Parental Characteristics Predicting Dropout in Parent Training for Behavior Disorders: A Meta-Analysis

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A Thesis Submitted in Partial Fulfillment

of the Requirements for the

Degree of Master of Arts in Psychology

Middle Tennessee State University

May 2019

Thesis Committee:

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ACKNOWLEDGEMENTS

I would like to thank my parents for their unconditional love for me. They have supported me throughout this entire process with encouraging messages and lots of prayers. I would also like to thank Dr. Kimberly Ujcich Ward and Dr. Dana Fuller for helping me throughout this process. I would not have been able to do it without them.

ABSTRACT

The most efficacious treatment for reducing externalizing behaviors for children, behavioral parent training, is often criticized for its high dropout rates. Several variables have been associated with these dropout rates. In the current meta-analysis, we build upon past studies to assess the correlational effects of parent age, ethnicity and psychopathology, and number of parents in the household on dropout in these programs. We found a medium correlation between both single parent status and dropout, and parent psychopathology and dropout.

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CHAPTER I: INTRODUCTION

In primary care, oppositional behaviors, such as defiance, impulsivity, aggression and noncompliance, are the most commonly encountered behavioral problem (Christophersen & Vanscoyoc, 2013). These oppositional behaviors are often exhibited by children with conduct disorder, oppositional defiant disorder, and attention deficit hyperactivity disorder (Kazdin, 2005). According to Hagen, Ogden, and Bjornebekk (2011), parent interactions with their children have a large impact on the ways the children behave. For example, a parent may provide verbal praise when a child begins to clean up his or her toys. Then the child proceeds to finish cleaning up the toys. However, these actions can also inadvertently promote problem behaviors. For example, a parent might show minimal attention to the child until the child engages in a problem behavior, then the parent begins to yell at the child. The child continues to engage in problem behaviors to receive attention from the parent. Progressively, these patterns become transactional, where the parent's behavior influences the child's behavior and the child's behaviors influence the parent's behavior, and evolve into a coercive and overlearned cycle (Lunkenheimer, Lichtwarck-Aschoff, Hollenstein, Kemp, & Granic, 2016).

Behavioral parent training is recognized as the most empirically supported technique and the gold standard for intervening with children exhibiting externalizing behavior problems, such as impulsivity, hyperactivity, aggression, destructive behaviors, noncompliance, disruptive behaviors, conduct problems and oppositional behaviors (e.g., Kaminski & Claussen, 2017; Kazdin, 1995; McCart & Sheidow, 2016). Furthermore, behavioral parent training has shown to be an effective and efficacious treatment for

clinical populations and as a preventative intervention (e.g., Claussen, 2017; Morawska, Ramadewi, & Sanders, 2014;). Behavioral parent training programs typically are used as a stand-alone intervention conducted during eight to 12 sessions based on the social interaction-learning model and contextualism. It has been implemented in a variety of different ways, including individual and group family sessions, web-based and telephone communication, and in various settings, including clinics and the families' homes (Kaminski & Claussen, 2017; Kazdin, 2005; McCart & Sheidow, 2016).

Although such parent training programs have demonstrated a high degree of efficacy, they have low levels of parent enrollment and attendance (e.g., Baker, Arnold, & Meagher, 2011). According to Pekarik and Stephenson (1988), about one-half of families in programs evaluated by the authors terminate treatment prematurely. Another study found that 40 to 60 percent of families did not complete treatment even when the research offered additional incentives like monetary compensations, childcare, refreshments, and transportation (Kazdin, 1996). More recently, Chacko et al. (2016) found that the combined dropout rate was 26 percent among the 181 studies that were evaluated in their meta-analysis. Several variables are correlated to dropout and retention in these programs. Common correlated variables include gender and socioeconomic status. These variables are believed to affect parents' ability to enroll in these programs due to availability of resources, such as access to transportation (Gonzalez, Morawska, & Hasleam, 2018). Unfortunately, parents who are single, from low socioeconomic status, have symptoms of depression, or lack social supports are likely to dropout of treatment. However, often parents with these characteristics could receive the most improvement in

their parenting styles. Completing parent training programs could lead to improvements in their relationship with their children and the reduction of externalizing behaviors (Baker et al., 2011).

High levels of dropout from parent training programs increase the cost of services for the programs and other participants because the individuals who dropout are using valuable time and resources and will not gain the full benefits of the programs. Additionally, parent training programs may have long waitlists, and participants who dropout occupy valuable spaces that other families could be using (Baker et al., 2010). These high rates of dropout decrease the internal and external validity of parent training programs, which in turn decreases their likelihood of being used on a larger scale (Lochman, 2000) and limit further clinical treatment and prevention research (Baker et al., 2010).

