine; structured daily activities; predictable daily schedule; regular mealtimes

Fair = some home routines; bedtime & mealtimes are inconsistent; child sometimes left to fend for self; child is often given snacks in lieu of meals

Poor = minimal or no routines; chaotic home; child goes to bed when tired; no formal mealtimes

2. Basic Needs	Good	Fair	Poor
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Good = minimal or no concerns; basic needs (shelter, food, clothing, safety) met

Fair = moderate concerns; basic needs stressed; caregiver working multiple jobs; adequate food/diapers/clothing/toys a concern

Poor = serious concerns; caregiver struggling to meet basic needs of family; threat of eviction; lack of clothes; utilities turned off; significant sanitation concerns

3. Quality of Parental Supervision	Good	Fair	Poor
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Good = parent keeps child within sight; aware of what child is doing; child safety not at risk

Fair = parent sometimes becomes distracted and loses track of child; parent thinks child can take care of self despite getting into trouble at times

Poor = child is regularly unsupervised; child safety is at-risk; child may injure others at these times

4. Multiple caregiver cooperation	Good	Fair	Poor
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Good = caregivers mostly agree; disagreements about child rearing are infrequent

Fair = occasional disagreements; caregivers sometimes undermine each other in front of the child

Poor = overt differences of opinions that are a barrier to treatment progression; clinician spends significant amount of time trying to address impact of disagreements

5. Immediate support for primary caregiver	Good	Fair	Poor
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Good = supportive secondary caregiver; at least one other supportive adult or older child who helps and is engaged in treatment

Fair = occasional help; secondary caregiver or other adults somewhat interested in treatment

Poor = little to no help; secondary caregiver or other adults uninterested in treatment

6. Caregiver mental health	Good	Fair	Poor
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Good = no concerns; existing mental health problems are stable and do not impact treatment

Fair = mental health problems sometimes impact treatment (e.g., mom has difficulty responding accurately or immediately because of mood disorder)

Poor = caregiver's mental health is a significant barrier to treatment progression

7. Caregiver physical health	Good	Fair	Poor
Good = no concerns; existing physical health problems are stable and do not impact treatment Fair = physical health problems sometimes impact treatment (e.g., mom has difficulty playing with child due to obesity or pregnancy) Poor = caregiver's physical health is a significant barrier to treatment progression			
8. Caregiver participation in session	Good	Fair	Poor
Good = listens, learns, does homework; Behavior Treatment Plan filled out 75-100% of time; engages in conversation about treatment; asks questions; responsive to feedback Fair = Behavior Treatment Plan filled out 50-75% of time; parent doesn't ask many questions or readily integrate feedback; reports doing homework but does not track it Poor = appears disinterested in treatment; Behavior Treatment Plan regularly lost or left blank; appears that parent fills-out Behavior Plan in other room before giving to clinician; sessions feel like "pulling teeth," parent communicates not wanting to be at session			
9. Caregiver learning ability	Good	Fair	Poor
Good = understands reason behind techniques; readily picks-up techniques; comes-up with solutions to new situations independently Fair = understands techniques only at face value; struggles to implement techniques; needs lots of repetition under clinician guidance; cannot adapt techniques to new situations Poor = doesn't understand techniques; can't implement techniques despite ongoing clinician support			
10. Caregiver implementation of treatment	Good	Fair	Poor
Good = uses treatment strategies correctly and consistently Fair = problems with consistency; has difficulty implementing techniques correctly (e.g., does not do time-out properly); struggles with remembering to stop and think Poor = rarely implements treatment strategies (e.g., ignoring, time-out); doesn't use stop and think; argues against the effectiveness of play/ignoring/timeout			
11. Caregiver ability to manage stress	Good	Fair	Poor
Good = life-stress experienced by caregiver does not impact treatment; may have multiple life-stressors but copes well and is able to function Fair = struggling to manage life stress or is over-stressed; life-stress slightly impacts treatment Poor = poor life-stress management or is severely over-stressed; life-stress significantly effects caregiver's ability to function; life-stress significantly impacts treatment			
12. Caregiver perception of change	Good	Fair	Poor
Good = accurate as compared to clinician perception; when change occurs, caregiver recognizes it appropriately Fair = somewhat accurate as compared to clinician perception; caregiver perceives change but not as much/little as clinician; needs clinician guidance to recognize change Poor = inaccurate as compared to clinician perception; caregiver does not recognize change despite clinician guidance; argues against evidence of change			

13. Treatment focus on child	Good	Fair	Poor
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- Good = discussion during session is consistently focused on treatment or child's behavior; little discussion of caregiver personal problems; caregiver concerns surround how to correctly implement treatment strategies
- Fair = discussion is mostly focused on treatment or child's behavior; discussion sometimes is focused on caregiver's personal problems; caregiver occasionally goes off on tangents
- Poor = discussion during session is dominated by caregiver issues; caregiver is very tangential; difficult to keep treatment on track; feels like therapy for caregiver more than for child

14. Treatment attendance	Good	Fair	Poor
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- Good = 100%; caregiver has attended all three sessions without cancellation
- Fair = 66%; one cancelled session due to reasonable excuse (e.g., child sick, family emergency)
- Poor = 0-33%; multiple cancellations; one or more no-shows

15. Clinician observation of change	Good	Fair	Poor
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- Good = evidence of positive change in child's behavior
- Fair = little or no evidence of positive change in child's behavior
- Poor = child's behaviors get worse

16. Clinician sense of parent motivation	Good	Fair	Poor
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- Good = caregiver is working to improve environment for child/family/self; other commitments are scheduled around treatment; caregiver may be making sacrifices to attend treatment (e.g., adjusting work schedule, keeping child home from daycare/school)
- Fair = caregiver appears unsure if therapy is helpful; other commitments sometimes take priority over treatment; caregiver pressured into therapy by another individual but is trying to engage
- Poor = other commitments consistently take priority over treatment; caregiver communicating that treatment is not helpful; caregiver in treatment to meet demands of other service providers

17. Quality of caregiver/clinician rapport	Good	Fair	Poor
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- Good = caregiver appears comfortable talking about child's problem behaviors with clinician; caregiver open to feedback; caregiver appears to trust clinician judgment and knowledge
- Fair = caregiver appears uncomfortable talking about child's problem behaviors; caregiver appears defensive when given feedback; caregiver may question clinician judgment and/or knowledge
- Poor = caregiver presents as closed-off when talking with clinician; caregiver resistant to feedback; caregiver does not trust clinician judgment and/or knowledge; overt breach of trust by caregiver has occurred (e.g., lying, manipulating)