July 2020

Facilitators and Barriers to Treatment Engagement in a Behavioral Parent Training Program

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by

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A thesis submitted in partial fulfillment
of the requirements for the degree of
Education Specialist in School Psychology
Department of Educational and Psychological Studies
College of Education
University of South Florida

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Date of Approval:
June 10th, 2020

Keywords: caregiver attendance, *HOT DOCS, DOCS K-5*

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Abstract

This quantitative study sought to analyze caregivers' perspectives regarding facilitators of, and barriers to, attending the behavioral parent training programs (BPTs) known as Helping Our Toddlers, Developing Our Children's Skills (HOT DOCS) and Developing Our Children's Skills K-5 (DOCS K-5). Participants were 43 caregivers who successfully completed their respective DOCS program. These caregivers answered two questionnaires which contained demographic items (i.e., gender, race, ethnicity, household income, level of education, number of children, and program attendance) and logistic factors of the programs (i.e., course location, class length, time of day, course duration, availability of transportation, availability of childcare). Descriptive statistics revealed that participants found the course location, the time of day during which the course was offered, the course duration, and the availability of transportation to be facilitators to attending classes. By contrast, participants found the lack of childcare to be a barrier to attending classes. The Kruskal-Wallis examined relationships between demographic characteristics and perceptions of facilitators and barriers. Results indicated a statistically significant relationship between caregivers' gender and the course location, with males finding the course location to be a greater barrier than females. Caregivers' number of children demonstrated a significant relationship with the time of day during which the course was offered, with caregivers with one child finding the time of day to be more of a facilitator. Finally, caregivers' attendance rate had a significant relationship with the course duration, with caregivers who attended all classes finding the course duration to be more of a facilitator. The results of this study may be beneficial in improving efforts of BPTs to increase treatment engagement of caregivers.

Chapter 1:

Introduction

Introduction

Behavioral parent training programs (BPTs) play a critical role in teaching caregivers of children with externalizing behavior problems specific strategies to address disruptive behaviors such as physical aggression, noncompliance or opposition, and irritability (Tully & Hunt, 2016). BPTs span a multitude of topics, such as improving parent-child communication, enhancing child self-regulation and social skills (e.g., playing cooperatively), and teaching caregivers effective discipline techniques to manage challenging child behavior (Thornton & Calam, 2010). Behavioral parent training programs (BPTs) are useful to caregivers for many reasons. First, caregivers have shown a desire to learn more about behavioral strategies to use with their children, making BPTs essential to their knowledge base (Preece et al., 2016). Second, in addition to providing a wide array of benefits for families who participate in them, many BPTs also have been empirically validated through years of research and data collection (Bearrs et al., 2015). Programs such as these are becoming more of an international success as their efficacy is further validated (Ilg et al.2016; Shenderovich et al., 2018; Thornton & Calam, 2010). Finally, more and more BPTs are being created, implemented, and modified to become evidence-based sources of support for families from a variety of demographic backgrounds. For these reasons, BPTs have been cited as one of the "gold standards" of treating externalizing problem behaviors in children (Baker, Arnold, & Meagher, 2011).

Statement of the Problem

Despite the numerous benefits of completing a BPT, treatment engagement rates for these programs have been shown to be significantly variable, and attributes of treatment engagement such as attendance, participation, and homework completion are still largely unstudied (Butler & Titus, 2015). Previous research has identified several potential facilitators to increasing parent treatment engagement in BPTs, such as a program's flexibility regarding delivery of content, a positive relationship with the program implementer(s), the inclusion of fathers' perspectives in a program's content, and the provision of additional supports such as food or childcare (Koerting, et al., 2013). In the past, participant attendance in BPTs has been calculated through a simple attendance sheet (marking the number of sessions a parent attends) or through creating a criterion of sessions to attend in order to be considered a "treatment completer" versus a "noncompleter" (Ogg, Shafer, Childres, Feldman, Agazzi, & Armstrong, 2014). For example, a parent might attend 75% of sessions to be considered a "treatment completer". However, research has indicated significantly high levels of noncompletion in BPTs, with rates of dropout reaching as high as 60% (Armbruster & Kazdin, 1994). It is important to note when caregivers do not attend training sessions, as this lack of attendance may be related to a number of variables such as the content being taught, the demographic characteristics of the caregivers, and the method of instruction used in the classes (Chacko et al., 2016). Regardless, low attendance in BPTs leads to a lack of exposure to content and interventions, creates non-representative samples, and makes treatment effects more difficult to assess (Jensen & Grimes, 2010).

Several factors have been examined in relation to treatment engagement, specifically attendance, of parent training sessions, such as socioeconomic status, parenting stress, race/ethnicity, and child characteristics in regards to problem behavior (Baker et al., 2011; Ogg

et al., 2014). Past studies have indicated that Caucasian individuals have historically been much more likely to seek out behavioral parent training than individuals of a racial/ethnic minority (Baker et al., 2011). This lack of engagement from minority families indicates a need for BPTs to evaluate and potentially adapt their curriculum to fit the cultural context of diverse groups (Butler & Titus, 2015). In addition, past research has demonstrated a potential correlation between individuals of low socioeconomic status and low attendance at BPTs (Baker et al., 2011). Just from these factors alone, it is clear that BPTs must examine their course content, accessibility, and cultural implications in order to meet the needs of the maximum number of participants.

Existing research has made multiple gains in assessing the effectiveness of BPTs, yet several gaps still exist regarding factors that can affect caregivers' perceptions of a training program's effectiveness. Parent attendance is still variable across BPTs, with a generally low level of attendance for most programs (Baker et al., 2011). In fact, recent studies indicate that parent attendance rates range from 40-60% on average, and only 20-40% of families who would benefit from parent training programs actually receive these services in full (Baker et al., 2011). Transportation for caregivers, finding time to attend sessions amid work and childcare duties, and accessing childcare services while in training sessions are all examples of environmental variables that can impact caregivers' participation in, and perception of, the effectiveness of BPTs (Preece et. al, 2016). In addition to these factors, fathers do not participate in parent training programs as often as mothers do, creating a lack of paternal input in training program feedback (Frank, Keown, Dittma, & Sanders, 2015). Many fathers are hesitant to participate in BPTs because they view such programs as catered more toward mothers, and most BPTs still grapple with the issue of increasing fathers' rates of attendance (Ogg et al., 2014). While all of

these aforementioned factors appear to play a role in treatment engagement of caregivers in a parent training program, the significance of these factors is still unclear. It is imperative that these limitations to treatment engagement be considered when implementing a BPT, as each program may experience different types of barriers. BPTs can obtain caregiver perceptions of barriers to treatment engagement in order to promote higher rates of attendance and participation. This increased engagement will likely foster more positive outcomes for children and their caregivers.

Theoretical Framework

Patterson's theory of coercion is one of the primary frameworks behind BPTs. This framework examines the effects of coercive parenting on children's behavior (Patterson, 2016). The theory of coercion posits that coercive parenting (i.e., parenting that involves verbal reprimands, yelling, and physical discipline) during early childhood has a significant impact on children's development of oppositional and otherwise disruptive behaviors later in life. Coercion itself is defined as the use of aversive consequences to control behavior (Patterson, 2012). Many instances of coercive parenting occur because the caregiver becomes frustrated with their child for not completing a demand; this often leads to an argument between the caregiver and child regarding the demand in which aversive circumstances (such as physical discipline, yelling/shouting, repeated verbal reprimands, or loss of privileges) are utilized. In the end, the child will either give in and complete the demand, or the caregiver will give in and the child will not complete the demand. However, in both of these cases, the parent-child relationship is compromised due to negative interactions, and the likelihood of the child completing demands in the future are reduced (Patterson, 2016). As noted in other studies based on Patterson's theory of coercion, parenting practices such as active problem-solving, positive reinforcement, and

effective discipline can replace coercive parenting and prevent the occurrence of disruptive behaviors (Crosswhite & Kerpelman, 2012). Coercive parenting and its effects on child outcomes will be discussed in more detail in Chapter 2.

This study also utilized Bandura's social learning theory, which is a more general theory addressing the way in which individuals learn behavior from observing others engaging in the behavior (Bandura, 1971). Coercive parenting and social learning theory are closely linked because children often model caregivers' coercive behaviors (Gölcük & Berument, 2019). All behavior is learned, and most behavior is learned through observation of another person modeling that behavior; coercive parenting is no exception (Bandura, 1971). For instance, if a parent yells at a child and hits the child, then the child is more likely to yell at or hit a peer at school. Behavioral parent training programs often frame their treatment approach in social learning theory, which shows that positive parenting (i.e., using verbal praise and other forms of positive reinforcement, teaching replacement behaviors, and forging positive parent-child relationships) can also be used as modeling appropriate behaviors to children. Just as negative parenting behaviors are learned by children from parent modeling, positive parenting behaviors also are learned when modeled correctly (Bandura, 1971; Preece et al., 2016). Because of the correlation between Bandura's social learning theory and Patterson's coercive parenting theory, both frameworks were utilized in understanding BPTs and their impact on families.

Rationale and Purpose of the Study

The purpose of this research study was to inform constituencies (in particular, researchers, BPT program developers and other early childhood practitioners) regarding caregivers' perceived facilitators and barriers to participation in the behavioral parent-training programs known as Helping our Toddlers, Developing Our Children's Skills (HOT DOCS) and

Developing Our Children's Skills K-5 (DOCS K-5). As discussed in Chapter 2, HOT DOCS was originally composed of seven weekly classes that address early child development, creation of consistent routines, behavior and its functions, preventions for disruptive behaviors, teaching of new skills, planning of new responses, and caregiver stress.

Recently, the first two HOT DOCS classes (Early Child Development and Routines and Rituals) were combined into one class, thus making the curriculum six weeks long. HOT DOCS was selected because it was developed by the faculty of a local research university and is easily accessible to the primary researcher. Additionally, the primary researcher is a certified HOT DOCS trainer. According to a meta-analysis conducted in 2016, around 25% of individuals who meet criteria for a BPT such as HOT DOCS are not enrolling in any programs; likewise, around 26% of individuals are initiating but not completing a BPT (Chacko et al., 2016). Thus, it is imperative that developers and trainers of BPTs find methods of increasing parent attendance. The primary investigator wished to inform BPTs like HOT DOCS of parent preferences regarding the various aspects of a BPT in order to help such programs in increasing their attendance rates. Specifically, this study addressed the preferences and perceptions of caregivers with children exhibiting disruptive behavior problems.

In addition to analyzing participants' attendance at HOT DOCS classes, the primary researcher also analyzed attendance at DOCS K-5 classes. DOCS K-5 is a new program serving families of children ages 5-12 who are exhibiting disruptive behaviors. The layout of DOCS K-5 is similar to HOT DOCS, although there are only six classes in DOCS K-5, as discussed in Chapter 2. These classes are as follows: understanding child behavior, developing preventions, teaching new skills for children, new responses for caregivers, strengthening family

relationships, and the community (county resources and primary education). DOCS K-5 contains content related to academic success and school advocacy for caregivers and students.