In a correlational study, Kazdin et al. (1993) found that there are differences between individuals who dropped out of treatment and those who completed treatment. Over 35 years of research has been devoted to identifying correlates of retention and dropout in parenting interventions (Gonzalez et al., 2018; Kazdin, et al., 1993; Shaffer, Kotchick, Dorsey, & Forehand, 2001). These same variables that correlate with dropout can cause even the parents who attend regularly to be late, not complete homework assignments, and miss a majority of their sessions (Cunningham, Davis, Bremner, Dunn, & Rzasa, 1993). These factors cause difficulties in engaging and maintaining parents during the entirety of the program.

Several variables have been thought to impact retention and dropout in behavioral

parent training programs, but individual studies often provide inconsistent and inconclusive results. Many studies focus on the child and family outcomes, rather than retention. Furthermore, studies often report limited information to analyze the correlates of dropout and retention, if they mention them at all. According to Forehand, Middlebrook, Rogers, and Steffee (1983), only 49 percent of scholarly articles about behavioral parent training from 1972 to 1982 reported dropout data. Sociodemographic variables were often the most studied potential predictors of dropout and retention. Child behavior problems and barriers to treatment are the next most frequently assessed predictors reported in a review by Dumas, Nissley-Tsiopinis, and Moreland (2007).

Meta-Analyses and Review Studies of Retention and Dropout

Over the past 30 years, researchers have conducted meta-analyses and systematic reviews evaluating parent training for families with children exhibiting externalizing behaviors to test for correlates of retention and dropout. Forehand et al. (1983) conducted the first meta-analysis to identify the variables related to dropping out of parent training programs. The inclusion criteria for the study were that the study had to include at least five participants and the parents in the study had to be seeking treatment for their preadolescent children. The authors found 22 studies published between 1972 and 1982 that met inclusion criteria for their review. The study found that the combined dropout rate was 28 percent. The authors found a majority of the studies reviewed did not report dropout data, and frequently the studies that reported dropout data reported the information without specifying the treatment condition.

Forehand et al. (1983) suggested there is a variety of substantial data required to identify predictors that are associated with dropping out. Parent characteristics, reason for drop out reported by the participant, and when dropping out occurs should be included in data published in future studies. They suggested that parent characteristics such as, parent age, involvement in prior treatment, number of parents in the home, number of parents involved in treatment, marital satisfaction, personal adjustment, and cost of program need to be included in future articles about behavioral parent training articles to help assess the variables related to dropout.

More recently, Reyno and McGrath (2006) assessed the strength of previously identified predictors of parent training associated with treatment efficacy, outcome, and dropout in indicated prevention and treatment studies by isolating family, parent, and child characteristics that are associated with negative outcomes in parent training programs. In their meta-analysis, the authors reviewed parent training prevention or treatment-based studies for children with oppositional or aggressive behavior problems from 1980 to 2004. The included studies were required to report a quantifiable measure between the predictor and dropout. The meta-analysis included the 31 studies that meet the inclusion criteria. The predictors assessed in the study included single parent status, number of family members, low income, low education or occupation status, young maternal age, minority group status, potential barriers to treatment, adverse parenting practices, maternal psychopathology, marital satisfaction, negative life events/stressors, and parenting stress.

Reyno and McGrath (2006) found the most common measures of SES are level of education, occupation level, and income. A small effect size was found between dropout and income (.21), single parent status (.18), minority status (.20), younger maternal age (.21), large family size (.13), negative life events (.15), parenting stress (.11), and aversive parenting (.22). An insubstantial effect size was found between dropout and martial satisfaction (.04) and maternal psychopathology (.007). This analysis provides simple associations of predictors of outcomes in parent training, still more information is needed to understand these variables in more depth.

In a review study, Mytton, Ingram, Manns, and Thomas (2014) reviewed studies of parent programs in which the participants answered why they would or would not continue or complete the intervention. The authors then compared these answers to perceptions of other researchers. They reviewed 26 of the 444 articles that met the criteria for inclusion. The criteria for inclusion in the review included parenting intervention programs that provided outcomes of engagement and/or retention using qualitative methods. After reviewing these 26 studies, the authors identified six important variables for influencing participation: “behavior change, role of deliverer, group experience, focused message, accessibility, and incentives” (p. 130). Five behavioral barriers were identified: “behavioral, delivery constraints, participant constraints, complex interventions, and social and cultural barriers” (p. 130). This study provides a better understanding to the barriers and facilitators of treatment; however, it leads one to question which parent characteristics are correlated with overcoming these barriers.

