EVALUATION OF A PARENT EDUCATION PROGRAM EMPHASIZING RESPONSIVE PARENTING, EXECUTIVE FUNCTION, AND MINDFULNESS

By

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Abstract: Parental well-being and mental health are two aspects of parent education that are beginning to receive increased attention in recently developed parenting interventions. This study presents findings from a national evaluation of the *Active Parenting First Five Years* program, a parent education program designed to promote responsive parenting and healthy development in young children, with a unique emphasis on the mental states and well-being of parents. Using an innovative *Inclusive Randomized Control Trial* method to establish treatment and comparison study groups, group differences indicative of program effects were detected for parenting outcomes of mindfulness, parenting efficacy, and parenting stress. Findings from this study also suggest that parents who incorporate mindfulness practices into their parenting may see associated changes in their child's behavior, specifically in areas related to conduct problems. Further, considering parents' mental states, enhanced developmental knowledge and parenting efficacy were shown to predict perceived lower levels of parenting stress across the program. Taken together, these findings emphasize the need for parental well-being and mental health to receive increased consideration in parenting intervention designs and curricula.

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CHAPTER I

INTRODUCTION

The purpose of this study was to evaluate the effectiveness of the widely used parenting program, *Active Parenting - First Five Years* (Popkin, Morris, Slocum, & Hubbs-Tait, 2017). This intervention has been designed to: a) give parents knowledge of child development; b) teach parents about how to prevent problematic behavior; c) share strategies for caring for the caregiver (e.g., mindfulness, stress relief); d) practice skills for positive parenting; and e) present strategies for improving children's executive function through brain-building activities. Although this program has been widely used throughout the United States for over two years, there is an absence of research investigating whether this program is effective, as well as whether any specific aspects of the program impact its effectiveness. As such, evaluation is necessary before this intervention can be recognized as scalable and useful. Along with evaluating program effectiveness in terms of changing parent attitudes and behavior, this study also examined how program participation affects parent mindfulness (self-regulation of attention and behavior) and its relation to internalizing and externalizing behaviors reported in children, as well as how parents' sense of parenting efficacy (confidence in their parental role) and parenting knowledge are related to perceived stress associated with parenting.

This evaluation had three primary research goals:

1A. Evaluate the effectiveness of the *Active Parenting First Five Years* parenting intervention broadly by examining parent outcomes of responsive parenting, developmental knowledge, parenting efficacy, mindfulness, parenting stress, and child outcomes of child strengths, emotion problems, conduct problems, hyperactivity, and prosocial behavior using the entire collected sample of parents using a pre-post design.

1B. Using a more rigorous approach, evaluate the effectiveness of the *Active Parenting First Five Years* parenting intervention by examining parent outcomes of responsive parenting, developmental knowledge, parenting efficacy, mindfulness, parenting stress, and child outcomes of child strengths, emotion problems, conduct problems, hyperactivity, and prosocial behavior in a sample of parents randomly assigned to a treatment group, compared to a group of parents randomly assigned to a comparison group.

2. Examine how changes in parents' reports of mindfulness are related to changes in internalizing and externalizing behaviors in their child.

3. Investigate how changes in parents' developmental knowledge and parenting self-efficacy are associated with changes in reports of perceived parenting stress.

CHAPTER II

LITERATURE REVIEW

Parenting and Child Outcomes

The quality of care that a child receives at the earliest stages of life has been associated with significant outcomes across the lifespan (Vandell, Belsky, Burchinal, Steinberg, Vandergrift, & NICHD Early Child Care Research Network, 2010). Parents play a key role in this process as they have the opportunity to establish and maintain positive trajectories in their child's physical, cognitive, social, and emotional development (Holden, Brown, Baldwin, & Caterao, 2014). Healthy developmental trajectories are established as parents build secure attachment relationships with their young children. These relationships are developed as parents show sensitivity to their children's cues or signals, and respond to their physical and emotional needs (Morris, Robinson, Hays-Grudo, Claussen, Hartwig, & Treat, 2017). Parenting style is an additional factor of importance when considering the parent-child relationship, as authoritative parenting styles that are firm, yet responsive have been shown to contribute to numerous aspects of healthy development among young children, while parenting styles that are overly firm (i.e. authoritarian) or lack structure (i.e. permissive) have been shown to be less effective or even potentially destructive (Baumrind, 1966; Pinquart & Kauser, 2018; Steinberg, 2001). It is well established that children of parents who are nurturing and sensitive during the early years exhibit

fewer mental health and behavior problems and are more likely to achieve in school (National Research Council & Institute of Medicine, 2009). Along with guiding their child in positive directions, parents also have the task of establishing a home environment that is conducive to the continuous growth and development of their child. A growing body of research has shown that the home environment serves as the primary context for children's social, emotional, and physical development (Russell & Lincoln, 2017). As such, the quality of parental care and the established home and family environment critically impact the child's development in ways that have become increasingly predictable (Russell & Lincoln, 2017).

Although researchers often focus on positive parenting because of its association with positive outcomes in children, positive parenting is related to important attributes of the parents themselves. Supportive or positive parenting has been associated with parents' overall sense of efficacy, confidence in their role as parents, and optimistic belief in their ability to positively affect their child's behavior (Evans, Nelson, Porter, Nelson, & Hart, 2012). However, positive parenting practices do not tend to develop entirely on their own. According to the National Academies of Sciences, Engineering, and Medicine (NASEM, 2016), parenting is a learned skill that can be strengthened and improved through education and experience. Unfortunately, parents can often be unaware of where or how to obtain such education and the long-term benefits that it can have on themselves, their children, and their families.

It is important for parents to feel supported and competent in raising their children regardless of their own upbringing, socioeconomic status, or culture (Kim, 2014). One area of work that has shown potential for providing parents with such support and competence is parent education (Sanders, 2012). Parenting interventions are designed with a central focus on parenting, typically offering structured activities designed to engage parents directly in ways that will influence their

nurturing, teaching, monitoring, and disciplining behaviors (National Center for Parenting, Family, and Community Engagement, 2015). Additionally, parent education has shown to be an effective resource that is capable of addressing, and in some cases preventing, a myriad of social problems such as academic disengagement, child abuse, juvenile crime, and teen pregnancy. Some programs are designed to address some of the more foundational aspects of childrearing, including improving children's attachment behavior, enhancing social and emotional development, and promoting school readiness (Kazdin & Blasé, 2011; Sanders, 2012). Study findings suggest that well-planned and implemented early parent education programs can be used as effective tools for disseminating parenting information and nurturing parenting skills (Kim, 2014) while also encouraging positive academic, emotional, and social development in children (Doh, Kim, Shin, Song, Lee, & Kim, 2016).

Parent Education – A Brief Historical Review

Parent education in the United States has a rich history dating as far back as the early 1800's with the first record of group parenting meetings being recorded in 1815 in Portland, Maine (Bridgman, 1930). During that time period it was recorded that "mother associations" met regularly in study groups to discuss childrearing problems and the moral development of their children (Mead & Wolfstein, 1955). Up until the 1920's parent education remained primarily informal, but as the number of parents requesting help increased, educators and social workers began to gradually collect and disseminate organized materials (Croake & Glover, 1977). From then to now, parent education has taken many different forms and emphasized a variety of aspects related to child-rearing. As it became increasingly available, a number of emphases began to emerge among many organized and unorganized programs. Some of these areas of

focus included general parenting skills, ages and stages information, and heavily emphasized – the adjustment of child behavior (Barth & Liggett-Creel, 2014).