It is important to note that the examination of treatment engagement through parent attendance is critical to the evaluation of the success of any BPT. Increased attendance has been shown to lead to an increase in rates of treatment completion, as well as an increase in positive outcomes for both caregivers and their children (Ogg et al., 2014; Shenderovich et al., 2018). By contrast, lower rates of attendance (including premature termination) have been shown to lead to a decrease in positive outcomes (Ogg et al., 2014). Thus, attendance is an aspect of engagement in BPTs that must be analyzed and modified in order to promote the highest rates of participation for caregivers. By accounting for treatment engagement, particularly caregiver attendance, researchers can assist in the validation of a program's effectiveness in reducing children's externalizing problem behaviors and increasing positive outcomes for entire families.

Research Questions

To address the primary investigators' concerns regarding treatment engagement, namely attendance, in the HOT DOCS and DOCS K-5 programs, two questionnaires were disseminated to caregivers who previously participated in, or were currently participating in, HOT DOCS or DOCS K-5 classes. One questionnaire related to demographic characteristics, and the other questionnaire related to perceived facilitators and barriers to treatment engagement. There were four research questions that the primary investigator explored in this study:

1) To what extent do mean differences exist across caregiver perceptions of facilitators to treatment engagement in HOT DOCS/DOCS K-5?
2) To what extent do mean differences exist across caregiver perceptions of barriers to treatment engagement in HOT DOCS/DOCS K-5?

3) To what extent do mean differences exist across caregiver demographic variables (e.g., gender, race/ethnicity, household income, highest level of education, number of children, and prior participation in a parent training program) regarding facilitators to treatment engagement in HOT DOCS/DOCS K-5?
4) To what extent do mean differences exist across caregiver demographic variables (e.g., gender, race/ethnicity, household income, highest level of education, number of children, and prior participation in a parent training program) regarding barriers to treatment engagement in HOT DOCS/DOCS K-5?

Contributions to Current Literature

This study contributed to the practice of HOT DOCS and DOCS K-5 and these programs' ability to promote maximum treatment engagement. By informing clinicians and practitioners responsible for BPTs (such as HOT DOCS and DOCS K-5) of parent-perceived preferences of training delivery, this study was intended to help shape the direction in which these BPTs continue to grow. The methods behind the training implementation have the potential to be modified to better suit the preferences of caregivers, who in turn may attend sessions more frequently due to increased accessibility. Aside from calling attention to common barriers that caregivers perceive in attending a BPT such as HOT DOCS and DOCS K-5, this study identified which variables of a BPT are perceived to be facilitators to attendance. These facilitators must be expanded upon and reinforced in order to strengthen caregivers' motivation to attend and participate in BPTs.

Although this study focused solely on participants of the HOT DOCS and DOCS K-5 programs, the results of this research apply to other BPTs, as well. Other programs besides HOT DOCS also have expressed a need for increasing participants' levels of treatment engagement (particularly attendance), as can be seen in a review of the literature base. It is the primary

investigator's hope that BPTs like HOT DOCS and DOCS K-5 will utilize the results of this study to maximize their clients' treatment engagement, (i.e., participation and attendance) in order to promote higher rates of positive behavior outcomes in children, as well as to create higher levels of external validity of the programs themselves. By addressing the barriers and facilitators to treatment engagement of caregivers, BPTs may positively affect a higher number of families and create more favorable outcomes for children.

Definition of Key Terms

1) Parent Training: Because caregivers can receive training on a variety of subjects regarding their children, including behavioral, socioemotional, communicative and motor skills, the term "parent training" must be specified for this study (Chacko et al., 2016). Thus, for the purposes of this research, parent training was directly related to reducing children's disruptive behavior problems. Specifically, HOT DOCS and DOCS K-5 were used as the BPT. HOT DOCS and DOCS K-5 are BPTs that seek to prevent challenging or disruptive behaviors, teach children new skills, and teach caregivers new skills that result in positive parent-child interactions (Agazzi et al.,2018). The course content of both programs and overall outcomes of HOT DOCS specifically are discussed in more detail in Chapter 2.
2) Disruptive Behaviors: Disruptive behaviors are defined as externalizing (i.e., outwardly displayed as opposed to inward thoughts or feelings) behaviors that disrupt daily routines and result in reduced compliance with adult directions (Roskam, 2019). These behaviors include physical aggression, crying, screaming, whining, and noncompliance, and they are often difficult for caregivers and other caregivers to manage, resulting in an increase in parental stress (Davis & Carter, 2008). This research focused on disruptive behavior

problems for several reasons. First, such behaviors are easier to observe objectively than internalizing (emotionally-based) behaviors. Second, such behaviors are easier to track through data collection (such as ABC recordings or behavioral checklists; Davis & Carter, 2008). Finally, caregivers endorse disruptive behaviors as their primary reason for attending BPTs (Roskam, 2019). The HOT DOCS and DOCS K-5 curricula also primarily address disruptive behaviors.

3) Treatment Engagement: Rate of treatment engagement for HOT DOCS and DOCS K-5 courses was defined as the number of sessions a parent has attended or will attend in HOT DOCS or DOCS K-5 out of the total number of sessions offered; for instance, if a parent attends 3 out of 5 sessions, their attendance rate would be 60% for that program (Ogg et al., 2014). The current acceptable attendance rate for HOT DOCS is 5 out of 7 sessions, or roughly 71.4%; this rate was deemed acceptable in accordance with regulations from the Children's Board of Hillsborough County, who sponsors the implementation of HOT DOCS. Likewise, the Children's Board of Hillsborough County deemed the current acceptable attendance rate for DOCS K-5 as 4 out of 6 classes, or roughly 66.7%. However, it is important to have higher rates of attendance because, as the literature has shown, lower rates of attendance are associated with lower levels of positive behavior change (Preece et. al, 2016). For this study, caregivers attending the minimum required number of classes as described by the Children's Board of Hillsborough County were included.

4) Facilitators: A facilitator is defined as an aspect of HOT DOCS or DOCS K-5 (i.e., course location, class length, course duration, time of day, availability of childcare, etc.) that makes attending classes easier or more convenient for the parent.

5) Barriers: A barrier is defined as an aspect of HOT DOCS or DOCS K-5 (i.e., course location, class length, course duration, time of day, availability of childcare, etc.) that makes attending classes more difficult or inconvenient for the parent.

Chapter 2: Literature Review

Overview

The review of the literature in this study is composed of several sections outlining disruptive behaviors in childhood as well as their implications and treatment methods. First, the nature of disruptive behaviors will be discussed. Second, the developmental trajectories of early disruptive behaviors will be explained, including behavioral, academic, and socio-emotional outcomes. Third, factors affecting the presence and severity of disruptive behaviors will be addressed, particularly the factor of coercive parenting. Next, prevention and early intervention strategies will be discussed, including the benefits of utilizing prevention and early intervention with children who exhibit disruptive behaviors. Evidence-based practices also will be focused on within this section, namely BPTs. In addition, HOT DOCS and DOCS K-5 will be described, as they are the interventions being used for this study. Course structure, overall outcomes, parent satisfaction, and participant demographics of HOT DOCS, as well as initial outcomes and participant demographics of DOCS K-5, will all be analyzed. Finally, research evaluating methods of increasing attendance of BPTs, as well as barriers to attendance, will be synthesized. By gaining a better understanding of the existing research regarding attendance in BPTs, the researcher will be more informed in the evaluation of facilitators and barriers to attendance of HOT DOCS and DOCS K-5.

Disruptive Behaviors in Childhood

As discussed previously in the introduction of this study, disruptive behaviors are conceptualized as externalizing behaviors (i.e., outwardly displayed as opposed to inward

thoughts or feelings) that directly cause disruption to daily routines and compliance with adult directions (Roskam, 2019). Identified domains of "disruptive behavior" include physical aggression, irritability, oppositional behavior, hyperactivity, and rule-violating behavior (Bolhuis, et al., 2017). Examples of disruptive behavior include screaming, crying, yelling, falling on the ground, yelling or shouting without permission, hitting or kicking another person, animal, or object, and verbally or nonverbally refusing to comply with adult directions. Non-examples of disruptive behavior include yelling or shouting when appropriate (such as playing a game outside); kicking or hitting a ball or toy in the context of a game; and not completing a task because the prerequisite knowledge for completing that task is not yet acquired (Roskam, 2019). It is important to distinguish examples of disruptive behavior from non-examples as parent training programs seek to address and manage these problem behaviors.

There are a number of factors that can lead to disruptive behaviors in childhood, including child temperament, parent temperament, parenting style, parent-child relationships and interactions, and biological foundations of child development (Gölcük & Berument, 2019). When considering factors that a behavioral parent training program can directly affect, parenting style and parent-child relationships become the most salient points of change for most interventions. For the purposes of this study, parent-child interactions/relationships as well as parenting style will be expanded upon, as these areas are critical features of most behavioral parent training programs.

Developmental Trajectories of Early Disruptive Behaviors

Disruptive behaviors in early childhood can lead to a multitude of negative outcomes later in adolescence and adulthood. Past research has found a link between the intensity of externalizing problem behaviors, such as disruptive behaviors in childhood, and the intensity of

externalizing problem behaviors in adulthood (Bongers, Koot, van der Ende, & Verhulst, 2008; Bolhuis, et al., 2017; Reef, Diamantopoulou, van Meurs, Verhulst, & van der Ende, 2010). The dimension of irritability, in particular, has been correlated with an increase in other domains of disruptive behavior, especially physical aggression (Bolhuis et al., 2017). Additionally, children who engage in disruptive behaviors that are oppositional in nature are shown to have subsequent difficulties adjusting to school and work environments. Instead, they engage in further oppositional behaviors as adolescents and adults, which can become detrimental to their academic and vocational standings (Okado & Bierman, 2014; Reef et al., 2010). Research has indicated that children who engage in high levels of disruptive behavior also are more likely to be incarcerated during adulthood (Kassing, Godwin, Lochman, & Cole, 2018). Hence, it is clear that behavioral issues in early childhood do possess long-term implications for adolescent and adult behavior.

Aside from the negative behavioral outcomes that are associated with disruptive behaviors in early childhood, poor academic outcomes also have been cited. When young children engage in disruptive behaviors during teaching moments, they are not able to acquire or master the educational skills needed to succeed in school (Turney & McLanahan, 2015). This lack of mastery in turn affects their cognitive functioning, which can then have an even greater impact on their behavior. Disruptive behaviors in early childhood have been linked to lower rates of academic achievement in reading and mathematics in elementary school (Kremer, Flower, Haung, & Vaughn, 2016). In addition, children's disruptive behaviors within the classroom can also have a negative impact on their peers' learning as well as their own learning (Kremer et al., 2016). If children's disruptive behaviors (particularly oppositional and aggressive behaviors) are not addressed in early childhood, they can lead to lower grades and higher rates of dropout

(Bierman et al., 2013). When a student engages in disruptive behaviors in the classroom, this also affects the teacher's ability to expose the class to new learning material, as instructional time is lost to providing discipline to the disruptive student.