Chacko et al. (2016) reviewed the rates of attendance and adherence associated with parent training programs for disruptive behavior disorders. The authors reviewed studies between 1974 and 2014 that used a behavioral parent training intervention as a primary method of treatment for children between the ages of two and 12 with ADHD, ODD, CD, or behavior problems. They analyzed the variables of attrition rates, attendance, SES, and treatment format. Of the 220 studies that were analyzed, the average attrition rate was 26%. Additionally, the authors found that of the variables assessed, only socioeconomic status was significantly correlated with rates of attrition. The authors noted that minimal information is provided on how recruitment, attrition, and attendance data are defined in the studies reviewed. They found that a majority of the studies did not present or define attrition or attendance. The authors suggest that researchers should define these outcomes, and that overtime researchers became better at defining dropout and attendance. If these outcomes are more clearly defined, it will be easier to analyze the data. Furthermore, it will provide a better understanding of how to engage parents in these programs.

Most recently, Gonzalez, Morawska, and Haslam's (2018) conducted a systematic review to understand how effective engagement tactics used in parent training are in enrollment and initial participation. Engagement strategies are techniques used in an attempt to increase the participants' involvement in the parent training programs. The authors reviewed 32 experimental studies of parent training for parents of typically developing children between the ages of two and eight years old. These studies ranged in dates of publication from 1996 to 2017. Those techniques identified were monetary

incentive, individual or group intervention, testimonial, advertisement, and engagement package. During recruitment, only a promotion advertisement showed a significant impact on engagement. Furthermore, during enrollment, only a monetary incentive showed a significant impact on engagement. The authors identified engagement packages (i.e., monetary incentives, advertisements, and testimonials) as the only intervention to have a significant impact on first attendance.

The current meta-analyses and systematic reviews on parent factors that predict dropout and retention for behavioral parent training for children with oppositional behaviors have tested correlates suggested by Forehand et al. (1983). The articles just summarized provide specific parent factors that are believed to be correlated with dropout and retention. Furthermore, these articles provide an overall percentage of dropout rates compared to individual studies. Although these studies provide useful information regarding these variables, several limitations are found in these studies. One limitation is that most of the studies dealing specifically with parent factors associated with dropout and retention are ten to thirty years old (e.g., Forehand et al., 1983; Reyno and McGrath, 2006). Another limitation of these studies is that the most recent studies have been systematic reviews and not meta-analytic works. These systematic reviews do not provide statistical methods to provide summary of the dropout data. To our knowledge, only one meta-analysis has been conducted specifically on this topic (Reyno & McGrath, 2006).

Factors Associated with Retention or Dropout Rates

Multiple parent variables have been suggested to predict dropout and retention for parent training; however, studies assessing the relationship between them and dropout

often produce inconsistent or inconclusive results. There are several reasons these results may be inconclusive. For example, different studies use different measures to assess different variables. Variables such as Psychopathology can be measured using DSM criteria, specific inventories, or psychological tests. Ethnicity can be evaluated using different categories. One study may assess the differences between ethnicity using Caucasians and minorities, while another may categorize ethnicity using a variety of different ethnic categories. Additionally, dropout and retention are defined differently in most of these studies (Gonzalez et al., 2018). For example Prinz and Miller (1994) define dropping out as "a failure to complete all treatment sessions" (p. 646), while Kazdin and Mazurick (1993) defined dropping out as "completing 6 or fewer treatment sessions" (p. 5). In the majority of studies, commonly reported variables include age of the parent, socioeconomic status, ethnicity, and number of parents in the home. Other factors, like parent psychopathology, stress, and involvement in prior treatment, are not as likely to be reported or evaluated as a potential predictive variable.

Parent age. A limited number of studies identified correlations between parent age and retention. However, the correlation between these variables and dropout/retention often are inconclusive and mixed (e.g., Axford, Lehtonen, Kaoukji, Tobin, & Berry, 2012; Dumas et al., 2007). Although parental age is reported in most studies of behavioral parent training, findings vary from study to study about the correlation of parental age and dropout (Dumas et al., 2007). These results are likely to be due to the different ways each article defines dropout.

Number of parents in household. Marital status has been found to be unrelated to parenting intervention outcomes (Serketich & Dumas, 1996); however, inconclusive and mixed finding occur when comparing the effects of number of parents in the home with retention and dropout. Some studies find that married or cohabitating parents have higher retention rates than single caregivers, while others find the variables are unrelated (Dumas et al., 2007). Single parents from impoverished areas are likely to enroll in parent programs, but it is believed they are more likely to dropout of treatment prematurely because of practical and time-related factors (Axford et al., 2012).

Ethnicity. Some studies have correlated low retention and engagement for parents from minority ethnic groups. Several barriers are predicted to correlate with these low retention rates, including different cultural beliefs and languages, and a shortage of clinicians from a variety of ethnic groups. However, results from other studies have found no correlation between retention and ethnicity (Axford et al., 2012). These mixed results are likely to be the way the article categorized ethnicity. These results may also be due to the small sample sizes of individuals in each ethnic group in smaller studies.