While foundational topics of parent education began to take form, there was much dispute regarding the best practices, themes, and delivery methods among interventions. Toward the end of the 1960's a shift began to take place in the manner by which children's problematic behaviors were addressed, moving from a primary focus on changing the child's behavior, to more of an emphasis on changing parents' behavior (Barth & Liggett-Creel, 2014). Some scholars suggest that this shift took place because (a) parents began to realize that they had the ability to act as agents in their children's behavior change; and (b) a growth in understanding that parents tend to contribute to their children's behaviors, both desirable and undesirable (Bandura, 1969).

Parent Well-Being and Mental Health

Parenting interventions have seen many changes and developments in terms of topics and emphases throughout recent history. Programs have been designed to emphasize an array of content, using various delivery methods, and serving a wide variety of family types. More recently, there has been a notable shift in focus among many parent education programs, moving from a primary goal of adjusting child behavior, to addressing parents' mental states and enhancing the parent-child relationship as a means of achieving desired behavior goals and outcomes (NCPFCE, 2015). Similar to the way parents are instructed to put on their own oxygen masks before addressing the needs of their children in the instance of an aircraft emergency, parenting specialists have shared a similar message – parents need to feel confident, competent, and regulated before they can adequately and effectively facilitate the healthy development of their child (Kim, 2014). As such, programs on the cutting-edge are beginning to emphasize

teaching parents how to regulate their thoughts and actions as well as how to apply newly acquired knowledge to real-life settings (Sanders, 2012). This focus on parents' mental states has resulted in more research and program development on topics such as parent mindfulness, parent executive function, parenting stress, and regulatory behaviors in the context of parenting (NCPFCE, 2015). The following sections outline a number of these areas of emphasis that align well with the content included in the *Active Parenting First Five Years* curriculum, the focus of the current study.

Mindfulness. One of the aspects receiving much attention in current health and developmental literature is mindfulness. Mindfulness is conceptualized as the self-regulation of attention and non-evaluative acceptance of present experiences (Campbell, Thoburn, & Leonard, 2017). Numerous studies have been published in recent years illustrating the importance of mindfulness in many aspects of adjustment and function (Segal, Williams, & Teasdale, 2018; Shapiro & Carlson, 2017; Zoogman, Goldberg, Hoyt, & Miller, 2015). Indeed, mindfulness has shown to help individuals regulate emotions and stress, and has also been associated with positive neurological changes in the brain among adults (Hölzel, Carmody, Vangel, Congleton, Yerramsetti, Gard, & Lazar, 2011). In the context of parenting, mindfulness is an active process in which parents are consciously aware of their parenting behaviors and decisions. Coatsworth, Duncan, Greenberg, and Nix (2010) found that parents who practice mindfulness are better able to focus their attention, intentionally self-regulate emotion in the context of the parent-child relationship, and remain aware of emotions for both the self and child. Further, Neece (2014) observed that parents who are taught mindfulness-based stress reduction skills not only report lower levels of stress and depression, but also report lower levels of attention and hyperactivity problems in their children. While these findings are promising, research observing how child

outcomes might be related to the parental practice of mindfulness is scant. Consequently, additional research observing the benefits of mindfulness in the context of parenting and associated child outcomes is needed. As mindfulness continues to gain attention from parenting and early childhood specialists, it is important that the various beneficial findings are adequately considered and applied to parent education programs moving forward.

Executive Function. Another important aspect that is receiving attention in developmental literature is executive function. Executive function and self-regulation skills are the mental processes that enable individuals to plan, focus attention, remember instructions, and perform goal-oriented behavior (Hofmann, Schmeichel, & Baddeley, 2012). To this point, limited research has been conducted to tie executive function to parenting behaviors; nevertheless, the literature that does exist is very promising. For example, Deater-Deckard, Wang, Chen, and Bell (2012) found maternal executive function to be related to harsh parenting, as mothers with low executive function abilities tended to utilize harsher parenting practices with their children, especially in chaotic home environments. Additionally, Deater-Deckard (2014) reported that executive function skills are developed over the course of childhood and tend to begin stabilizing by early adolescence, illustrating the importance of positive executive function development in early childhood. Moreover, through gene-environment interactions executive function abilities can be transmitted intergenerationally within parent-child relationships as parents regulate home environments and assist in the regulation of their children (Deater-Deckard, 2014). Considering how often parents need to carry out these key mental processes in every-day parenting interactions and routines, as well as their role in developing the EF skills of their children, executive function is an additional factor that should receive significant consideration when developing programs and interventions related to parenting.

Parenting Efficacy. Another area of emphasis when considering parent mental states is parents' sense of efficacy. Parenting efficacy, or parents' confidence in their ability to successfully carry out their parenting role, has been shown to be an important element of cognition that can aid parents in adjusting to their roles and help settle problems that arise in child-rearing (Schultz & Schultz, 2016; Teti & Gelfand, 1991). Specifically, parents who possess higher levels of parenting efficacy tend to have a better understanding of their child's behaviors and show higher levels of responsive, positive parenting (Desjardin, 2003; Mouton, Loop, Stiévenart, & Roskam, 2018). While parenting efficacy has been shown to be a valuable characteristic of responsive parenting, less is known regarding the relationship between parenting efficacy and domains of mental health, such as stress. As an example, some scholars argue that parenting stress plays a major role in determining parents' sense of efficacy (Crnic & Ross, 2017; Jackson & Huang, 2000; Jones & Prinz, 2005) as opposed to parenting stress being determined by parents' feelings of efficacy. While the first directional relationship between stress and parenting efficacy has been observed, additional research is necessary to determine whether parenting efficacy can be a predictor of parents' mental health.

Best Practices Among Evidence-Based Programs

Similar to the numerous shifts in intervention topics and emphases that have taken place over time, identifying practical methods for teaching skills to parents, as well as the most effective ways in which parenting information can be delivered, have also become areas of interest for many child development and family life specialists and scholars (NCPFCE, 2015). Research regarding best practices has been going on for many years. Within the parenting intervention literature, four domains, or tiers, can be observed when considering the potential of a parenting intervention's effectiveness. The four tiers of practice commonly observed include 1)

information sharing, 2) self-awareness/belief-insight change, 3) skill building, and 4) applied problem solving. While some programs place various levels of emphasis on each domain, intervention goals that align with these four domains have been shown to be promising (Fine, 2014; Fine & Brownstein, 1983).

To look at specific practices within these domains, an extensive meta-analysis of components associated with optimal parent education program effectiveness was carried out by Kaminski, Valle, Filene, and Boyle (2008). This evaluation of 77 published parenting interventions aided in establishing four key components associated with larger effect sizes when observing parenting behavior, parenting skills, and child behavior problems. First, from this study the authors concluded that programs requiring in-vivo (real life) practice of trained skills with the parent's own child were exceedingly promising. This in-vivo practice could include conflict resolution tasks or role play scenarios, for example. A second key aspect of more effective parent education programs was teaching parents skills related to emotional communication. This could include active listening skills training (such as reflecting what the child says back to them); teaching parents how to help their children identify and label emotions; and teaching parents how to use less negative communication (e.g., sarcasm and criticism). The third key component found was teaching parents how to build relationships and positively interact with their children in situations that are non-disciplinary. Specifics of this aspect include teaching parents how to demonstrate positive attention and enthusiasm for appropriate behavior; teaching parents how to interact on the same level as their child during play; and instructing parents to allow their child to take the lead during play activities. Finally, the fourth key aspect determined from this meta-analysis was teaching parents to be consistent in their discipline (i.e., responding to a particular misbehavior with the same consequence every time). In sum, Kaminski et al. (2008) concluded

that the most effective components of parenting interventions focus on providing parents with skills aimed at enhancing the overall quality of the parent-child relationship. It must also be noted that while these were the four most prominent aspects, they are not the only aspects indicative of a high-quality parent education program. Within this same meta-analysis other aspects had smaller effect sizes such as teaching parents to promote their child's social, cognitive, and academic skills, as well as teaching parents how to develop their child's problem-solving skills (Kaminski et al., 2008).