Finally, the existence of externalizing behavior problems such as disruptive behaviors in early childhood can have significant negative implications on mental health in adolescence and adulthood. Risky behaviors (i.e., substance abuse, unprotected sex, school truancy, etc.) are more common in adolescents who exhibited disruptive behaviors in childhood (Bierman et al., 2013). One study found that adolescents who had been displaying disruptive behaviors since early childhood were engaging in marijuana use at higher rates than adolescents who did not have a history of disruptive behavior (Ryan, Stanger, Thostenson, Whitmore, & Budney, 2012). In addition, children with high levels of externalizing problem behaviors also experience higher rates of internalizing problems such as anxiety and depression (Reef et al., 2010). This correlation also includes difficulties in regulating emotions, especially when compared with irritability in early childhood (Bolhuis, et al., 2017). Children with disruptive behaviors that are oppositional in nature also are at a higher risk for experiencing difficulty in forming and maintaining positive social relationships as adolescents and adults as compared to children without these disruptive, oppositional behaviors (Bongers et al., 2008). Ironically, peer rejection also is a factor that can affect the presence and severity of the disruptive behaviors (Okado & Bierman, 2014). Based on the research discussed, high rates of disruptive behaviors in early childhood tend to lead to high rates of poor behavioral, socio-emotional, and academic outcomes later on in adolescence and adulthood.

Coercive Parent-Child Interactions

A number of factors influence the development of disruptive behaviors in children; one such factor is the quality of the coparenting relationship. Coparenting is defined as the manner in which multiple adults collaborate in parenting a child or children (Latham, Mark, & Oliver, 2017). Positive qualities of a strong coparenting relationship include parental warmth toward the child, shared family values, and effective discipline strategies. Children who are exposed to low levels of parental warmth have been shown to engage in disruptive and oppositional behaviors at an increased rate (Okado & Bierman, 2014). If the parent-child relationship consists primarily of negative interactions, then the child, as well as the parent, will experience greater levels of family discord and stress (Akcinar & Shaw, 2017). Thus, it is imperative that BPTs target parental warmth, specifically positive parent-child interactions, as this can have a significant effect on the child's behavior.

Likewise, the manner in which caregivers discipline their children can have an impact on the presence of disruptive behaviors. Coercive parenting is defined as utilizing negative discipline techniques with children such as physical aggression and verbal reprimands; this type of parenting also is known as authoritarian parenting (Latham et al., 2017; Gölcük & Berument, 2019). Practices such as yelling at the child, spanking the child, and providing overly negative consequences would all fall into the category of coercive parenting (Stormshak, Bierman, McMahon, & Lengua, 2010). If a child has what is perceived to be negative emotionality, increased impulsivity, or low levels of self-control, that child is more likely to experience this negative parenting style (Gölcük & Berument, 2019). The coercive parenting style creates a power struggle between the caregiver and the child, a struggle in which the parent either gives into the child's demands or the child receives overly harsh punitive repercussions. In both cases,

the parent-child relationship is damaged (Akcinar & Shaw, 2017). Because of this coercive parenting style, the parent-child relationship often becomes characterized by low parental warmth and increased stress on the part of both the parent and child (Pagani & Fitzpatrick, 2017). Research has indicated that caregivers who engage in coercive parenting styles are more likely to report higher levels of disruptive behaviors in their children (Latham et al., 2017; Stormshak et al., 2010). Incidentally, children who are raised under coercive parenting styles have been shown to be more likely to use coercive behaviors with others (Pagani & Fitzpatrick, 2017). Oftentimes, this coercive behavior is modeled with peers in the school setting, which leads to negative social relationships later in life (Akcinar & Shaw, 2017). In addition, children whose caregivers rely on physical discipline practices (such as spanking) are shown to engage in higher rates of physical aggression towards others (Stormshak et al., 2010). Based on these implications, parent training programs tend to emphasize the modification of parenting styles as a means of reducing disruptive behaviors in children.

Prevention and Early Intervention

Research has shown that prevention and early intervention are both critical to addressing disruptive behaviors in children. Prevention is defined as reducing the probability of disruptive behaviors occurring by creating opportunities for appropriate behavior and barriers for inappropriate behavior (Leijten et al., 2019). Components of prevention include modifying the home environment in order to create a safe space with few opportunities for misbehavior, organizing daily routines to add structure and consistency, and building positive parent-child relationships through repeated pleasant interactions (Gardner, Shaw, Dishion, Burton, & Supplee, 2007). The aspect of prevention is incredibly important for managing disruptive behaviors because it reduces opportunities to engage in these behaviors and increases

opportunities to engage in appropriate behavior (Leijten et al., 2019). However, it should be noted that prevention is only one piece of the entire early intervention model.

In addition to prevention, early intervention is defined as not only changing the home environment and caregivers' discipline practices, but also teaching appropriate behaviors and providing positive reinforcement for repeated use of these appropriate behaviors (Plaza, Sevilla, Rico, & Murillo, 2017). In early intervention, the caregivers' responses to disruptive behavior are modified (such as implementing time-out), and new skills are taught to both caregivers and children (Leijten et al., 2019). Early intervention has been shown to intercept negative developmental trajectories by reducing the occurrence of disruptive behaviors in early childhood. Additionally, early intervention reduces caregiver stress while parenting children with disruptive behavior problems (Plaza et al., 2017). Early intervention has been correlated with an increase in functioning skills, particularly communication and coping, when these skills are addressed in the intervention program (Hayes, Giallo, & Richardson, 2010). Early intervention and prevention are both particularly effective for young children because of their ties to social learning theory; they reduce the probability of occurrences of problem behavior and increase the probability of occurrences of appropriate behavior, teaching children at a young age about the behaviors in which they should and should not engage.

Evidence-Based Interventions for Disruptive Behaviors

There are several evidence-based interventions that have been shown to be effective in treating disruptive behaviors, including applied behavior analysis and parent training programs. BPTs have demonstrated consistently positive results in reducing disruptive behaviors in children (Mingebach, Kamp-Becker, Christiansen, & Weber, 2018). Widely known parent training interventions include Triple P, Incredible Years, and Parent-Child Interaction Therapy

(Sanders, 1999; Webster-Stratton, 2005; Querido et al., 2002). Currently, BPTs are the most commonly used evidence-based intervention for addressing disruptive behaviors in children (Leijten et al., 2019). Most BPTs are manualized and are given at both the group and individual level (although group training is more common). The focus of most BPTs is two-fold, seeking to assist caregivers in creating and maintaining positive relationships with their children, and teaching caregivers how to respond to both appropriate and inappropriate behaviors (Baker et al., 2011). Aspects of effective BPTs include not only teaching caregivers the needed skills to address their children's behavioral concerns, but also teaching caregivers the skills necessary to improve their children's communication and coping abilities (Leijten et al., 2019). Thus, BPTs provide a solid foundation for caregivers to promote positive behaviors and healthy socio-emotional development in their children.

Factors Influencing Treatment Outcomes in Parent Training

There are several factors that influence treatment outcomes of behavioral parent training programs. These factors include caregiver participation and attendance, caregiver stress, family culture, family socioeconomic status, and the severity of the child's behavior. For the purposes of this study, parent attendance will be focused on as it is often affected by caregiver stress, family culture, family socioeconomic status, and the severity of the child's behavior. Many behavioral parent training programs rely on parent participation and attendance in order to achieve the utmost benefit to the participants and their families (Chacko et al., 2016). By attending all of the classes in a parent training programs, caregivers receive the maximum amount of exposure available regarding positive reinforcement, behavior interventions such as follow-through and time-out, and opportunities to practice implementing strategies and building positive parent-child interactions (Jensen & Grimes, 2010). In addition, higher rates of

attendance lead to a higher rate of external validity of the program's effectiveness (Baker et al., 2011). This is essential to the program's status as an evidence-based intervention. Most importantly, caregivers who do not attend all classes in a behavioral parent training program miss critical elements of the program that will be needed in order to demonstrate significant improvement in their children's behavior.

Many different variables can act as barriers to attending all classes in a BPT. Lack of transportation to and from classes, incompatible work and class schedules, lack of childcare availability, inaccessible locations, and the cost of attendance are only some of the various barriers that can arise (Baker et al., 2011; Chacko et al., 2016; Wilson, Wildman, Ciesla, Smith, & Dempster, 2015). The pervasiveness of the child's behavior problems can also impact caregivers' attendance, as this level of intensity can affect childcare options and schedule availability (Strauss et al., 2012). Families who are identified as being from a low socioeconomic status have also have been shown to have low rates of attendance in parent training programs, most likely due to an exacerbation of the aforementioned variables (Baker et al., 2011). However, this finding is variable, as in the past caregivers from lower socioeconomic backgrounds have been shown to have higher attendance rates as compared to caregivers from middle or upper socioeconomic backgrounds (Chacko et. al, 2016). In addition, cultural differences need to be accounted for in parent training. Gauging caregivers' preferences based on their culture and ethnicity is still an area of need for many programs, and cultural factors can play a role in attendance of a parent training program (Steiner, Koegel, Koegel, & Ence, 2012).

In general, parent factors have an impact on the successful completion of a parent training program, indicating a need for programs to remain aware of these factors and address them when possible in order to ensure the highest possible rates of attendance. Full attendance is

critical to the success of a BPT as well as the validity of the program; hence, practitioners should strive to increase attendance rates as much as possible in order to maximize the positive results of their curriculum.

HOT DOCS & DOCS K-5

The BPTs that will be analyzed for this study are Helping Our Toddlers, Developing Our Children's Skills (HOT DOCS; Agazzi, Childres, & Armstrong, 2018) and Developing Our Children's Skills (DOCS K-5; Agazzi & Childres, 2020). Grounded in social learning theory, applied behavior analysis, and positive behavior supports, HOT DOCS serves families of children ages birth to 5 years of age who are engaging in disruptive behaviors at home (Agazzi et al., 2018). The curriculum is currently being delivered by faculty and graduate students at a university-based clinic to families in a group format (usually around 10 people) in multiple locations in central Florida. Previously, HOT DOCS took place over the course of 6 weeks, but in the second and more recent third editions, it is broken down into seven weeks, with each class lasting two hours. Classes take place at night or in the morning, depending on location and availability. The following review of HOT DOCS will be divided into subsections covering the course content, overall outcomes, parent satisfaction, and participant demographics.

In the summer of 2019, Developing Our Children's Skills K-5 (DOCS K-5) was developed for children ages 5-12 as an offshoot of HOT DOCS. DOCS K-5 is broken down into six weekly classes, each class lasting two hours. Like HOT DOCS, DOCS K-5 was developed by faculty and graduate students at a local research university. DOCS K-5 also is based in parent-child interaction therapy principles in addition to addressing academic concerns. Families who qualify for DOCS K-5 must have a child ages 5-12 who is exhibiting disruptive or noncompliant behaviors. DOCS K-5 classes will begin in October 2019, and currently classes will take place in

a university-based clinic. Because a course using the DOCS K-5 curriculum has not yet been completed, outcome and parent satisfaction data are not currently present.