Parent psychopathology. Parental psychopathology, especially depression, is thought to heighten the perception of barriers of treatment (Kazdin & Wassell, 1999). Individuals may feel they are viewed as inadequate parents by being required or invited to join parent training programs, which can lead to emotions such as guilt, shame, and fear for the participants (Barrett, 2010). Parents with psychopathology often perceive their children's problem behavior as more severe, which may lead to them feeling less confident in their parenting style (Miller & Prinz, 2003). Parental depression and its

correlation with dropout and retention have also resulted in inconsistent finding. (e.g., Reyno & McGrath, 2006). This pattern of findings is likely due to the measures of psychopathology for each study. For example, depression can be measured using the DSM-5 criteria, the DSM-IV criteria, the Beck Depression Inventory (BDI), or a survey of depressive symptoms created by the study. Additionally, some articles may categorize psychopathology as a whole, while other articles may separate psychopathology into separate disorders or categorizes. Lastly, in some studies there may not be enough participants with psychopathology to statistically analyze the data.

Summary and Purpose of the Current Study

Although multiple reviews have contributed to expanding the existing knowledge regarding parental engagement, there is still inconclusive information regarding parental factors that affect retention. Currently, researchers have assessed some variables that correlate with dropout and retention; however not all variables have been researched in a meta-analysis or systematic review. Additionally, a new meta-analysis should be performed, because researchers are reporting more information about dropout and parent information than they did even ten years ago.

There has not been a meta-analysis conducted specifically on parent variables that are correlated with dropout and retention since 2006, other than Mytton, Ingram, Manns, and Thomas (2014), who looked specifically at socioeconomic status. Understanding more about the predictors of parent dropout and retention will help provide programs with a better understanding of who will be more likely to complete treatment. This information would be extremely valuable for those designing parent training

interventions. These individuals can use this information to better support families and improve retention rates. This potentially can have a large impact on many families and children with externalizing behaviors. Furthermore, it would give providers a better idea of which parents may need additional supports and incentives to complete treatment.

The purpose of the current study was to assess parent characteristics that may predict retention and dropout, and to update the meta-analyses and reviews on dropout and parenting for oppositional behavior. The parent variables assessed in the current study were parent age, marital status, ethnicity, and parent psychopathology.

CHAPTER II: METHOD

Article Search

A literature search was performed for all published studies from January 2012 to December 2018 on parent training for children with oppositional behaviors that report any retention and dropout data. We chose 2012 because Mytton et al. (2014) reviewed studies until 2012. The researcher conducted the search using PsycINFO, PsycARTICLES, and MEDLINE databases. The following key words for parenting training programs were used to search for the articles: *parent training, parent program, PCIT, Parent Child Interaction Therapy, PMT, Parent Management Training, Incredible Years, Triple P,* and *Defiant Children.* These parent training key words were each searched with the following terms: *dropout, retention, engagement, and attrition*. For example, the researcher would search *parent training* AND *dropout retention, engagement, and attrition*. The following criteria were required to be met for a study to be included in the meta-analysis:

1. Studies must involve parents of children with externalizing behavior problems (i.e. impulsivity, hyperactivity, aggression, destructive behaviors, noncompliance, disruptive behaviors, conduct problems and oppositional behaviors),
2. Studies include parents of children ages 2 through 12 years old,
3. Studies implementing either group or individually administered programs,
4. Studies of treatment programs rather than preventive programs,
5. Studies including at least three participants,
6. Studies reporting dropout or retention data

7. Studies not including children diagnosed with a developmental disability or autism spectrum disorder.

Article Review

Two independent researchers read each article abstract to decide if the article did or did not meet inclusion criteria. The researchers assessed the remaining articles using the form shown in Appendix A. The reviewers reported citation information for each article, including the last name and affiliation of the first author, the journal name, volume, year of publication, and page numbers. The reviewers circled the behavior the research was attempting to reduce. Additionally, they circled if a child in the study had autism spectrum disorder or a developmental disability, which excluded the study.

Researchers also circled the setting and type of treatment. They reported the total number of sessions and the study's definition of dropout. The researchers reported the number of parents and children for the total, dropped out, and completed treatment samples. They reported any demographic information about sex, age, number of parents in household, parent psychopathology, and ethnicity for the total, dropped out, and completed treatment samples.

Interrater Agreement

Two researchers reviewed and assess 10 of the articles. If discrepancies were found between the two researchers, the researchers collaborated until they reached a mutual conclusion.

Hypotheses and Data Analyses

This study compared dropout rates among each of the parent demographic groups. All analyses were performed using Comprehensive Meta-Analysis Software 2.0 (Borenstein, Hedges, Higgins, & Rothstein, 2013). We used *r* as the effect-size estimate. Small, medium, and large effect sizes are defined as .10, .30, and .50, respectively (Cohen 1992). We also tested for homogeneity of the effect sizes using the Q test (Borenstein, Hedges, Higgins, & Rothstein, 2009). Additionally, we reported Fail safe *N*s to "estimate the total number of unpublished studies with nonsignificant results that would need to exist for the overall mean effect size to become nonsignificant" (Reno & McGrath, 2006, p 102).