In a recent compendium of evidence-based parenting interventions published by the Department of Health and Human Services (2015), it was reported that sixteen out of twenty parenting interventions on their list of "best-programs" included components related to the improvement of both parent and child behavior and attitudes. Additionally, over half of the listed programs featured components designed to improve parent well-being, specifically. Some of the exemplary interventions designed for infancy and early childhood included on this list and other lists (SAMHSA, NREPP, Clearinghouse, etc.) include Positive Parenting Program (Triple-P), Circle of Security (COS), Nurturing Parenting Programs, Parents as Teachers (PAT), and Systematic Training for Effective Parenting (STEP). Each of these programs has been independently assessed in at least three peer-reviewed publications that used a randomized control trial and focused on parent and child outcomes for children from birth through the age of six. These programs generally focus on enhancing the parent child relationship, strengthening developmentally appropriate parenting skills, and establishing consistency in discipline. Intended outcomes associated with these programs broadly include positive social and emotional development in the child, increased attachment behavior, and enhanced parent well-being.

While most of these adequately-to-extensively researched parenting interventions tended to feature weekly 90-minute to 2-hour sessions, there is great variability in the time-period over which sessions are held, ranging from a month to three years. Additionally, some interventions are group-based seminars, while others are highly individualized home-visit sessions. Finally, these evidence-based interventions are led exclusively by trained and certified instructors with professional backgrounds in related fields. Along with maintaining program fidelity, or the extent to which the program adheres to the protocol or model originally developed, group leaders are essential for sustained program engagement. Group leaders who are able to establish a comfortable environment and build flexible, supporting, and caring relationships with parents have been shown to keep participants engaged in programs for longer periods of time (Beasley et al., 2018). While it can be difficult to pinpoint the exact delivery method and practice associated with parent or child outcomes, consistency, repeated exposure, and program fidelity appear to be key factors associated with more positive outcomes (NCPFCE, 2015).

Summary, Research Goals, and Hypotheses

The current study evaluates the effectiveness of the parent education program *Active Parenting First Five Years* (FFY). FFY is a group-based parenting intervention that includes four interactive 2-hour sessions utilizing a video-based curriculum focused on positive, responsive parenting, parent well-being, and child development. A previous version of this program, *1, 2, 3, 4, Parents!* (Popkin, 1996), had been widely used since its creation in 1996, until it was revised in 2017 to include curriculum and content updates related to parenting infants, mindfulness, and executive function, as well as increasing the total number of sessions from three to four. Program updates were also made in order to enhance overall program utility, as well as enhance applicability for all parents, including at-risk families with low education levels.

The current program is enhanced with content, activities, and games (for parents to play with children) focused on increasing parents' mindfulness, improving parent and child executive function (i.e., self-regulation, attention, working memory through brain-building games for parents to share with their children), and building a sense of self-efficacy in parenting while reducing parenting stress. A number of aspects make this program unique in comparison to other parenting interventions designed for parents of very young children, including a focus on the previously outlined aspects of parenting mindfulness, executive function, and parenting efficacy, all with the intention of enhancing the parent-child relationship, and helping parents learn to be sensitive to and nurturing of their children who are at arguably one of the most vulnerable stages of their lives. While these points of emphasis are becoming more prevalent in the literature, there is still more work to be done in order to integrate these principles into parenting interventions that are evidence based and readily available for parents and practitioners. This parenting intervention has been found to be up-to-date on many of the current areas of emphasis in parenting programs (parent mental states and relationship building); it features many of the best practices found in evidence-based programs (positive discipline, communication enhancement, practicing learned skills at home); and it contains a method of delivery that is consistent, group-based, and practice-oriented. The inclusion of the unique program aspects related to parent mental states, along with the fact that the program is currently being widely implemented both nationally and internationally underscores the compelling nature of the evaluation of this intervention.

There were three main research goals for the study. The *first research goal* was to evaluate the effectiveness of the *Active Parenting First Five Years* parenting intervention. Effectiveness was tested by observing differences in parents' reports of various parenting domains including

responsive parenting, developmental knowledge, parenting efficacy, mindfulness, and parenting stress. In addition, four parent-reported child behavior outcomes were examined including emotional problems, conduct problems, hyperactivity, and prosocial behavior. For *research goal 1A*, it was hypothesized (Hypothesis 1A) that parents would report higher scores for positive parent and child outcomes and lower scores for negative parent and child outcomes at the completion of the program (Post Survey) when compared to the scores collected at the beginning (Pre-Survey). For *research goal 1B,* each of these parent and child outcomes was observed among parents randomly assigned to a treatment group, as well as parents assigned to a comparison group. It was hypothesized (Hypothesis 1B) that parents who were assigned to the treatment group would show greater increases than the comparison group in the previously outlined positive behavior domains, while also reporting improvement in the various aspects their child's behavior.

The *second research goal* was to examine how changes in parents' reports of mindfulness were related to parents' reports of their child's emotional problems, conduct problems, hyperactivity, and prosocial behavior. It was hypothesized (Hypothesis 2) that as parents reported increased use of mindfulness practices, they would also report decreases in children's emotional problems, conduct problems, hyperactivity, and increased prosocial behavior.

Finally, the *third research goal* was to investigate how parents' sense of confidence and competence was related to and predicted their reports of parenting stress. It was hypothesized (Hypothesis 3) that as parents experienced positive changes in reported developmental knowledge and a greater sense of parenting efficacy, they would also report lower levels of parenting stress from the beginning of the program to the end.

CHAPTER III

Method

Participants

The sample for this study was collected for the National Evaluation of the Active Parenting First Five Years program, beginning in the Fall of 2017 and concluding in the Spring of 2019. Data collection took place in the states of Arizona, Colorado, Florida, Georgia, and Oklahoma. Parents and caregivers were invited to participate in the intervention primarily by group leaders who had been previously trained and certified through Active Parenting, and Active Parenting coordinated the group leader recruitment. Group leaders recruited participants for this evaluation through schools, libraries, hospitals, community centers, and religious organizations, primarily using flyers and word-of-mouth. Consent was obtained from each parent/caregiver before they participated in any program evaluation procedures, and university IRB approval was obtained prior to data collection.

The total sample of participants included 213 caregivers of children between the ages of zero and five, with caregiver ages ranging from 18 to 81 (M = 34.1, SD = 12.9). In regard to the caregiver-child relationship, this sample was made up of 61% mothers, 16% fathers, and 13% grandparents. For the racial breakdown, 66% of participants were Caucasian, 12% African American, 12% Native American, 2% Asian, and 9% reported as "Other." Additionally, 29%

reported being ethnically Hispanic. In terms of relationship status, 61% of participants were partnered (married or living together), and 39% reported being single. For participant education and income, 46% received a high school diploma/GED or less, 81% reported earning less than $40,000 per year, and 31% reported receiving government assistance in the past year. In order to assess aspects of child behavior, participants reported on the behavior of one target child within the 0-5 age range (*M* age = 2.48, *SD* = 1.35; 60% Male, 40% Female) at all points of data collection. Parents were also asked about their overall experience and impressions of the program in the post-survey.