Overall outcomes. HOT DOCS has generally produced favorable outcomes for caregivers and children who receive the program's services. Participants have demonstrated an increase in knowledge about child development, principles of behavior, and parenting strategies, as indicated by the increase of their scores from 16.03 to 17.34 on pre-test and post-test administrations of the HOT DOCS Knowledge Test (Williams, 2007). In addition, caregivers often reported decreased levels of the severity of their children's problem behaviors. One study cites mean scores for externalizing problems on the Child Behavior Check List (CBCL) decreasing from 57.39 to 51.31, and another study cites mean scores for severity of child problem behavior decreasing from 59.79 to 54.23 on the CBCL (Childres, Agazzi, & Armstrong, 2011; Williams, 2007). Caregivers also reported increased knowledge of behavioral strategies to use with their children as a result of participating in HOT DOCS classes (Salinas, Smith, & Armstrong, 2011; Williams, 2007). Finally, rates of parenting stress appeared to remain constant in the majority of past HOT DOCS studies. One study found that participants' mean pre-test score on the Perceived Stress Scale-10 Items was 18.29, and their mean post-test score was 18.91 (Childres et al., 2011). In light of the results of this research, and in order to assess and reduce parenting stress more efficiently, HOT DOCS later modified their curriculum to include an additional seventh class on parenting stress. Further research is needed to determine how changes in parenting stress are affected by participation in the HOT DOCS program.

Caregiver satisfaction. Regarding caregivers' satisfaction with the program, HOT DOCS participants have found the program beneficial to their knowledge and skillset (Childres et al., 2011). In the cultural and linguistic adaptation of HOT DOCS, known as HOT DOCS

Español, Hispanic/Latino families were heavily relied on for ongoing feedback and information regarding the implementation of the training (Agazzi, Salinas, Williams, Chiriboga, & Armstrong, 2010). The primary investigators cited open communication with families in the program to be critical in modifying HOT DOCS to better meet the participants' needs. In another study examining caregivers' perception of the effectiveness of HOT DOCS, results indicated that the majority of caregivers (95%) were eager to share what they had learned in the program with others (Williams, 2007). Additionally, a large number of caregivers who took part in this study (70%) felt that they were able to utilize what they had learned in HOT DOCS both at home and out in the community. Almost half of the caregivers (40%) felt that their experience in HOT DOCS had been satisfactory, with the main criticism being that there were too few sessions and that sessions were too short (Williams, 2007). In many of the studies examining HOT DOCS, the results indicate that caregivers appreciate the group instructional format, as it helps foster a collaborative and supportive problem-solving framework (Agazzi et al., 2010; Salinas et al., 2011).

Participant demographics. The HOT DOCS program has serviced a variety of individuals across racial/ethnic groups, socioeconomic statuses, and levels of education. As displayed in Table 1, most participants in HOT DOCS have historically identified as either Caucasian or Hispanic/Latino. In addition, the HOT DOCS Español program serves primarily Hispanic/Latino participants whose native language is Spanish (Agazzi et al., 2010). In terms of level of education, the majority of participants appeared to have had at least some college experience (Table 2). According to pre-test measures prior to taking the HOT DOCS class, participants' children seemed to demonstrate problem behaviors that were more severe than children in the normative population, as well as deficits in adaptive behaviors that were more

pronounced (Williams, 2007). One major limitation of HOT DOCS research is that the majority of the program's participants are female (Table 3); however, rates of father attendance are higher in HOT DOCS than in most other BPTs, and efforts are continually being made to include more fathers in future classes (Agazzi et al., 2010; Ogg et al., 2014; Salinas et al., 2011). In addition, it should be noted that father participation in behavioral parent training programs is consistently low across the majority of programs (Agazzi et al., 2010; Gershy & Omer, 2017; Laxman, Higginbotham, & Bradford, 2019).

Table 1

Race/Ethnicity of Participants Across Studies

Study	Caucasian	Hispanic/ Latino	African-American	Asian	Native American	Other or Mixed Race	No Response
Williams, 2007	43.8%	34.9%	5.5%	0.7%	2.7%	3.4%	8.9%
Agazzi et al., 2010*	-	82.1%	-	-	-	-	17.9%
Williams et al., 2010	47.9%	37.7%	8.6%	1.9%	0.6%	3.2%	-
Salinas et al., 2011	38.5%	53.8%	7.7%	-	-	-	-
Childres et al., 2011	47.7%	28.1%	6.3%	0.8%	2.3%	0.8%	14.1%
Childres et al., 2012	52.9%	29.0%	7.7%	2.6%	1.9%	1.9%	3.9%
Ogg et al., 2014	49.7%	38.5%	6.9%	1.7%	1.0%	2.4%	-

**The Agazzi et al., 2010 study exclusively examined the HOT DOCS Español program.*

Table 2

Education Level of Participants Across Studies

Study	Less than High School	High School Diploma	Technical School/Some College	4 Year College Degree	Graduate Degree	No Response
Williams, 2007	2.7%	15.8%	20.6%	26.7%	26.0%	8.2%
Agazzi et al., 2010	3.6%	10.7%	23.2%	7.1%	41.1%	14.3%
Williams et al., 2010*	-	-	-	28.2%	-	-
Salinas et al., 2011	-	30.8%	7.7%	30.8%	30.8%	-
Childres et al., 2011**	6.3%	25.0%	12.6%	42.2%**	-**	14.1%
Childres et al., 2012	2.6%	30.3%	22.6%	25.8%	14.2%	-
Ogg et al., 2014	5.7%	23.3%	23.7%	26.5%	20.8%	-

**The Williams et al., 2010 study only listed largest group related to education.*

***The Childres et al., 2011 study did not differentiate between 4-year college and graduate degrees.*

Table 3

Gender of Participants Across Studies

Study	Female	Male
Williams, 2007	67.8%	32.2%
Agazzi et al., 2010	71.4%	28.6%
Williams et al., 2010	71.8%	-
Salinas et al., 2011*	0%	100%
Childres et al., 2011	76.6%	23.4%
Childres et al., 2012	66.5%	-
Ogg et al., 2014	70.2%	-

**The Salinas et al., 2011 study exclusively examined fathers.*

Improving Attendance in Behavioral Parent Training

Existing research regarding HOT DOCS has cited a number of factors potentially contributing to attendance; however, the current study seeks to further explore these factors. According to previous HOT DOCS studies, attendance rates appear to range from 61.2-90% for attending 3 or more classes in the original 6-class format, and 75-79% for attending 4 or more classes in the original 6-class format (see Table 4). In prior studies, participants were provided HOT DOCS classes for ten dollars due to grant funding (Agazzi et al., 2010; Ogg et al., 2014). However, currently participants are required to pay a fee of twenty dollars in order to enroll in the HOT DOCS program (and DOCS K-5 program) and receive class materials, such as the manual. In the past, refreshments also were provided to HOT DOCS participants during their class sessions through grant funding (Agazzi et al., 2010; Ogg et al., 2014). One incentive that is still currently used in HOT DOCS classes is the provision of small toys to caregivers through a raffle (Ogg et al., 2014). It should be noted that these toys are not provided in DOCS K-5 classes. Perceived barriers to attendance seem to vary across studies. For example, in one study fathers

cited issues such as lack of participation from a spouse, conflicting work schedules, and lack of childcare as barriers to attendance (Salinas et al., 2011).

Table 4

Parent Attendance Rates in Past HOT DOCS Research

Study	Number of Participants	Attendance Rate	Notes
Williams, 2007	260	61.2% attended 3+ classes	6 classes total
Agazzi et al., 2010	56	78% attended 4+ classes 90% attended 3+ classes	HOT DOCS Español only 6 classes total
Williams et al., 2010	399	69.4% attended 3+ classes	6 classes total
Childres et al., 2011	128	79% attended 4+ classes	6 classes total
Salinas et al., 2011	13	--	Fathers only 6 classes total No reliable attendance data
Childres et al., 2012	155	86.5% attended 3+ classes	HOT DOCS & HOT DOCS Español 6 classes total
Ogg et al., 2014	739	75% attended 4+ classes 61.6% attended 5+ classes	HOT DOCS & HOT DOCS Español 6 classes total

Based on the work by Chacko and colleagues (2016), it appears that parent training programs can increase their attendance rates by considering the environmental needs of the caregivers (e.g., childcare, transportation, etc.), as well as self-care needs (e.g., mindfulness meditation, relaxation techniques, etc.). In addition, programs that are able to address caregivers'

specific concerns regarding their children's behaviors are often seen as more appealing to caregivers (Chacko et al., 2016). Many parent training programs are moving away from purely individualized services and incorporating group-format training programs as well as online or web-based training (Steiner et al., 2012). While parent training programs are already adopting these principles, evaluating parent perceptions about the length of training, the subject matter of training, and the methodology of training can further increase attendance rates across programs. This is why parent feedback is so critical to the success of parent training programs. Parent perceptions regarding course content, class format, and follow-up support appear to be particularly crucial in improving attendance rates.

Course content. For many caregivers of children with externalizing disorders, behavior management is a necessary component of any training program, including the establishment of consistent routines as well as the reduction of problem behaviors and increase in adaptive behaviors (Preece et al., 2016). Another component (particularly for children with disabilities such as autism spectrum disorder) that caregivers desire to be addressed in training programs is communication, which can have a significant effect on behavior (namely, the function) for children (Preece et al., 2016). In past research, caregivers also have expressed interest in deducing the reasons or functions for their children's externalizing problem behaviors (Gaad & Thabet, 2016). This fact is beneficial to parent training programs in that it sets the stage for differential reinforcement of alternative (DRA) behaviors interventions.

Class format. Regarding individual vs. group format, the results are variable with some caregivers preferring one-on-one treatment in the home and others preferring to engage with likeminded individuals in a group format (Gaad & Thabet, 2016). Research indicates that caregivers desire in-depth instruction and coaching for the behavioral interventions they are

taught to implement. In fact, they feel most confident having been trained by someone highly knowledgeable in the area of behavioral interventions and child development (Stahmer et al., 2017). In terms of location, caregivers consistently request venues that are convenient for them geographically (Gaad & Thabet, 2016). Unfortunately, group training programs cannot accommodate all caregivers in determining a teaching location. For this reason, web-based programs have become more popular, with many caregivers –and fathers in particular— expressing increased interest in online parent training (Frank et al., 2015).

Follow-up support. Research also has shown that caregivers are open to follow-up consultation and data collection (Gaad & Thabet, 2016). In order to ensure that a program remains effective weeks, months, or even years after the initial training, practitioners should return to the families that participated in the program and observe their interactions with their children. Caregivers also are interested in homework, but struggle with finding the time to complete it, especially with assignments that take over twenty minutes to complete (Stahmer et al., 2017). Preferences in specific types of homework and follow-up data collection have not yet been analyzed extensively, creating a substantial gap in the parent training literature.