For this meta-analysis, four hypotheses were predicted.

1. Dropout is likely to decrease as parent age increases.
2. Dropout is more likely for single parent households.
3. Dropout will be higher in minority families.
4. Dropout will be higher for parents with psychopathology.

CHAPTER III: RESULTS

Article Search

The meta-analysis identified 19 studies for inclusion in the analysis. Appendix B outlines the screening of the articles. Initially, the researchers found 705 non-duplicated articles using the search terms described above. After reading the article abstracts, two independent researchers excluded 396 articles during the initial screening period because the articles were not parent training programs or they were not trying to reduce an externalizing behavior. Another 251 studies were excluded because they were preventive, had fewer than three participants, included a child with autism spectrum disorder or a developmental disability, were a systematic review or meta-analysis, did not include children between two and 12 years old, or did not include dropout data. The researchers were unable to access 11 of the articles, and two articles were not available in English. The researchers read and completed the article review form for the remaining 45 articles. They excluded an additional 26 articles based on these reviews. These studies were excluded because they were not reducing an externalizing behavior ($N = 10$), were a preventive study ($N = 6$), did not include dropout data ($N = 6$), or included a child with ASD or a developmental disability ($N = 4$).

Of the 19 studies that met inclusion criteria, 10 articles (53%) reported only dropout rates. The remaining 9 articles (47%) reported sufficient dropout data to analyze at least one of the variables assessed in the study. The total dropout rate for the 19 studies was 31.3 percent. Table 1 in Appendix C lists the studies that met inclusion criteria with

their number of participants, their definition of dropout, and the correlations for the variables that were assessed in their study.

Variables Predicting Dropout

Effect-size estimates for the individual studies are shown in Table 1 of Appendix C, and a summary of the meta-analysis results are provided in Table 2 of Appendix C. Dropout was not related to younger parental age ($\bar{r} = .10, 95\%\ CI\ [-.22, .04]$), minority group status ($\bar{r} = .27, 95\%\ CI\ [-.10, .57]$), anxiety ($\bar{r} = .24, 95\%\ CI\ [-.27, .64]$), or depression ($\bar{r} = .02, 95\%\ CI\ [-.33, .36]$). The effect sizes were heterogeneous for depression, $Q = 7.68$, $p = .02$. Excluding the Lackow (2018) article, depression was unrelated to dropout ($\bar{r} = .18, 95\%\ CI\ [-.10, .44]$) and the effect sizes were homogenous, $Q = 1.58$, $p = .21$. A medium correlation ($\bar{r} = .46, 95\%\ CI\ [.07, .73]$) was found between single parent status and dropout. Additionally, a medium correlation was found between parent psychopathology and dropout ($\bar{r} = .48, 95\%\ CI\ [.28, .64]$).

CHAPTER IV: DISCUSSION

Two of our hypotheses were confirmed. Based on the meta-analysis of these studies, drop out is more likely for single parent households and for parents with psychopathology. Renyo and McGrath (2006) found similar findings in effect size between dropout and single parent status, but reported an insubstantial effect size between dropout and maternal psychopathology. Contrary to the current findings, Chaco et al. (2016) did not find a significant correlation between these variables and dropout. These discrepancies may be related to the more advanced methodology and data reporting of more recent studies focusing primarily on factors related to dropout. We did not find a significant correlation between dropout and parent age or dropout and minority status in the current meta-analysis. Consistent with our findings, Renyo and McGrath (2006) found a small effect size between younger maternal age and minority status, and Chacko et al. (2016) did not find a significant correlation between either of these variables and dropout. Furthermore, the combined dropout rate of 31.3% is comparable to the dropout rate of 26% found by Chacko et al. (2016).

Similar to the main findings from from Chacko et al. (2016), Forehand et al. (1983), Gonzalez et al. (2018), Mytton et al. (2014), and Renyo and McGrath (2006), studies are not gathering or reporting parent demographics of the individuals that complete or dropout of parent training programs. Although this information would be extremely beneficial in creating and implementing parent training programs, it is not commonly reported. In the articles reviewed the most reported parent predictor reported was parent age ($N = 6$).

Limitations and Future Directions

This meta-analysis only contained a small number of studies that met the study criteria for the review. Because of this limited number of reviews, some effect-size estimates were based on two articles. With a larger number of articles, it would provide a more generalizable analysis of the predictors' correlation to dropout. Further meta-analyses need to focus on a longer time frame. Future research should consider the inclusion of studies with children with a developmental disability or autism spectrum disorder. This inclusion would broaden the criteria and allow for additional articles to be included in the meta-analysis. Additionally, a criterion for requiring all reviewed articles to be peer-reviewed would be helpful to ensure that data from the reviewed articles were more likely to be accurate. Like all meta-analyses, another limitation is that researchers tend to publish articles when they find significance, but they may not publish research when the results are nonsignificant.