Procedure

For each program group, data collection took place over an eight-week period during which three surveys were administered to participants. First, four weeks before the *Active Parenting* program began, a program orientation session was held for all intervention participants. At this orientation session, parents completed the Control Survey (Time 1). Four weeks after the orientation session, FFY teaching sessions began and were held weekly for four consecutive weeks, with a Pre-Survey (Time 2) administered at the beginning of the first session, and a Post Survey (Time 3) administered immediately following the final session. Each of these three surveys were identical, with the exception of the Post Survey, which also included questions related to caregivers' experience and impressions of the FFY program. Each survey included items for reporting demographic information, responsive parenting, developmental knowledge, parenting efficacy, mindfulness, stress, and child outcomes of child strengths and difficulties, emotional problems, conduct problems, hyperactivity, and prosocial behavior.

Data were collected using these three time points in order to conduct what will be referred to as an *Inclusive Randomized Control Trial*. At the conclusion of data collection and

prior to data analysis, a randomization tool (Microsoft Excel, 2016) was used to assign participants to two different groups; half of all participants who completed each of the three surveys (N = 132) were randomly assigned to a Comparison Group, where their Control and Pre-Surveys (Time 1 & Time 2) were analyzed, and the other half were assigned to a Treatment Group, where their Pre- and Post-Surveys (Time 2 & Time 3) were analyzed (see Figure 1). Rather than using a randomized control trial or traditional waitlist control method, this *Inclusive Randomized Control Trial* method was used to ensure that all participants would have the opportunity to receive the potential benefits of the intervention simultaneously and without significant delay. This is a novel study design, which could prove useful for other studies attempting to generate a control group while working with limited population availability (Morris, Jespersen, Cosgrove, Ratliff, & Kerr, under review).

The sample of parents assigned to the comparison group included 66 caregivers with ages ranging from 18 to 69 (M = 31, SD = 10.7). For the caregiver-child relationship, this portion of the sample had 56.1% mothers, 21.2% fathers, and 7.6% grandparents. The racial breakdown was 56% Caucasian, 18.2% Native American, 12.1% African American, 1.5% Asian, and 9% as "Other", with 23% reporting as ethnically Hispanic. Sixty-one percent of the comparison sample was partnered, with the remaining 39% being single parents. In terms of education, 36% received a high school diploma/GED or less, and 69% reported earning less than $40,000 per year. Target children for this group were 53% male and 47% female, with an average age of 2.62 (SD = 1.28).

The treatment group sample included 66 caregivers between the ages of 18 and 73 (M = 35.2, SD = 13.7). The caregiver-child relationship was made up of 60.6% mothers, 14% fathers, and 17% grandparents. In terms of race, 65% were Caucasian, 15.2% African American, 10.6% Native American, 1.5% Asian, and 7.6% reported "Other, with 23% reporting they were

ethnically Hispanic. Sixty-three percent of this portion of the sample was partnered, with 37% being single parents. For education, 37% reported earning a high school diploma/GED or less, with 65% reported as earning less than $40, 000 per year. Target children for the treatment group were 58% male and 42% female with an average age of 2.63 (*SD* = 1.20). As noted in Table 1, there were no significant demographic differences detected between each of the two groups.

Parents who chose to participate in the study received a $40 gift card from Active Parenting if they completed all three surveys and attended at least three of the four program sessions. Additionally, group leaders received a credit for free copy of the parent materials for each parent who participated. All study procedures were approved by Oklahoma State University's institutional review board.

Measures: Parent Outcomes

Responsive Parenting. Parenting behaviors and attitudes related to supporting good behavior, limit setting, proactive parenting, and teaching were measured using the 27-item Parenting Young Children self-report parenting measure (McEachern, Dishion, Weaver, Shaw, Wilson, & Gardner, 2012). Participants based their responses on a 7-point Likert scale (1 = Not at all, 7 = Most of the time) instructing parents to rate how often they engage their child in activities such as "Stand back and let your child work through problems s/he might be able to solve", "Speak calmly with your child when you were upset with him or her?", and "Set rules on your child's problem behavior that you were willing/able to enforce." Parent reports were averaged to create the final responsive parenting score. Across each of the three timepoints, Cronbach's alpha was found to have a range of α = .93 to .95.

Developmental Knowledge. Parents' knowledge concerning early child development and caregiving was assessed using the knowledge scale of the Oklahoma Infant Mental Health and

Development Survey (Huffer, Williamson, Morris, Hays-Grudo, & Bosler, 2016). This measure consists of 9 items such as “Babies often need help from caregivers to calm down”, “Predictable routines are not important for babies and toddlers” (reverse coded), and “Responding quickly to a baby’s crying just encourages the baby to become more demanding” (reverse coded). Each item was rated on a 5-point Likert scale (1 = Strongly disagree, 5 = Strongly agree) and the nine items were averaged to create the final developmental knowledge factor. Cronbach’s alpha ranged from α = .59 to .64 across the three timepoints.

Parenting Efficacy. Parents’ confidence in their ability to act successfully in their parenting role was measured using an adaptation of the 10-item Parenting Self Agency Measure (Dumka, Stoerzinger, Jackson, & Roosa, 1996). For the purpose of this study, 5 items were selected including, “I feel sure of myself as a mother/father”, “I can solve most problems between my child and me”, “I know things about being a mother/father that would be helpful to other parents” and were scored on a 4-point Likert scale (1 = Rarely, 4 = Always). Parenting efficacy scores were computed by summing the scores of each of the five items, with higher scores indicating greater efficacy. Cronbach’s alpha for the scale ranged from .74 to .87 across the three timepoints.

Mindfulness. The Cognitive and Affective Mindfulness Scale (Feldman, Hayes, Kumar, Greeson, & Laurenceau, 2007) was used to assess parental mindfulness. This scale was made up of 12 items, including “It is easy for me to concentrate on what I am doing” and “I can usually describe how I feel at the moment in considerable detail” rated on a 4-point Likert scale (1 = Rarely/Not at all, 4 = Almost always). Summing the scores of the twelve scale items resulted in a final mindfulness score. Cronbach’s alpha for this measure ranged from α = .83 to .86.

Perceived Stress. Parents' perceived level of stress was assessed using the Parental Stress Scale (Berry & Jones, 1995). This measure consisted of 18 items, including sample items such as "Having child(ren) leaves little time and flexibility in my life", "I sometimes worry whether I am doing enough for my child(ren)", "It is difficult to balance different responsibilities because of my child(ren)." These items were rated on a 5-point Likert scale (1 = Strongly disagree, 5 = Strongly agree), and the eighteen items were averaged to create a final perceived parenting stress factor, with a Cronbach's alpha ranging from .84 to .87 across the three timepoints.

Measures: Child Outcomes

Various factors related to child behavioral *strengths and challenges* were reported using the 20-item Strengths and Difficulties Questionnaire (Goodman, 1997). This instrument features items related to child emotion, conduct issues, hyperactivity, and prosocial behavior. Parents reported on these behaviors on a 3-point scale (1 = Not true, 2 = Somewhat true, 3 = Certainly true). This measure can be broken down into four subscales to measure parent reports of emotion problems, conduct problems, hyperactivity, and prosocial behavior, or following recoding, an overall child strengths score can be calculated by using all twenty items. Internal consistency for the overall scale ranged from .81 to .85.