Summary

In summary, behavioral parent training programs such as HOT DOCS have been shown to improve outcomes for both children with externalizing problem behaviors and their caregivers. Factors to take into account when implementing a parent training program are the cultural background of participants as well as the inclusion of fathers. Caregivers desire to receive extensive professional coaching and knowledge about their children's behaviors. However, factors such as location and timing of training sessions, lack of childcare, and conflicting work schedules can be potential barriers to attending and participating in these programs. If behavioral parent training programs such as HOT DOCS and DOCS K-5 were able

to assess caregivers' perceptions of existing facilitators and barriers to attending training sessions, then these programs could perhaps increase rates of parent attendance.

Chapter 3: Methods

Introduction

This quantitative study assessed parent perceptions of facilitators and barriers to treatment engagement. The research questions were addressed with data collected from two questionnaires administered to HOT DOCS and DOCS K-5 participants. The goal of this study was to provide the developers of the HOT DOCS and DOCS K-5 with information about potential barriers to engagement and ways to reduce those barriers and facilitate overall engagement. This chapter presents the four research questions explored in this study, the nature of the research design, the participants, the setting, study measures, procedures, data analysis, ethical considerations, limitations, and contributions to the current literature base.

Research Questions

As stated in the introduction, there were four research questions that were addressed in this study. The questions and the methods of answering them are listed below.

1. To what extent do mean differences exist across caregiver perceptions of facilitators to treatment engagement in HOT DOCS/DOCS K-5?
2. To what extent do mean differences exist across caregiver perceptions of barriers to treatment engagement in HOT DOCS/DOCS K-5?
3. To what extent do mean differences exist across caregiver demographic variables (e.g., socioeconomic status, race/ethnicity, gender, parent status, number of children, number of adults, and prior participation in a parent training program) regarding facilitators to treatment engagement in HOT DOCS/DOCS K-5?

4. To what extent do mean differences exist across caregiver demographic variables (e.g., socioeconomic status, race/ethnicity, gender, parent status, number of children, number of adults, and prior participation in a parent training program) regarding barriers to treatment engagement in HOT DOCS/DOCS K-5?

The first and second questions were assessed through the analysis of descriptive statistics from the Facilitators and Barriers Questionnaire data. The third and fourth research questions related to demographic characteristics of the participants and were analyzed through the Kruskal-Wallis test (after assumptions were evaluated) reviewing data from both the demographic questionnaire as well as the facilitators and barriers questionnaire.

Research Design

This study was quantitative in nature because it relied on questionnaires with closed questions to which participants either chose from a list of predetermined options or provided rankings within a number range. The study consisted of two questionnaires distributed to participants enrolled in a HOT DOCS and DOCS K-5 courses; one questionnaire related to demographic items, and one questionnaire related to perceived facilitators and barriers to treatment engagement (namely, attendance of all seven HOT DOCS classes or all six DOCS K-5 classes). The primary investigator developed the facilitator and barriers questionnaire. Aside from analyzing descriptive statistics, correlations between demographic variables and facilitators and barriers were examined, making this study descriptive and correlational in nature.

Participants

The participants of this study were caregivers who were enrolled and participated in the English HOT DOCS and DOCS K-5 classes during the period of October 2019 through February 2020. In order to qualify for participation in HOT DOCS, caregivers must have had a child or

children ages birth to 5 who were displaying disruptive behavior problems. Likewise, in order to qualify for participation in DOCS K-5, caregivers must have had a child or children ages 5-12 who were displaying disruptive behavior problems. Although HOT DOCS has offered Spanish classes (HOT DOCS Español) in the past, this study focused on English classes because the primary researcher was not able to translate all of the measures into Spanish, and because Spanish classes were not offered during the time frame of this study.

Caregivers were recruited for the HOT DOCS and DOCS K-5 programs through advertising on online sites such as Facebook and a university site page, or from clinical referrals from community professionals across neurologists, pediatricians, early intervention providers, speech therapists, and psychologists or therapists. Past research has indicated that the majority of caregivers who enroll in HOT DOCS courses identify their race/ethnicity as Caucasian, with the second largest group of caregivers identifying their race/ethnicity as Hispanic or Latinx (see Table 1). Historically, the majority of caregivers who enroll in HOT DOCS courses are female (see Table 3). In addition, the majority of caregivers who enroll in HOT DOCS courses have completed some form of college education (see Table 2). All of these trends in demographic variables were compared to the demographic data collected in this study. As discussed in the literature review, past HOT DOCS research indicated that attendance rates typically range from 61.2-90% for attending 3 or more classes in the original 6-class format, and 75-79% for attending 4 or more classes in the original 6-class format (see Table 4). The attendance rates in this study were compared to the average attendance rates in past HOT DOCS research.

Each parent filled out the questionnaires for this study individually, not as a pair or group. In order for caregivers to be included, they must have been enrolled in the HOT DOCS program and must have completed both the demographic questionnaire and the questionnaire

pertaining to facilitators and barriers to attendance. Caregivers were either biological or adoptive guardians of the child or children for whom they attended HOT DOCS or DOCS K-5. Both single and married caregivers participated, with their marital status noted in the demographic section of the questionnaire. In the case of caregivers attending HOT DOCS or DOCS K-5 as a couple, both caregivers individually completed the survey measures. It was expected that all caregivers be residents of a large county in Southwest Florida, given that the program was funded by a county taxing authority.

Recruitment for this study took place through the HOT DOCS and DOCS K-5 programs. A total of 43 participants met inclusion criteria for participation in the study. Caregivers who attended at least five of seven HOT DOCS classes, at least four classes in their HOT DOCS six-week course sequence, or at least five classes in their DOCS K-5 six-class course sequence were included. Weekly attendance data reflected how many classes each parent attended. This study utilized a convenience sample. It should be noted that caregivers were required to pay a one-time fee of twenty dollars in order to be enrolled in a HOT DOCS or DOCS K-5 class and receive a HOT DOCS or DOCS K-5 participant manual. Caregivers were not compensated monetarily for their participation in this study. Specific demographic data for the participants in this study are provided in Chapter 4.

Setting

For this study, instruction took place in university facilities as well as outpatient facilities for live classes. For the one remote class included in this study, instruction was conducted via the online application known as Zoom. Responses of participants receiving instruction remotely via telehealth were compared to responses of participants receiving instruction in person.

HOT DOCS and DOCS K-5 Curricula

As displayed in Table 5, the previous version of HOT DOCS covers the following content over the course of seven weeks: Week 1) early brain development, Week 2) rituals and routines, Week 3) behavior and its functions, Week 4) preventions, Week 5) teaching new skills, Week 6) planning new responses, and Week 7) caregiver stress (Agazzi et al., 2018). In the first class, participants are taught about the development of the brain, beginning from infancy and continuing through early childhood; it is in this class that attendees learn about developmental milestones (Agazzi et al., 2018). This class allows caregivers to begin building a biological framework for understanding their children's behavior, such as why their child engages in a temper tantrum or becomes irritable when having to sit and wait for an extended period of time. In the second class, participants learn about establishing clear and consistent routines, as well as effective rituals within those routines (i.e., brushing teeth as a ritual within the bedtime routine; Agazzi et al., 2018). This second class also addresses the importance of sleep, as a lack of sleep can contribute to children's behavior problems. Caregivers are tasked with evaluating their routines at home and determining if any modifications should be made. As stated previously, the first two HOT DOCS classes were combined into one class in order to reduce the number of weeks from seven to six.

Once early development and routines are discussed, behavior becomes the focus of the HOT DOCS curriculum. In the next class, participants learn about the ABCs of behavior: 1) the antecedents or what happens right before the behavior occurs, 2) the behavior itself, and 3) the consequences or what happens right after the behavior occurs (Agazzi et al., 2018). Participants also are introduced to the problem-solving chart, which allows them multiple opportunities to examine their children's behavior and determine the possible antecedents and consequences of

the behavior. In addition, possible functions of behavior also are discussed, introducing participants to the concept of either obtaining something (i.e., attention, tangibles, sensory stimulation, etc.) or avoiding something (i.e., activities, demands, sensory discomfort, etc.). The following class teaches participants about modifying their environment in order to prevent the occurrence of problem behaviors, including the use of timers, visual aids, first-then statements, social stories, and natural endings (Agazzi et al., 2018). In the next class, caregivers learn about teaching their children new skills, mainly communication skills. This class is important because it emphasizes the beneficial nature of teaching moments. In the following class, participants learn about providing responses to their children's problem behavior (Agazzi et al., 2018). It is here that follow-through and time-out are discussed, and verbal behavior-specific praise also is reiterated as useful for acknowledging appropriate behaviors.

The final class requires participants to evaluate their own stress levels and they are reminded to engage in self-care activities such as progressive muscle relaxation, deep breathing, and journaling (Agazzi et al., 2018). This class also is used to answer any lingering questions that attendees may have regarding co-parenting, generalization of behaviors, and school-readiness. In order to measure caregiver stress levels prior to, and after attending HOT DOCS, participants are given a stress survey before the first class and during the seventh class.

Table 5

Content of Seven-Week HOT DOCS Classes

Class Name	**Class Content**
Class 1: Early Childhood Development	• Early brain development • Developmental milestones • Parenting tip: Catch them being good • Special play: Bubbles
Class 2: Routines, Rituals, and Development	• Routines and rituals • Parenting tip: Validate and redirect • Special play: Reading
Class 3: Development and Behavior	• Behavior basics • Problem-solving behavior • Parenting tip: Use a calm voice • Special play: Coloring
Class 4: Developing Preventions	• Strategies to prevent problems • Parenting tip: Give clear directions • Special play: Fun Dough
Class 5: Teaching New Skills	• Teaching new skills • Parenting tip: Teach waiting • Special play: Pretend play
Class 6: Planning New Responses	• New responses • Parenting tip: Follow through • Special play: Building blocks
Class 7: Reducing Stress the HOT DOCS Way	• HOT DOCS review • Caregiver behavior and stress • Parenting tip: Take 5 for yourself • Special play: Music

In the newest version of HOT DOCS, the first and second classes are combined into one class, thus making the course duration six weeks. All other classes have retained the same content, but each class has been moved up one week in the course schedule. These changes in the course were made in order to shorten the duration of HOT DOCS, which may make it easier for caregivers to attend all of the classes. Changes to HOT DOCS were made part-way through this

study, so caregivers from both the previous seven-week course and current six-week course were included. The most recent changes to the HOT DOCS curriculum are displayed in Table 6.