Furthermore, only three databases were used to search for relevant articles. There may be other articles that present dropout data for parenting programs, but they were not identified in these databases. Databases that future researchers should consider include Child Development & Adolescent Studies, Health Source, and PubMed. We did not chose these databases because we expected a majority of the articles to be found in the databases focusing on psychological literature. Additionally, other key words could identify a broader sample of articles. Other search terms could include parent, behavioral parent training, BPT, and positive parenting. Initially we did not choose these terms because we thought they would provide too broad of search results.

Another limitation of the study involved the various measures that different studies used to evaluate parent psychopathology. Some articles used multiple measures to assess different types of psychopathology, while others used clinical definitions from the DSM 5, and others used criteria found within psychological tests. Although more articles reported parent psychopathology, we were only able to compare three that used a clinical diagnosis because others focused on self-reports or data from psychological tests.

Additionally, we did not assess every parent variable suggested by Forehand et al. (1983) or analyzed by Reyno and McGrath (2006). These variables could provide additional information for future research. Future researchers could focus on parent variables, such as the number of hours that a parent is employed and distance from the home to the treatment facility. Also, it may be beneficial to assess characteristics of children that may impact treatment dropout, such as child aggression and hyperactivity.

Despite the methodological limitations, we found drop out is more likely for single parent households and parents with psychopathology. These findings could help future parent training programs to implement retention components in programs specifically focusing on single parents and parents with psychopathology. These components could help increase the overall retention rate of parent training programs and allow these programs to have a more broad, positive impact on more families.

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APPENDICES

Appendix A

Reviewer's Initials _____ Journal-Article # _____

Reliability Checker's Initials _____ Study _____ of _____

Subject _____ of _____

ARTICLE REVIEW FORM FOR BEHAVIORAL PARENT TRAINING STUDIES

CITATION: Last Name of 1st Author: _____

Affiliation of 1st Author: _____

Journal: _____

Year: _____ Volume: _____ Pages:_____

Circle if the article is trying to reduce:

Child Behaviors: Impulsivity/Hyperactivity Aggression Destructive

Noncompliance Disruptive Externalizing Conduct/Oppositional

Circle if the article includes children with (This article will **NOT** be used in this study):

Rule Outs: Autism Developmental Disability

Circle type of setting and treatment:

SETTING: In-Patient Out-Patient (Clinic) Home

TREATMENT TYPE: Group Individual Combined

Total Number of Sessions: _____

How Did the Authors Define Dropout or Retention:

	Number of Treatment Sessions Completed
	Premature Termination of Treatment
	Completing _____ or fewer session
	Termination after _____ or fewer sessions
	Failure to complete all treatment session

Other:

Total Sample (Include only Dropped Out and Completed Groups):

Parents: *N:* _____ **Female** *N* = _____ *%* = _____ **Age:** Mean _____SD _____

Children: *N:* _____ **Female** *N* = _____ *%* = _____ **Age:** Mean _____SD _____

Average Number of Sessions Attended: _____

Child Diagnosis:

ODD *N* = _____% =_____ **CD** *N* = _____ % =_____ **ADHD** *N* = _____ % =_____

Dropped Out: Number _____ Percentage _____

Completed Treatment: Number _____ Percentage _____

Dropped Out of Treatment

Parents: *N:* _____ **Female** *N* = _____ *%* = _____ **Age:** Mean _____SD _____

Children: *N:* _____ **Female** *N* = _____ *%* = _____ **Age:** Mean _____SD _____

Average Number of Sessions Attended: _____

Child Diagnosis:

ODD *N* = _____% =_____ **CD** *N* = _____ % =_____ **ADHD** *N* = _____ % =_____

Completed Treatment

Parents: *N:* _____ **Female** *N* = _____ *%* = _____ **Age:** Mean _____SD _____

Children: *N:* _____ **Female** *N* = _____ *%* = _____ **Age:** Mean _____SD _____

Average Number of Sessions Attended: _____

Child Diagnosis:

ODD *N* = _____% =_____ **CD** *N* = _____ % =_____ **ADHD** *N* = _____ % =_____

Statistical test results **might be indicated by any of the following:**

t-test, ANOVA F, Chi-Square χ^2, Odds Ratio OR, Risk Ratio RR, *z*-test
η^2 or eta^2, η_p^2, R^2 or r^2, Cohen's *d*, *r* or correlation

Parental Age					
Total Sample		Dropped Out		Completed Treatment	
N =	% =	*N* =	% =	*N* =	% =
Mean	*SD*	*Mean*	*SD*	*Mean*	*SD*
Statistical Test Results					