Child difficulties and problems related to emotion were based on parent reports using the *emotional problems* subscale of previously introduced Strengths and Difficulties Questionnaire (SDQ). This 5-item subscale included emotion-related items such as "Often unhappy, depressed, tearful" and "Many worries or often seems worried", and had a Cronbach's alpha ranging from .60 to .62.

Child conduct problems were assessed using the *conduct problems* subscale of the SDQ. This subscale consisted of five items related to difficult externalizing behavior including "Often

loses temper", "Often lies or cheats" and "Often steals from home, school, or elsewhere" and had a Cronbach's alpha ranging from .60 to .69 across each of the three survey timepoints.

Parents reported the hyperactivity of their child using the *hyperactivity* subscale of the SDQ. This subscale was made up of 5 items with which parents rated the extent to which their child was, for example, "restless, overactive, unable to stay still" or "constantly fidgeting or squirming" and had a Cronbach's alpha ranging from .74 to .77.

Child prosocial behavior was based on parent reports using the *prosocial behavior* subscale SDQ. This subscale consisted of 5-items, including "Considerate of other people's feelings", "Shares readily with other children", and "Kind to younger children." Cronbach's alpha for this subscale ranged from .70 to .73.

Analytical Plan

For Hypothesis 1A, a series of dependent sample *t*-tests were conducted to observe differences (from Time 2/pre-program to Time 3/post-program) in each of the variables related to parenting behavior and attitudes along with the child behaviors for the entire sample, regardless of group designation. For Hypothesis 1B, a multivariate analysis of variance was conducted to detect program effects between outcomes for participants assigned to the comparison group and to the treatment group. Further, an analysis of variance was conducted to examine differences in mean scores for each specific variable among those assigned to the treatment group and those assigned to the comparison group.

For Hypothesis 2, prior to analysis, a correlation was conducted between the change score for mindfulness and the change scores for each of the child outcome variables (emotion problems, conduct problems, hyperactivity, and prosocial behavior) to determine which child outcomes would be included in the regression model (Shmueli, 2010). Next, each demographic

variable was included in a correlation with the dependent variables of child emotion problems, conduct problems, hyperactivity, and prosocial behavior in order to determine whether any demographic variables should be added to the regression model as control demographics. Finally, a simple linear regression was conducted to observe how parents' reports of changes in mindfulness pre- and post-program were associated with children's changes in emotional problems, conduct problems, hyperactivity, and prosocial behavior. Simple change scores were calculated by calculating the difference between pre- and post-survey scores for each composite variable (Allison, 1990; Trafimow, 2015).

For Hypothesis 3, prior to analysis, a correlation was run between the change scores for developmental knowledge, parenting efficacy, and parenting stress to determine which predictor variables would be included in the regression model (Shmueli, 2010). Next, each demographic variable was included in a correlation with the dependent variable of parenting stress in order to determine whether any demographic variables should be added to the regression model as control demographics. Finally, a multiple linear regression was conducted to observe how parents' change in developmental knowledge and reported change in parenting efficacy were associated with changes in parenting stress across the program. Change scores were calculated in the same manner previously outlined for hypothesis 2.

CHAPTER IV

FINDINGS

Prior to hypothesis testing, normality and completeness of data were examined. Descriptive statistics were first conducted for the entire sample, looking at all data collected at Time 1, Time 2, and Time 3 (see Table 2). Next, after participants had been randomly assigned to their respective groups, group demographics were examined using chi square or *t*-tests to ensure that both the treatment group and control group consisted of similar samples in terms of demographics (see Table 1). As seen in Table 1, no significant differences were found between groups in terms of demographic variables. Finally, correlations were conducted to observe associations between each of the study variables at each time point, as seen in Table 3. As shown, various parent outcomes were associated with a number of the child outcomes including responsive parenting which was associated with greater child strengths and prosocial behavior and lower conduct problems and hyperactivity; parenting efficacy was associated with lower conduct problems and hyperactivity, and greater prosocial behavior; mindfulness was associated with more child strengths and less emotion problems and conduct problems; and parenting stress was associated with lower child strengths, and greater conduct problems and hyperactivity.

Research Objective #1: Evaluate the effectiveness of the *Active Parenting First Five Years* parenting intervention. Three levels of analyses were conducted to examine program

effectiveness, moving from a more general to a more rigorous approach. First for *research goal 1A*, all pre- (Time 2) and post- (Time 3) program data were analyzed using a paired-samples *t*-test to observe program outcomes broadly. As shown in Table 4, these analyses indicated significant changes for the parent outcomes of responsive parenting $t = 7.57$, $p < .001$, developmental knowledge $t = 6.86$, $p < .001$, parent self-efficacy $t = 7.46$, $p < .001$, mindfulness $t = 4.61$, $p < .001$, and stress $t = 2.67$, $p < .01$, and for the child outcomes of strengths $t = 2.67$, $p < .01$ and prosocial behavior $t = 3.02$, $p < .01$, all in expected directions. The child outcomes of emotional problems, conduct problems, and hyperactivity did not differ significantly from pre- to post-survey measurement for the entire sample, although these behaviors did move in the expected directions. Proceeding to a more rigorous method of analysis for *research goal 1B*, a multivariate analysis of variance was conducted using the comparison group and treatment group to determine program effects. Parent and child outcomes were evaluated separately as the sample size for each varied due to fewer responses being given for the child outcome measure. In the MANOVA for parent outcomes, a significant difference was found between the two groups when considered jointly on each of the parent outcome variables, Wilk's $\lambda = .83$, $F(10, 121) = 5.12$, $p = .000$, Partial $\eta^2 = .18$. Next, a separate analysis of variance was conducted for each variable, with each ANOVA evaluated at an alpha level of .05. This analysis showed parenting self-efficacy $F(1,125) = 18.05$, $p = .001$, Partial $\eta^2 = .13$, mindfulness $F(1,125) = 8.38$, $p = .001$, Partial $\eta^2 = .06$, and parenting stress $F(1,125) = 5.03$, $p = .05$, Partial $\eta^2 = .04$ were significantly different between control and treatment groups, indicating the presence of program effects for each of these three variables in expected directions (see Table 5). Moving to the child outcomes, a significant difference was not detected between the comparison and treatment

groups when considered jointly, Wilk's $\lambda = .89$, F (5, 82) = 1.96, $p = .09$, Partial $\eta^2 = .11$, nor were any significant individual variable differences found.

Research Objective #2: Examine if changes in parents' reports of mindfulness were related to parents' reports of changes in their child's emotional problems, conduct problems, hyperactivity, and prosocial behavior. This was first tested by conducting a series of correlations among parents' mindfulness scores and each of the five child outcome domains, including a total strengths and difficulties score, emotion problems score, conduct problems score, hyperactivity score, and prosocial behavior score. Correlations were computed using a simple change score for the mindfulness variable, indicating parents' increase or decrease in mindfulness behaviors across the program, and simple change scores for each of the child outcomes, showing the total increase or decrease in each of the child outcome variables across the program (Allison, 1990; Trafimow, 2015). A significant negative correlation was found between total change in mindfulness across the program and change in conduct problems across the program ($r = -.24$, $p < .01$), indicating greater change is associated with fewer conduct problems. Change in mindfulness was not significantly correlated with changes in child strengths ($r = .08$, $p > .05$)., emotion problems ($r = -.06$, $p > .05$), hyperactivity ($r = .08$, $p > .05$), or prosocial behavior ($r = .09$, $p > .05$). Next, correlations were computed between child conduct problems and each demographic variable to determine whether any demographics variables needed to be controlled in the model. However, the change score for child conduct problems was not significantly correlated with any demographic variables.