Table 6

Content of Six-Week HOT DOCS Classes

Class Name	Class Content
Class 1: Early Behavior and Development	• Early brain development • Developmental milestones • Routines and rituals • Parenting tip: Catch them being good • Special play: Bubbles
Class 2: Development and Behavior	• Behavior basics • Problem-solving behavior • Parenting tip: Use a calm voice • Special play: Coloring
Class 3: Developing Preventions	• Strategies to prevent problems • Parenting tip: Give clear directions • Special play: Fun Dough
Class 4: Teaching New Skills	• Teaching new skills • Parenting tip: Teach waiting • Special play: Pretend play
Class 5: Planning New Responses	• New responses • Parenting tip: Follow through • Special play: Building blocks
Class 6: Reducing Stress the HOT DOCS Way	• HOT DOCS review • Caregiver behavior and stress • Parenting tip: Take 5 for yourself • Special play: Music

The effectiveness of the HOT DOCS curriculum is measured through the aforementioned stress survey as well as through the Eyberg Child Behavior Inventory (ECBI). The ECBI measures the presence of disruptive behaviors in children and is given prior to beginning HOT DOCS as well as after completing HOT DOCS (during the seventh class). The following section

provides a summary of the existing HOT DOCS research regarding caregivers' satisfaction with the program, caregivers' perceived effectiveness of the program, reductions in children's externalizing problem behaviors, and reductions in parental stress. Factors that will be considered in this review are overall outcomes, parent satisfaction, participant demographics, and methods of increasing attendance.

Regarding DOCS K-5, the first five classes are somewhat similar to the HOT DOCS curriculum, with some additions or changes, as displayed in Table 7. The first class in DOCS K-5 is based in understanding children's behavior, similar to the third class in HOT DOCS. Like HOT DOCS, problem-solving behavior is broken down into the antecedent-behavior-consequence (ABC) format. This first class in DOCS K-5 also discusses routines and rituals, similar to the second class in HOT DOCS. The second class in DOCS K-5 addresses preventions, including both behavior preventions similar to HOT DOCS and safety preventions for children. These safety preventions include safety at home, in the car, outside, and on the Internet. The third class in DOCS K-5 is related to teaching children new skills, similar to the fifth class in HOT DOCS. Unlike HOT DOCS, DOCS K-5 places an emphasis on teaching children social skills and provides social skills lessons in the participant manual. The fourth class in DOCS K-5 discusses new responses for caregivers, similar to the sixth class in HOT DOCS. One difference in DOCS K-5 is the inclusion of a token economy chart for reinforcing behaviors in older children. The fifth class of DOCS K-5

The fifth class in DOCS K-5 is similar to the seventh class of HOT DOCS in that it focuses on parent stress and self-care; however, DOCS K-5 also addresses family functioning by providing resources and advice for holding a family meeting. Finally, the sixth class in DOCS K-

5 delves into new material by discussing community resources and school success, including information on how caregivers can advocate for their children in the schools.

Table 7

Content of DOCS K-5 Classes

Class Name	Class Content
Class 1: Understanding Child Behavior	• Behavior basics • Problem-solving behavior • Routines and rituals • Parenting tip: Labeled Praise • Special Time
Class 2: Developing Preventions	• Strategies to keep children safe • Strategies to prevent problems • Parenting tip: Give Clear Directions • Special Time
Class 3: Teaching New Skills for Children	• Teaching new skills • Parenting tip: Teach Social Skills • Special Time
Class 4: New Responses for Caregivers	• New responses • Parenting tip: Follow Through • Special Time
Class 5: Strengthening Family Relationships	• HOT DOCS review • Caregiver behavior and stress • Parenting tip: Hold a Family Meeting • Special Time
Class 6: My Community (County Resources and Primary Education)	• Community resources • Overview of RTI, MTSS, IEPs, 504s • Parenting Tip: Community Resource Map • Special Time

Measures

Participants completed various measures at both pre-test and post-test for their respective program. In HOT DOCS, current pre-test and post-test paperwork include a demographic questionnaire (described in more detail below), the Eyberg Child Behavior Inventory (ECBI;

Eyberg & Pincus, 1999), a parenting stress measure known as the DOCS Parenting Stress Measure, adapted from the Autism Parenting Stress Index (Silva & Schalock, 2011), and a measure known as the Therapy Attitude Inventory for HOT DOCS, adapted from Sheila Dr. Eyberg's therapy attitude measure (Eyberg, 1974). In DOCS K-5, current pre-test and post-test paperwork include the same demographic questionnaire as HOT DOCS, the same parenting stress measure, and the same therapy attitude measure. However instead of the ECBI, DOCS K-5 utilizes the Strengths and Difficulties Questionnaire (SDQ; Rothenberger & Woerner, 2004) to assess child behavior, and the Patient Health Questionnaire (PHQ; Kroenke & Spitzer, 2002) to assess caregivers' depressive symptoms.

Demographic Questionnaire. Two questionnaires were given to caregivers either electronically or via paper-and-pencil for completion. The software Qualtrics was used to create and manage the electronic questionnaires. Demographic questionnaires were sent to participants via email prior to attending the first class. This demographic questionnaire, developed by Agazzi & Childres (2017), was distributed electronically before every HOT DOCS or DOCS K-5 course or distributed via paper and pencil during the beginning of Class 1. The questionnaire was modified for DOCS K-5 to reflect changes in school status (i.e., type of school as opposed to preschool/daycare settings). Both questionnaires contained questions regarding age, race/ethnicity, gender, marital status, and socioeconomic status (see Appendices A and B). Caregivers then answered questions specific to the child or children in their household for whom they were attending HOT DOCS or DOCS K-5. Questions related to parent demographics included caregivers' date of birth, gender, race/ethnicity, household structure, highest level of education in the household, number of children and adults in the household, primary language, relationship to the child(ren) of concern, marital status, current employment, and yearly

household income. Questions related to child demographics included the child's date of birth, gender, race/ethnicity, school/daycare status, and free lunch status. Caregivers were given the option of completing demographic measures on up to two children. Regardless of whether or not caregivers agreed to participate in this study, they completed this demographic questionnaire as it was a required component for enrollment in the programs.

Facilitators and Barriers Questionnaire. This measure was developed by the primary investigator in order to address facilitators and barriers to parent attendance that were particularly relevant to HOT DOCS and DOCS K-5. The measure was created based on a review of the existing literature regarding caregivers' perceptions of certain aspects of behavioral parent training. In this questionnaire, caregivers answered a series of questions related to perceived facilitators and barriers to maximum attendance of the HOT DOCS or DOCS K-5 training program (see Appendix C). Caregivers also were asked if they ever participated in a parent training program before participating in HOT DOCS or DOCS K-5, including participation in HOT DOCS or DOCS K-5 itself (making this their second time in the program) and other parent training programs. Several domains were targeted in the first section of this questionnaire, including location of the course, length of each class (two hours), time of day of the course, overall course duration (six or seven weeks), availability of transportation, and availability of childcare. For each of these domains, caregivers decided if this factor was a barrier or facilitator to their attending classes. Response choices were offered in a Likert scale format; caregivers selected their answer from a range of choices including 1= "a very large barrier", 2= "a somewhat significant barrier", 3= "a slight barrier", 4 = "a slight facilitator", 5= "a somewhat significant facilitator", or 6= "a very large facilitator". Caregivers also selected the reason why each domain was a facilitator or barrier to their attendance of classes. For example, caregivers

were asked if a) the distance of the location from their home or workplace, or b) the availability of parking at the location, has an impact on their view of the location as a facilitator or barrier. Finally, caregivers were asked if they ever participated in and/or completed a parent training program prior to attending their HOT DOCS or DOCS K-5 course. Questions regarding previous program experience discriminated between completion of other programs, participation in (without completion of) other programs, previous completion of HOT DOCS or DOCS K-5, and previous participation in (without completion of) HOT DOCS or DOCS K-5.

Procedures

Participants were recruited from ongoing HOT DOCS and DOCS K-5 courses. At the beginning of Class 1 of each class, a document pertaining to written informed consent was provided to caregivers so that they could learn more about the use of their data in HOT DOCS or DOCS K-5 research, which included this particular study. It was at that point that they made an informed decision as to whether or not they wished to participate in this study. Any questions or concerns that the caregivers had regarding general use of their information for HOT DOCS or DOCS K-5 research were addressed. Regardless of participants' provision of consent, they still completed all pre- and post-data measures for the purposes of showing proof of service to the county tax authority sponsoring these programs. However, individuals who declined providing consent were not included in this research study. Participants completed the predesigned paper-and-pencil copy of the HOT DOCS or DOCS K-5 Demographic Questionnaire prior to beginning Class 1 if they had not already completed the questionnaire online. Caregivers remained anonymous in the questionnaire procedure by using a number code rather than their names on all forms. All questions were either in a multiple-choice format or on a Likert scale.

Caregivers' attendance at each session was recorded with a simple attendance sheet in order to determine each participant's rate of attendance for the course. The Facilitators and Barrier Questionnaire was administered to caregivers through an email invitation to a Qualtrics form once their respective HOT DOCS or DOCS K-5 course ended. Caregivers who did not complete the Facilitators and Barriers questionnaire electronically through Qualtrics were sent reminder emails after the initial electronic invitation. The initial invitation to complete the Qualtrics version of the questionnaire was emailed to all caregivers who participate in HOT DOCS or DOCS K-5 courses during October 2019-February 2020 one business day, and then three business days, after the final class. This follow-up strategy was selected based on research that indicates that reminders sent after 3 days of the initial survey invitation can increase survey response rates by up to 10% (Kaplowitz et al., 2011). In addition, this is the current protocol regarding reminder emails that HOT DOCS or DOCS K-5 uses with caregivers.

Data Analysis

Once responses were gathered, categorical items were coded prior to analysis. A code book was used by the primary investigator in order to assign number values to responses (see Appendix D). The use of this code book helped ensure consistency and accuracy of analysis regarding participants' responses to questionnaire items. In addition, because many of the responses to items on both questionnaires were from an array of qualitative statements, a code book was helpful in converting these responses to numerical data that could be fully analyzed by statistical software. Likert-scale items were coded numerically from 1 to 6 based on the level of the response (i.e., "an extremely large barrier" = 1, "an extremely large facilitator" = 6). Multiple choice answers were coded numerically, as well (i.e., "the distance of the location from my home or workplace" =1 or "the availability of parking at the location" =2). All demographic data from

the Demographic Questionnaire also were coded numerically, assigning numbers to certain responses (i.e., “male” = 1, “female” = 2). Exact coding procedures are available in the codebook (see Appendix D).

All data were analyzed in the statistical software Statistical Package for the Social Sciences (SPSS; IBM Corp, 2016). Descriptive statistics were obtained based on the data received. These descriptive statistics also served the purpose of answering the four main research questions by analyzing differences in the means across responses. In order to test for the influence of certain demographic factors on perceptions of program effectiveness, the Kruskal-Wallis test was used, as assumptions of normality were not met by the data, and the sample size of this study was too small to provide robustness to nonnormality.

Ethical Considerations

Only participants who signed informed consent for participation in a research study were included and to retain anonymity participants used an ID code when completing the study scales. All electronic versions of the questionnaires were distributed through the Qualtrics online service. All data regarding HOT DOCS and DOCS K-5 participants is currently in a secure electronic database through the HOT DOCS program. The only demographic information required of them in the most recent demographic measure is their gender, race/ethnicity, socioeconomic status (coded through ranges of household income), parent status (coded as either single or co-parent), number of children, and prior experience in a parent training program (coded as yes or no).