Number of Parents in House					
	Total Sample		Dropped Out		Completed Treatment	
Single Parent	*N* =	% =	*N* =	% =	*N* =	% =
Two Parent	*N* =	% =	*N* =	% =	*N* =	% =
	N =	% =	*N* =	% =	*N* =	% =
	N =	% =	*N* =	% =	*N* =	% =
	N =	% =	*N* =	% =	*N* =	% =
Statistical Test Results						

Parent Psychopathology					
Depression/Mood Disorders Measure:					
Total Sample		Dropped Out		Completed Treatment	
N =	% =	*N* =	% =	*N* =	% =
Mean	*SD*	*Mean*	*SD*	*Mean*	*SD*
Statistical Test Results					

Anxiety Disorders Measure:					
Total Sample		Dropped Out		Completed Treatment	
N =	% =	*N* =	% =	*N* =	% =
Mean	*SD*	*Mean*	*SD*	*Mean*	*SD*
Statistical Test Results					

Substance Abuse Measure:					
Total Sample		Dropped Out		Completed Treatment	
N =	% =	*N* =	% =	*N* =	% =
Mean	*SD*	*Mean*	*SD*	*Mean*	*SD*
Statistical Test Results					

Other Measure:					
Total Sample		Dropped Out		Completed Treatment	
N =	% =	*N* =	% =	*N* =	% =
Mean	*SD*	*Mean*	*SD*	*Mean*	*SD*
Statistical Test Results					

Ethnicity

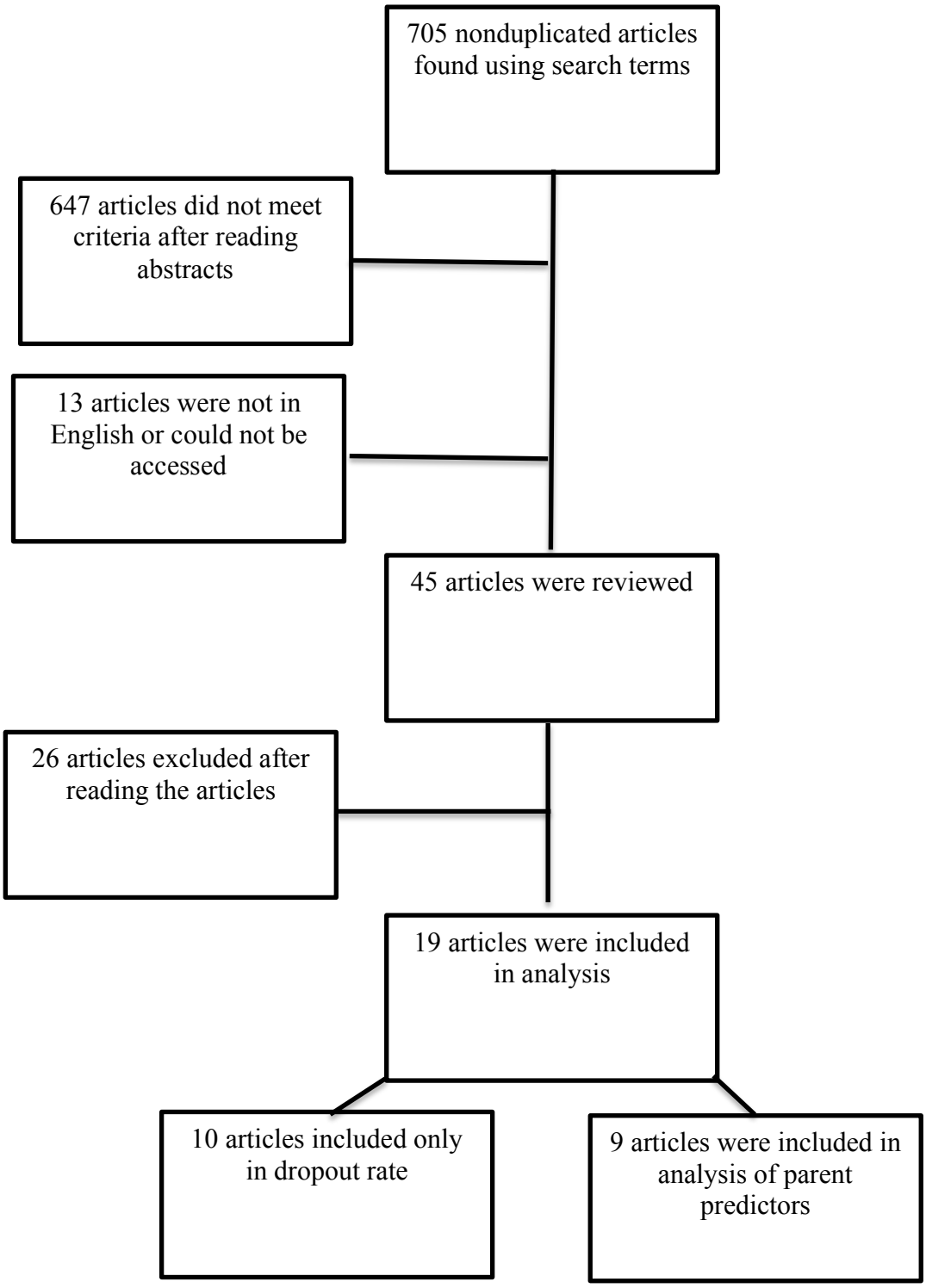
	Total Sample		Dropped Out		Completed Treatment	
	Total N	$\left(\frac{\#\ dropped}{Total\ N}\right) * 100$	*N*	% Within sample	*N*	% Within Sample
Caucasian						
African American						
Hispanic						
Asian						
Multiracial						
Minority						
Other:						
Other:						