Finally, a linear regression was conducted to examine whether parents' changes in mindfulness were predictive of changes in child conduct problems. As observed in Table 6, it

was found that for every unit increase in mindfulness, a net standard deviation decrease of -.18 was predicted for conduct problems for one's target child (see Table 6).

Research Objective #3: Investigate how changes in parents' developmental knowledge and parenting self-efficacy were associated with changes in reports of perceived parenting stress. Similar to research question two, analyses were conducted with a series of correlations among parents' developmental knowledge and parenting self-efficacy scores and their parenting stress score. Correlations were conducted using a simple change score for each of the developmental knowledge and parenting self-efficacy scores, illustrating parents' developmental knowledge and parenting self-efficacy increase across the program, and using a simple change score for the parenting stress score, showing the total change in parenting stress across the program (Allison, 1990; Trafimow, 2015). These exploratory analyses revealed a significant negative relationship existing between changes in developmental knowledge and changes in parenting stress ($r = -.24$, $p < .01$), and changes in parenting efficacy and changes in parenting stress ($r = -.20$, $p < .01$) across the program. Next, correlations were computed using the parenting stress change score and each demographic variable to determine whether any control demographics were needed in the regression model, however, the change score for parenting stress did not show to be significantly correlated with any demographic variables.

Finally, a multiple linear regression was conducted to examine whether changes in parents' developmental knowledge and parenting efficacy were predictive of changes in parent stress. As observed in Table 7, it was found that for every unit increase in developmental knowledge, a decrease of .25 standard deviation was predicted for parenting stress. Similarly, for every unit increase in parenting efficacy change, a decrease of .23 standard deviation was predicted for parenting stress (see Table 7).

CHAPTER V

CONCLUSION

Discussion

The *Active Parenting First Five Years* program is an evidence-based parenting education program that has been implemented in numerous communities and with families both nationally and internationally for more than two years. However, since the time of this program's inception it has not received rigorous evaluation of effectiveness. This study is the first to our knowledge to evaluate the effectiveness of the FFY program, while also attempting to determine which aspects of the program might offer unique contributions to parenting skills and behavior.

The current study offers a contribution in a number of areas. Turning first to outcomes corresponding with *research goals 1A* and *1B*, findings from this study suggest the FFY program is an effective and useful program that can promote development for multiple parent and child outcomes. Additionally, findings associated with this study further confirm the importance of the recently acknowledged role that parents' mental states play in parenting (NCPFCE, 2015), and that parent wellbeing and mental states should be considered as relevant aspects of parent education (Sanders, 2012). These previous findings coupled with the present results illustrate that competence in parenting requires more than merely knowing about children; parents can benefit

greatly from the development of skills for regulating their thoughts and actions in the parenting context.

As a reminder, *hypothesis 1A* was focused on a general evaluation of the program – specifically, that positive outcomes would increase and negative outcomes would decrease when evaluating parent reports from pre- to post-survey. Considering findings associated with *research goal 1A*, parents reported marked improvement in many areas of parenting and child outcomes when considering the sample as a whole. Specifically, parents reported improvements in areas of responsive parenting, knowledge of development of young children, efficacy in parenting, mindfulness behavior, reduced stress as well as multiple positive outcomes for their children, including increased child strengths and prosocial behavior. Negative child outcomes were not found to be significantly different, with one potential explanation being a lower response rate for the child strengths and difficulties outcome measure due to a restricted sampling window (children ages two to four), resulting in a lower response rate for child outcome items. However, considering the differences that were detected, these findings suggest that this program has the potential to be an effective intervention for assisting parents in developing parenting skills, gaining knowledge associated with child development, and promoting positive behavior in their children.

By using the more rigorous inclusive randomized control trial design, *hypothesis 1B* stated that parents randomly assigned to the treatment group would report higher instances of the previously outlined positive behaviors and lower instances of negative behaviors for themselves and their child when compared to the comparison group. Considering findings associated with this research goal, significant program effects were detected between the treatment and comparison groups as parents randomly assigned to the treatment group showed significant

growth in a number of areas including their sense of competence and confidence as parents, their ability to employ mindfulness techniques while parenting, and decreased levels of stress in the context of parenting when compared to parents randomly assigned to the control group. Similar to *research goal 1A*, significant findings for the child outcomes were not present, potentially due to a significantly smaller sample size (44 out of 66 responded to child outcome items for analyses using the restricted age range (two to four) which reduced sample size). Improvement in the various parenting capacities suggests that this program can be considered effective, especially in terms of parent well-being. These findings also indicate that mindfulness can be considered a contributing factor in the context of parenting, and that parents' mental states merit enhanced consideration when considering programs and tools designed to enhance parenting behavior and skills along with parent wellbeing.

The *second research goal* was to examine how changes in parents' reports of mindfulness were related to parents' reports of their child's emotional problems, conduct problems, hyperactivity, and prosocial behavior. Results of this portion of the study show how mindfulness can be a beneficial aspect of parenting with the potential to enhance parental well-being while also positively influencing children. Specifically, these findings indicated that mindfulness training for parents may have an influence on children's conduct problems. This finding also shows that despite the absence of significance among the majority of child outcomes in the previous two analyses, this analysis showed that some child outcomes might be related to growth in specific aspects of parenting (e.g., increased mindfulness, decreased stress, etc.) Decreases in child conduct problems could have potentially taken place as parents became better able to regulate their attention and actions, as well as accept their child's present behavior while beginning to search for positive, thoughtful solutions (Segal, Williams, & Teasdale, 2018).

Although this study also examined child outcomes of hyperactivity, emotion problems, and prosocial behavior, mindfulness was not found to be related to significant changes in these areas. While a small number of previous studies reported mindfulness to be related to child outcomes other than conduct problems (Bögels, Hoogstad, van Dun, de Schutter, & Restifo, 2008; Neece, 2014; Semple, Lee, Rosa & Miller, 2010; Semple, Reid, & Miller, 2005), many of these studies were conducted using specialized samples largely comprised of parents of children with developmental or behavioral deficits, in contrast to the more normative sample of the current study.

Finally, the *third research goal* was to investigate how caregivers' senses of confidence and competence in parenting were related to and predicted their reports of parenting stress. In the present study it was found that lowered levels of stress were predicted by increased developmental knowledge and increased parenting efficacy, as hypothesized (see Table 7). Potential reasons for this finding could be, as previously noted by Shultz and Shultz (2016) and Teti and Gelfand (1991), that a newly achieved sense of parenting efficacy can help parents better adjust to their roles as parents and settle child-rearing problems more effectively and this could possibly lend to lowered levels of parenting stress. Moreover, as parents gain knowledge and insight regarding their child's developmental stages as well as appropriate expectations for them, they may achieve a greater sense of control, potentially contributing to reduced parenting stress. Finding that parenting stress can be reduced by enhancing various aspects of parenting further illustrates the importance of addressing parents' mental health and well-being as a key area of emphasis for parent education programs moving forward.

Strengths and Limitations

This study has a number of strengths that are both methodological and theoretical. First, the introduction and use of a novel randomization method – the *Inclusive Randomized Control Trial* – proved to be an effective means for randomizing our sample in a manner that provided treatment and comparison data capable of withstanding more rigorous analyses, while also being able to be expanded to include the total sample for larger group-wide analyses. Additionally, all participants had the opportunity to receive the benefits of being enrolled in the program without chance of exclusion or significant delay, which can be risks associated with traditional randomized or wait-list control methodological designs. As this was a national evaluation, an additional strength was the ability to include parents from five different states. This allowed for the sample to be more representative than it would have been had it been gathered in one single location. Finally, this study adds to the current mindfulness literature, showing that parents can influence the behavior of their children through mindfulness practices, while also contributing additional knowledge to the field when considering how parents' well-being and mental health can be influenced by parent education programs designed to target such areas.