Chapter 4: Results

Introduction

The purpose of this study was to analyze caregivers' preferences in what they found to be barriers and facilitators to attending a BPT. Data were collected from HOT DOCS and its sister program DOCS K-5. Research questions were as follows:

1. To what extent do mean differences exist across caregiver perceptions of facilitators to treatment engagement in HOT DOCS/DOCS K-5?
2. To what extent do mean differences exist across caregiver perceptions of barriers to treatment engagement in HOT DOCS/DOCS K-5?
3. To what extent do mean differences exist across caregiver demographic variables (e.g., socioeconomic status, race/ethnicity, gender, parent status, number of children, number of adults, and prior participation in a parent training program) regarding facilitators to treatment engagement in HOT DOCS/DOCS K-5?
4. To what extent do mean differences exist across caregiver demographic variables (e.g., socioeconomic status, race/ethnicity, gender, parent status, number of children, number of adults, and prior participation in a parent training program) regarding barriers to treatment engagement in HOT DOCS/DOCS K-5?

The results of this study are divided into two sections. First, a summary of preliminary data analyses, including descriptive statistics encapsulating overall trends in data, is provided. Missing data is also discussed in this section, as well as how the primary researcher addressed

concerns with these missing data. Second, a summary of secondary data analyses is provided. These secondary analyses focused primarily on results of the Kruskal-Wallis test, which is a nonparametric alternative to the one-way ANOVA test. Rationale for why this test was selected is provided, as well as overall results and implications for statistically significant effects across variables.

Preliminary Data Analyses

Data were collected from caregivers' survey responses between October 2019 and February 2020, encompassing two cohorts in the DOCS K-5 course and six cohorts in the HOT DOCS course. The response rate was 71% (49 out of 69), with the remaining 20 participants not completing the Facilitators and Barriers Questionnaire. Of the 49 caregivers who completed the survey, data from six respondents were not included because they did not consent to participate in the study. The percentages of participants from DOCS K-5 and HOT DOCS who were included in this study were 55.8% (n = 24) and 44.2% (n = 19), respectively. Of the HOT DOCS participants, 26.3% (n = 5) completed telehealth classes rather than in-person classes. Additionally, this telehealth class took place during 9-11AM rather than the other classes, which took place during 6-8PM. This group makes up 11.6% of the study population. In addition, 21.1% (n = 4) of HOT DOCS participants completed the 7-week course rather than the recently revised 6-week course.

A summary of preliminary descriptive statistics can be found in Table 8. The ratio of female to male respondents was approximately 3:1 in both groups, with 73.7% of HOT DOCS respondents (n = 14) identifying as female, and 79.2% of DOCS K-5 respondents (n = 19) identifying as female. Of the 43 participants, 33 were White/Caucasian, encompassing 76.7% of the study population. By contrast, six caregivers self-identified as non-white, encompassing

14.0% of the study population. These caregivers identified their races as black or African-American (n = 3), Asian (n = 1), and two or more races (n = 2). Finally, four caregivers (9.3%) preferred not to identify their race. Regarding ethnicity, 32.6% of caregivers (n = 14) identified as Hispanic or Latino, and 65.1% of caregivers (n = 28) identified as non-Hispanic or non-Latino. One participant preferred not to disclose this information. Participants' number of children within their households also was examined in this study, with 27.9% of participants (n = 12) raising one child, 55.8% of participants (n = 24) raising two children, and 16.3% of participants (n = 7) raising three or more children.

Table 8

Summary of Caregiver Demographics

Demographic characteristic	*n*	%
Gender		
Male	10	23.3%
Female	33	76.7%
Race		
White	33	76.7%
Non-white	6	14.0%
Preferred not to say	4	9.3%
Ethnicity		
Hispanic/Latino	14	32.6%
Not Hispanic/Latino	28	65.1%
Preferred not to say	1	2.3%
Household income		

Table 8 (Continued)

Under $50,000	11	25.6%
$50,000 or more	23	53.5%
Household status		
Dual 2-parent household	36	83.7%
Dual 2 Other-Relatives/Kinship Care	3	7.0%
Female (Single) Head of Household	3	7.0%
Male (Single) Head of Household	1	2.3%
Level of education		
No Bachelor's degree	8	18.6%
Bachelor's degree	20	46.5%
Advanced degree	15	34.9%
Number of children		
One	12	27.9%
Two	24	55.8%
Three or more	7	16.3%
Parenting status		
Biological parent	35	81.4%
Adoptive parent	3	7.0%
Grandparent	2	4.6%
Other	3	7.0%
Previous BPT experience		
No previous experience	27	62.8%

Table 8 (Continued)

Previous BPT experience (not DOCS)	8	18.6%
Previous BPT experience (HOT DOCS)	7	16.3%

As shown in Table 8, caregivers' household income levels ranged from $25,000 to over $50,000, with 53.5% of caregivers (*n* = 23) earning $50,000 or more, 11.6% (*n* = 5) earning between $35,000 and $49,999, and 14.0% (*n* = 6) earning between $25,000 and $34,999. A number of participants (*n* = 9) preferred not to disclose their income. Comparisons were conducted between individuals who earned at least $50,000 a year and individuals who earned less than $50,000 a year, in order to have more variability in comparison groups. Regarding level of education, 18.6% of participants (*n* = 8) had less than a Bachelor's degree, 46.5% of participants (*n* = 20) had a Bachelor's degree, and 34.9% of participants (*n* = 15) had an advanced degree. Attendance was relatively high, with 75% (*n* = 3) of participants in the seven-week HOT DOCS course attending all classes, 100% (*n* = 15) of participants in the six-week HOT DOCS course attending all classes, and 66.7% (*n* = 16) of participants in the DOCS K-5 course attending all six classes. Finally, 62.8% of caregivers (*n* = 27) had never participated in a BPT program prior to HOT DOCS or DOCS K-5, 18.6% of caregivers (*n* = 8) expressed that they had participated in a different BPT prior to their DOCS course, and 16.3% of caregivers (*n* = 7) had participated in HOT DOCS previously. One participant did not complete this item.

As discussed in the Chapter 3, most survey responses on the Facilitators and Barriers Questionnaire were coded on a Likert scale ranging from 1 ("very large barrier") to 6 ("very large facilitator"). Table 9 illustrates the mean responses across questions. The mean of responses across participants for the question addressing the course location was 4.09, indicating that overall, course location was "a slight facilitator". When considering course location, 55.8%

of participants (n = 24) identified this factor as a "slight facilitator", "somewhat significant facilitator", or "very large facilitator". By contrast, 44.1% of participants (n = 19) identified the course location as a "slight barrier", "somewhat significant barrier", or "very large barrier". Of the 24 participants who labeled the course location as a slight, somewhat significant, or very large facilitator, 87.5% felt that the distance from their homes or workplaces was the main reason that the location was convenient. The other 12.5% of participants felt that the availability of parking made the location more convenient. Of the 19 participants who labeled the course location a slight, somewhat significant, or very large barrier, 84.2% felt that the distance from their homes or workplaces was the main reason that the location was inconvenient. By contrast, 15.8% felt that the availability of parking made the location less convenient.

Table 9

Summary of Facilitators and Barriers Questionnaire Responses (n=43)

	Course location	Class length (2 hrs)	Time of day	Course duration (6-7 wks)	Transpor-tation	Childcare
Very large barrier	2	0	0	1	0	3
Somewhat sig. barrier	6	4	4	2	1	6
Slight barrier	11	14	11	14	7	14
Slight facilitator	3	11	8	10	8	6
Somewhat sig. facilitator	9	9	12	11	7	1
Very large facilitator	12	5	8	5	20	12
No response	0	0	0	0	0	1

The mean of responses across participants for the question addressing the class length (2 hours) was 3.93. This value signifies overall, class length was rated somewhat neutral, falling in between "a slight barrier" and "a slight facilitator". Class length was identified as a slight, somewhat significant, or very large facilitator by 58.1% of participants (n = 25). The remaining 41.8% of participants (n = 18) identified the class length as a slight, somewhat significant, or very large barrier. Of the 25 participants who labeled the class length as a slight, somewhat significant, or very large facilitator, 72.0% felt that the fit within the family's schedule was the main reason that the length was convenient. Contrary to this perception, 28.0% of participants felt that the amount of material presented within the class length made the class length more convenient. For the 18 participants who labeled the course location as a barrier (slight, somewhat significant, or very large), 61.1% felt that the fit within the family's schedule was the main reason that the length was inconvenient. Inversely, the remaining 38.9% of these participants felt that too much material was presented within the class, making the class length less convenient.

The mean of responses across participants for the question addressing the time of day for the class was 4.21, indicating that overall, time of day appeared to be "a slight facilitator" for participants. Consistent with this value, 65.1% of participants (n = 28) identified the time of day as a slight, somewhat significant, or very large facilitator. A smaller percentage of 34.9% (n = 15) identified the time of day as a slight, somewhat significant, or very large barrier. It should be noted that the majority of the participants in this study took classes during the evening hours, which may have skewed the results. An overwhelming majority (92.9%) of participants who labeled the time of day as a facilitator felt that having class in the evening hours made the time of day more convenient. On the other hand, only 7.1% of these participants felt that having class in the morning made the time of day more convenient. For those who labeled the time of day as a

slight, somewhat significant, or very large barrier, 86.7% felt that having class in the evening hours made the time of day less convenient. By contrast, 13.3% felt that having class in the morning hours made the time of day less convenient.

The mean of responses across participants for the question addressing the course duration (6-7 weeks) was 4.00, indicating that overall, course duration was "a slight facilitator". Descriptive statistics showed that 60.5% of participants (*n*= 26) identified the course duration as a slight, somewhat significant, or very large facilitator. However, 39.5% of participants (*n*=17) identified the course duration as a slight, somewhat significant, or very large barrier. Out of the 26 participants who labeled the course duration as a facilitator in some capacity, 61.5% felt that the amount of material covered in the entire course made the duration more convenient for them. Interestingly, 76.5% of participants who identified the course duration as a barrier felt that the number of weeks in the course made the duration less convenient. For those who participated in the 7-week HOT DOCS course, 75% found the duration to be a slight, somewhat significant, or very large facilitator. When considering the reason why course duration was a facilitator, 58.9% of participants in the 7-week HOT DOCS course found that the number of weeks made the duration more convenient. It should be noted that the majority of participants in this study (*n* = 39) completed 6-week courses rather than the 7-week course.