Statistical Test Results

Comments about the article/Issues to be resolved:

Appendix B

INCLUSION AND EXCLUSION OF STUDIES



Appendix C

Tables

Table 1

Characteristics of Studies Included in the Meta-Analysis

Study	Child Problem Behaviors	Outcome Measure	*N*	*r*
Abrahamse, Niec, Junger, Boer, & Lindauer, 2016	Conduct problems	Termination before meeting PCIT criteria	63	-0.22a 0.44d
Anton et al., 2016	Disruptive behaviors	Premature termination of treatment	9	0.06a 0.08b -0.03c
Axelrad, Butler, Dempsey, & Chapman, 2013	Disruptive behaviors	Attending less than four of the core intervention sessions	120	
Chacko, Wymbs, Chimiklis, Wymbs, & Pelham, 2012	Hyperactivity/ Impulsivity	Parent explicitly state she did not want to continue or missed three consecutive sessions	80	
Chacko, Wymbs, Rajwan, Wymbs, & Feirsen, 2017	Hyperactivity/ Impulsivity	Parent explicitly state she did not want to continue or missed three consecutive sessions	29	0.11a -0.03c 0.02e

Chen, & Fortson, 2015	Externalizing behaviors	Failure to complete all treatment sessions	44	-0.39a 0.55b 0.49d 0.30e 0.47f
Comer et al., 2017	Disruptive behaviors	Did not meet mastery criteria for PCIT	40	
Day, Michelson, Thomson, Penney, & Draper, 2012	Impulsivity/ Hyperactivity; Conduct problems	Attending four or fewer sessions (out of a total of eight sessions)	116	-0.13a
DuPaul, Kern, Belk, Custer, Daffner, Hatfield, & Peek, 2018	Hyperactivity/ Impulsivity	Withdrawing from treatment	46	
Frank, Keown, & Sanders, 2015	Conduct problems	Not specified	84	
Furlong & McGilloway, 2014	Conduct problems	Completing 5 or fewer sessions	149	
Hagen, & Ogden, 2017	Conduct problems/ Disruptive behaviors	Not specified	331	
Jones et al., 2014	Disruptive behaviors	Discontinuing participation	19	

Kimonis et al., 2018	Conduct problems	Not specified	23	
Lackow, 2018	Disruptive behaviors	Discontinuing treatment at any point after attending the first treatment session and before meeting the treatment completion criteria	40	-0.15a -0.03f
Lees & Fergusson, 2015	Conduct problems	Failure to complete all treatment sessions	48	
López, Davidson, & Moreland, 2018	Disruptive behaviors	Attending 25% or fewer of the sessions	12	
Schneider, Gerdes, Haack, & Lawton, 2013	Hyperactivity/ Impulsivity	Discontinuing treatment prior to completing the last planned session on signed treatment plan	57	0.67d
Somech & Elizur, 2012	Disruptive behaviors	Did not attend final session	209	

Note: [a] Younger parental age; [b] minority Status; [c] single parent status; [d] parent psychopathology; [e] parent anxiety; [f] parent depression

Table 2

Association Between Predictor Variables and Dropout

Predictor	**# of studies**	**Total *N***	**Mean Weighted Effect size**	**95% Confidence Interval**	**Z-test (p-value)**	**Q (p-value)**	**Fail safe *N***
Younger parental age	6	221	.10	-.22 , .04	1.43 (.15)	2.45 (.78)	--
Single parent status	2	53	.46	-.07 , .73	2.29 (.02)	1.27 (.26)	--
Minority status	2	38	.27	-.10 , .57	1.45 (.15)	.07 (.79)	--
Clinical Diagnosis	3	141	.48	.28 , .64	4.37 (.00)	.50 (.78)	12
Depression	3	124	.02	-.33 , .36	.11 (.91)	7.68 (.02)	--
Depression (excluding Lackow, 2018)	2	84	.18	-.10 , .44	1.27 (.21)	1.58 (.21)	--
Anxiety	2	84	.24	-.27 , .64	.92 (.36)	.50 (.78)	--