Despite these strengths, this study possesses a number of limitations. First, the sample size for this study was rather small, resulting in limited statistical power. This was observed most when scaling down to treatment (N = 66) and comparison data (N = 66). And this problem was especially salient when considering child outcome data (N = 44) in the restricted sample because parents were asked only to complete the child outcome measures if they currently had a child they were caring for who fell within the age window for the measure (two to four years). Another weakness includes the use of parent-reported data. With each measure in this study being purely parent report, program effects were likely driven in part by parents' perceptions rather than

resulting from an objective outside assessment (e.g., observation, teacher or child report of behavior). The use of observational data to support the self-report data would have proven valuable for enhancing the strength of study design.

Future Directions

Moving forward, a number of steps could be taken to further enhance or add to the findings of this study. First, one might consider collecting follow up data in an attempt to observe program effects across a greater timespan. While data collection took place over the duration of the FFY program, we do not know if program outcomes will hold over time. A follow up of several to many months could prove valuable.

Next, future studies might place a greater emphasis on child outcomes. This study only used one measure (with subsections) to collect data on children. In collecting more data on children, one might consider adding a behavioral observation component to enhance the richness of data and ultimately avoid the necessity of exclusively relying on parent reports. Similarly, a behavioral observation component could be added for the parents in order to observe parent-child interaction and relationship patterns.

Finally, with increasing recognition of the utility of mindfulness practices in the context of parenting, one might consider incorporating a mindfulness component into new or soon-to-be updated versions of existing high-quality parent education programs. Coatsworth, Duncan, Greenberg, and Nix (2010) found that infusing mindfulness principles into a previously established parenting intervention produced results suggesting that mindfulness practices coupled with parenting education can be related to beneficial outcomes observed in the parent-child relationship.

Implications

In conclusion, this study has multiple implications for parents and their young children. First, specifically considering outcomes related to mindfulness, this study illustrates the role that parent behavior can play in the subsequent development of their child's behavior, particularly when considering children with conduct problems. With parents' mindfulness practices appearing to influence child behavior, parent education programs might consider taking an approach that addresses the family system in an attempt to adjust behavior, rather than focusing on a single individual within the family. Similarly, researchers and practitioners might consider evaluating program outcomes at the family level, rather than at the individual level.

Next, this study suggests that parents who feel confident and competent may be better suited to handle the many stressors associated with parenting young children. Though this relationship has not been sufficiently observed to this point, the results from this study suggest that programs developed to help parents feel secure in their role can produce significant benefits. As discussed previously, parenting is a learned skill that can be strengthened and improved through education and experience (NASEM, 2016).

Finally, perhaps the most important lesson to be learned from this study is that a parent education program constructed using some of the best current practices (e.g. skill building, promoting positive discipline, applied problem solving, consistency, etc.), methods of delivery (group-based, practice oriented), and a curriculum built to emphasize parent mental states and well-being made a significant difference in various areas of behavior for both parents and their children in a primarily low SES sample. The methodology and findings associated with the evaluation of this program could open the door to other evidence-based programs to adapt their breadth of focus to include not only parenting skills and child behavior change, but to also

include program aspects that can build parenting knowledge and efficacy while also promoting positive mental states and general well-being. The results of this study suggest that the Active Parenting First Five Years program enhances the lives of parents and children.

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APPENDICES

Table 1

Demographics for Comparison and Treatment Groups

Variable		Comparison (n = 66)	Treatment (n = 66)	*t*-test or χ^2	*p* value
Parent Demographics					
Age (*M, SD*)		31.0 (10.7)	35.2 (13.7)	t = -1.95	.06
Gender (%)	Female	49 (76.6)	57 (86.4)	χ^2 = 2.07	.15
Ethnicity (%)	Hispanic	15 (23.4)	15 (22.7)	χ^2 = 0.01	.92
Marital (%)	Partnered	39 (61.9)	41 (63.1)	χ^2 = 0.02	.89
	Single	24 (38.1)	24 (36.9)		
Race (%)	White	37 (57.8)	43 (65.2)	χ^2 = 2.05	.73
	Black	8 (12.5)	10 (15.2)		
	Native American	12 (18.8)	7 (10.6)		
	Other	7 (10.9)	6 (9)		
Education (%)	Grade 7-9	3 (4.7)	4 (6.2)	χ^2 = 0.50	.99

Table 1 Continued

	Grade 10-11	5 (7.8)	4(6.2)		
	HS or GED	15 (23.4)	16 (24.6)		
	Some College	27 (42.2)	25 (38.5)		
	Bachelor's Degree	9 (14.1)	10 (15.4)		
	Graduate Degree	5 (7.8)	6 (9.2)		
Income (%)	< $10,000	11 (17.7)	17 (26.2)	$\chi^2 = 4.62$	.46
	$10,001 - $30,000	25 (40.3)	21 (32.3)		
	$30,001 - $50,000	13 (21.0)	9 (13.8)		
	$50,001 - $70,000	7 (11.3)	9 (13.8)		
	$70,001 - $90,000	0 (0.0)	2 (3.1)		
	$90,000 <	6 (9.7)	7 (10.8)		
Child Demographics					
Age (*M, SD)*		2.6 (1.3)	2.6 (1.2)	$t = -0.04$	.97
Gender (%)	Female	30 (46.2)	28 (42.4)	$\chi^2 = 0.19$	.67

*$p < .05$

Table 2

Descriptive Statistics for Each Study Variable

	Time 1				Time 2				Time 3			
	N	*M*	*SD*	Range	*N*	*M*	*SD*	Range	*N*	*M*	*SD*	Range
Parent Outcomes												
Responsive Parenting	132	5.51	0.90	2.75–7.00	210	5.58	0.85	2.96–7.00	205	5.93	0.80	2.78–7.00
Developmental Knowledge	133	3.61	0.55	2.78–4.78	204	3.60	0.53	2.11–4.89	198	3.80	0.59	2.33–5.00
Parenting Efficacy	134	3.27	0.49	2.40–4.00	213	3.28	0.52	1.60–4.00	208	3.47	0.51	1.00–4.00
Mindfulness	134	3.00	0.51	2.33–4.00	212	3.06	0.55	1.67–4.00	207	3.19	0.53	1.67–4.00
Parenting Stress	134	3.50	0.49	2.50–3.50	213	1.94	0.57	1.00–3.83	206	1.84	0.53	1.00–3.22
Child Outcomes												
Child Strengths	89	2.90	0.30	1.45–2.90	150	2.48	0.29	1.45–2.95	149	2.54	0.26	1.90–3.00
Emotion Problems	89	2.60	0.31	1.40–2.60	150	1.65	0.28	1.20–2.60	149	1.62	0.28	1.20–2.60
Conduct Problems	89	2.60	0.39	1.00–2.60	150	1.39	0.32	1.00–2.60	149	1.34	0.31	1.00–2.20
Hyperactivity	89	3.00	0.49	1.00–3.00	150	1.86	0.48	1.20–3.00	149	1.81	0.49	1.00–3.00
Prosocial Behavior	89	3.00	0.39	1.60–3.00	150	2.49	0.40	1.40–3.00	149	2.58	0.36	1.60–3.00

Table 3

Correlations Between Parent and Child Outcome Variables at Pre-Survey (Time 2) and Post Survey (Time 3)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1. Responsive Parenting	--	.03	.47**	.43**	-.24	.20	-.03	.01	-.14	.45**	.02	-.03	-.07	.21	.11
2. Development Knowledge	.02	--	.03	.11	-.12	.21	.17	-.14	-.26	.09	.06	.10	.47**	.35**	-.15
3. Parenting Efficacy	.62**	-.09	--	.42**	-.34**	.25	-.11	-.13	-.20	.24	-.13	-.06	-.17	.09	.28
4. Mindfulness	.44**	.18*	.36**	--	-.34**	.48**	-.25	-.38*	-.34*	.41**	.30*	.44**	.10	.11	.11
5. Parenting Stress	-.44**	-.08	-.65**	-.37**	--	-.59**	.14	.36*	.50**	-.49**	-.05	-.21	.07	.05	.02
6. Child Strengths	.38**	.16	.32**	.34**	-.35**	--	-.46**	-.77**	-.79**	.69**	-.05	.29	.05	.21	-.04
7. Child Emotion Problems	-.18	-.06	-.18	-.42**	.21	-.60**	--	.29	.19	-.15	-.08	-.22	.14	.02	.32*
8. Child Conduct Problems	-.33**	-.17	-.26*	-.32**	.34**	-.86**	.47**	--	.41**	-.40**	.03	-.17	-.09	-.21	-.01
9. Child Hyperactivity	-.29**	-.07	-.27*	-.18	.28**	-.82**	.35**	.66**	--	-.44**	.04	-.32*	-.01	-.16	-.06
10. Child Prosocial Behavior	.26*	.15	.23*	.17	-.26*	.69**	-.24*	-.49**	-.32**	--	-.05	.19	.11	.22	.17
11. Parent Age	.03	-.02	-.08	.15	.00	-.18	.06	.11	.10	-.19	--	.69**	.07	.33*	-.01
12. Relation to Child	-.04	.03	-.04	.14	-.02	-.20	-.03	.15	.133	-.28*	.66**	--	.12	.21	-.08
12. Ethnicity	-.07	.33**	-.14	.08	-.01	-.20	.17	.12	.29**	-.08	.08	.08	--	.38**	-.05
14. Child Age	-.02	.09	-.07	-.00	-.01	.01	.11	-.03	.06	.20	.34**	.14	.17	--	.12
15. Child Gender	.07	-.02	.12	-.03	-.10	-.09	.35**	.03	.07	.07	-.02	-.01	.08	.07	--

[a] Time 1 correlations were not included on this table due to a close resemblance to Time 2 correlations.
[b] Bottom half of table features correlations for Time 2, top half features correlations for T3.
[c] Demographic variables were only included if they were significantly correlated with at least one other variable.
[d] Gender was coded male = 0, female = 1.
*$p < .05$. **$p < .01$.

Table 4

Paired Samples t-Tests for Pre-Survey (Time 2) and Post Survey (Time 3) Using Whole Sample

	Pre-Survey		Post Survey			
	M	*SD*	*M*	*SD*	*N*	*t*
Parent Outcomes						
Responsive Parenting	5.58	0.85	5.93	0.80	204	7.57***
Developmental Knowledge	3.60	0.53	3.80	0.59	197	6.86***
Parenting Efficacy	3.28	0.52	3.47	0.51	208	7.46***
Mindfulness	3.05	0.55	3.19	0.53	206	4.61***
Parenting Stress	1.93	0.57	1.84	0.53	206	-3.23**
Child Outcomes						
Child Strengths	2.49	0.29	2.53	0.26	147	2.67**
Emotional Problems	1.65	0.28	1.63	0.28	147	-0.99
Conduct Problems	1.39	0.33	1.35	0.31	147	-1.48
Hyperactivity	1.86	0.48	1.81	0.48	147	-1.39
Prosocial Behavior	2.49	0.40	2.58	0.36	147	3.02**

*$p < .05$. **$p < .01$. *** $p < .001$.

Table 5

MANOVA to Observe Program Effects and ANOVA to Observe Group Differences for Parent Outcomes

MANOVA

	Value	df	Error df	*F*	Partial η^2
Wilks' Lambda	0.82	5	121	5.12***	.18

ANOVA

	Comparison		Treatment						
Variable	*M*	*SD*	*M*	*SD*	Mean Square	df	Error df	*F*	Partial η^2
Responsive Parenting	0.10	0.62	0.20	0.56	0.28	1	125	0.78	.01
Dev. Knowledge	0.04	0.29	0.13	0.48	0.32	1	125	1.98	.02
Parenting Efficacy	-0.04	0.30	0.21	0.34	2.04	1	125	18.85***	.13
Mindfulness	-0.03	0.30	0.14	0.34	0.87	1	125	8.38**	.06
Parenting Stress	0.02	0.27	-0.10	0.31	0.44	1	125	5.03*	.04

[a] Dev. Knowledge = Developmental Knowledge
[b] Calculations were conducted using simple change scores.
*$p < .05$ **$p < .01$ *** $p < .001$

Table 6

Linear Regression Examining Relationship Between Change in Mindfulness Predicting Change in Conduct Problems Using Whole Sample

Model	Predictor	B	SE B	Std. β	df
1	Constant	0.01	0.03		
	Change in Mindfulness	-0.18**	0.06	-0.26	145
	R^2 .07				
	F 8.78**				

*$p < .05$. **$p < .01$. ***$p < .001$.

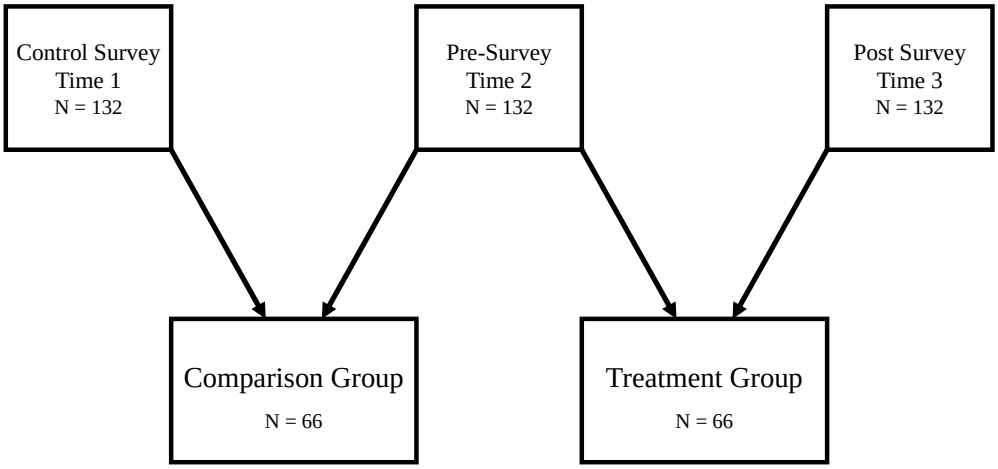
Table 7

Multiple Regression Examining the Relationship Between Change in Developmental Knowledge, Change in Parenting Efficacy, in Prediction of Change in Parenting Stress Using Whole Sample

Model	Predictor	B	SE B	Std. β	df
1	Constant	0.23	0.04		
	Change in Developmental Knowledge	-0.25**	0.08	-0.25	196
	Change in Parenting Efficacy	-0.23**	0.08	-0.21	195
	R^2 .10				
	F 10.40***				

*$p < .05$. **$p < .01$. ***$p < .001$.

Figure 1. Inclusive Randomized Control Trial



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