Finally, availability of transportation and childcare were assessed. The mean of responses across participants for the question addressing the availability of transportation was 4.88, making transportation the item with the highest facilitatory rating. Regarding ratings, 81.4% of participants (*n*=35) identified the availability of transportation as a slight, somewhat significant, or very large facilitator. Inversely, 18.6% of participants (*n*=8) identified the availability of transportation as a slight, somewhat significant, or very large barrier. The mean of responses

across participants for the question addressing the availability of childcare was 3.67, making childcare the lowest-rated factor on the survey, and overall "a slight barrier". A minority of participants (*n*=19; 44.1%) identified the availability of childcare as a slight, somewhat significant, or very large facilitator. It should be noted that childcare was the only factor that the majority of participants rated negatively, with 53.5% of participants (*n*=23) identifying the availability of childcare as a slight, somewhat significant, or very large barrier. One person did not complete this item, as noted in the discussion below regarding missing data in this study.

Missing Data

Out of the 43 surveys used for statistical analysis, only two surveys contained missing data points. One data point was regarding the question asking about previous experience in BPTs, and the other data point was regarding availability of childcare. These aforementioned missing data points were due to a configuration error in Qualtrics in which the primary researcher did not make all survey responses required for participants to answer. Finally, some participants chose not to divulge certain demographic information as indicated by their selection of the "prefer not to say" response. This trend was especially true for income (9 out of 43 responses) and race (4 out of 43). However, responses endorsing the "prefer not to say" option were still included in primary and secondary analyses for the purposes of this study.

Kruskal-Wallis Test

Multiple one-way ANOVA measures were intended to be used with the data set. However, because the sample size is small and violates the normality assumption, the non-parametric Kruskal-Wallis test was used in order to analyze the potential interactions between participant's demographic variables and survey responses. Several assumptions were addressed before undergoing this secondary analysis. First, the dependent variable, ratings on the

Facilitators and Barriers Questionnaire, was measured on a continuous scale in that it was based on numerical values ranging from 1 to 6 or 1 to 2. Second, all of the independent variables based on demographic values consisted of two or more categorical, independent groups. Third, all observations in this study were independent, as participants independently completed ratings at the end of their classes. Fourth, there were no significant outliers, since all ratings were contained within predetermined scales. Regarding the fifth assumption of normality, a number of variables were not normally distributed due to the limited amount of data were that collected before the pandemic occurred. The pandemic occurred in late February of 2020 and impacted this study in late March of 2020, before the next cohort of participants were scheduled for classes. The HOT DOCS and DOCS K-5 programs needed to take the necessary time to discuss whether or not classes would ensue in April, as well as the context in which instruction would be delivered. It was expected that the pandemic also would affect the validity of participants' responses to the questions on the Facilitators and Barriers Questionnaire, due to the added stress of participants being forced to stay at home, teach children from home, and potentially face unemployment. Additionally, there was no concrete anticipated date for when the pandemic's effects would subside. Given the lack of normal distribution due to limited data, the Kruskal-Wallis test appeared to be a more appropriate analysis, as it does not take normality into consideration, as it is a non-parametric measure. Finally, the sixth assumption of homogeneity of variances was met by the data set.

Demographic variables utilized in the independent Kruskal-Wallis test were caregivers' gender, ethnicity, race, household income, level of education, previous experience in a BPT, number of children in the household, and attendance. Parenting status was not included in this study due to a lack of variability in the data, as an overwhelming majority (93.4%) of caregivers

identified themselves as the biological parents of their children. Likewise, household structure was not included due to a lack of variability in the data, as the vast majority of caregivers (87.8%) identified their homes as dual-parent households.

Course location. A summary of results for course location can be found in Table 10. Gender demonstrated a statistically significant effect on caregivers' perceptions of course location in this study, $\chi^2(2) = 8.36$, $p = 0.01$. Moreover, the statistical value is high, indicating a strong significance. The interaction between gender and course location will be discussed in further detail in the Discussion section of this document. None of the other demographic variables (race, ethnicity, household income, level of education, number of children, previous BPT experience, and attendance) demonstrated a statistically significant effect regarding participants' perceptions of course location. Ethnicity had the lowest significance as related to course location, and it appears to have little impact on perceptions of course location in this study. When reviewing the remaining insignificant variables, household income came the closest to being statistically significant. Perhaps more variability in the data would have yielded a statistically significant effect, although this is a query better suited for future studies.

Table 10

Summary of Kruskal-Wallis Test

	Course location	Class length	Time of day	Course duration	Trans-portation	Childcare
Gender	$\chi^2 = 8.36$* ($p = 0.01$)	$\chi^2 = 0.53$ ($p = 0.47$)	$\chi^2 = 0.78$ ($p = 0.37$)	$\chi^2 = 0.01$ ($p = 0.93$)	$\chi^2 = 0.27$ ($p = 0.60$)	$\chi^2 = 1.37$ ($p = 0.24$)
Race	$\chi^2 = 1.08$ ($p = 0.30$)	$\chi^2 = 0.05$ ($p = 0.83$)	$\chi^2 = 0.01$ ($p = 0.92$)	$\chi^2 = 0.65$ ($p = 0.42$)	$\chi^2 = 0.03$ ($p = 0.87$)	$\chi^2 = 1.74$ ($p = 0.18$)
Ethnicity	$\chi^2 = 0.54$ ($p = 0.82$)	$\chi^2 = 0.51$ ($p = 0.47$)	$\chi^2 = 0.05$ ($p = 0.83$)	$\chi^2 = 1.02$ ($p = 0.31$)	$\chi^2 = 1.10$ ($p = 0.29$)	$\chi^2 = 0.03$ ($p = 0.86$)
Household income	$\chi^2 = 3.16$ ($p = 0.08$)	$\chi^2 = 0.24$ ($p = 0.62$)	$\chi^2 = 1.64$ ($p = 0.20$)	$\chi^2 = 1.66$ ($p = 0.19$)	$\chi^2 = 0.53$ ($p = 0.47$)	$\chi^2 = 1.33$ ($p = 0.25$)
Level of education	$\chi^2 = 1.17$ ($p = 0.56$)	$\chi^2 = 0.75$ ($p = 0.69$)	$\chi^2 = 2.05$ ($p = 0.36$)	$\chi^2 = 1.29$ ($p = 0.52$)	$\chi^2 = 2.64$ ($p = 0.27$)	$\chi^2 = 0.21$ ($p = 0.90$)

Table 10 (Continued)

Number of children	$\chi^2 = 2.41$ ($p = 0.30$)	$\chi^2 = 2.56$ ($p = 0.28$)	$\chi^2 = 8.02$* ($p = 0.02$)	$\chi^2 = 2.93$ ($p = 0.23$)	$\chi^2 = 4.23$ ($p = 0.12$)	$\chi^2 = 2.08$ ($p = 0.35$)
Previous BPT exp.	$\chi^2 = 3.44$ ($p = 0.18$)	$\chi^2 = 0.37$ ($p = 0.83$)	$\chi^2 = 0.18$ ($p = 0.91$)	$\chi^2 = 1.96$ ($p = 0.38$)	$\chi^2 = 0.24$ ($p = 0.89$)	$\chi^2 = 5.56$ ($p = 0.06$)
Attendance	$\chi^2 = 5.99$ ($p = 0.11$)	$\chi^2 = 6.29$ ($p = 0.09$)	$\chi^2 = 4.05$ ($p = 0.26$)	$\chi^2 = 9.12$* ($p = 0.01$)	$\chi^2 = 4.75$ ($p = 0.19$)	$\chi^2 = 6.54$ ($p = 0.09$)

*= Statistically significant effect

Class length. As displayed in Table 10, none of the demographic variables analyzed in this study (gender, race, ethnicity, household income, level of education, number of children, previous BPT experience, and attendance) had a significant effect on perceptions of class length. Caregivers' race showed the least significance, indicating that race did not play an apparent role in perceptions of class length. It should be noted that the majority of caregivers identified as white, as mentioned above in Table 8. Lack of variability in the data could have contributed to this lack of statistical significance regarding race. By contrast, attendance came the closest to being statistically significant when examining all of the demographic variables. All caregivers included in this study completed their respective programs with the required attendance rates, which may have impacted the statistical significance of the effect of attendance on perceptions of class length.

Time of day. Participants' number of children demonstrated a statistically significant effect on participants' perceptions of time of day, $\chi^2(2) = 8.02$, $p = 0.02$, as shown in Table 10. None of the other demographic variables analyzed in this study had an effect on participants' perceptions for time of day. In particular, race, ethnicity, and previous experience in BPTs were shown to be the least significant in their impact on time of day. No other demographic variable was close to meeting statistical significance, indicating that time of day may depend on other

factors aside from the demographic variables utilized in this study. The interaction between number of children and time of day will be analyzed in further detail in the Discussion section of this document.

Course duration. As displayed in Table 10, pertaining to the role of attendance, this study demonstrated a statistically significant effect, $\chi^2(2) = 9.12$, $p = 0.01$. Furthermore, this effect was shown to have a very strong significance in its impact on questionnaire responses, indicating that attendance was a key factor in how participants perceived their course's duration. The interaction between attendance and course duration will be addressed in further detail in the Discussion section of this document. None of the other demographic variables analyzed in this study had an effect on participants' perceptions for course duration. Additionally, no other demographic variable came close to being statistically significant. By contrast, gender was the most insignificant factor related to course duration. Thus, it appears that in this study gender did not have a critical impact on how course duration was perceived by caregivers.

Transportation. This study did not demonstrate a statistically significant effect for any of the demographic variables included for analysis, as shown in Table 10. The variables that proved to be the least significant in terms of their effect on caregivers' perceptions of transportation were race and previous experience in BPTs. As a result, race and BPT experience did not appear to play a role in how participants rated transportation in this study. Interesting to note is that while transportation was the factor rated most positively by participants, no demographic variable came close to meeting statistical significance for having an effect on why participants rated it so highly. This lack of significance in demographic variables may be because perceptions of the availability transportation are more dependent on other factors not included in this study.

Childcare. As shown in Table 10, Similar to transportation, while childcare was given a superlative overall rating (in this case, the lowest rating), no one demographic variable was found to be statistically significant in its effect on how childcare was rated by participants. However, one demographic variable, previous experience in a BPT, came close to meeting statistical significance. Perhaps participants' different experiences in other BPTs may have shaped their responses on the childcare item to some degree, even though that degree was not statistically significant. Ethnicity and level of education were the least significant in regards to their impact on perceptions of childcare. These two variables do not appear to have played a role in how caregivers rated childcare in this study.

Conclusions

Many of the factors on the Facilitators and Barriers Questionnaire were rated as facilitators by participants. In particular, the means of ratings for course location, time of day, and course duration indicate that these factors were slight facilitators to participant attendance. Availability of transportation was the highest rated facilitator, making it the strongest factor in encouraging participant attendance. However, the means of the other two factors in the Facilitators and Barriers and Questionnaire, time of day and availability of childcare, were rated as slight barriers. Time of day was somewhat neutral in that its mean rating was close to qualifying it as "a slight facilitator". Childcare availability proved to be the lowest-rated factor.

When considering demographic variables and their impact on participants' ratings of items on the questionnaire, it is clear that some demographic variables played a key role in how participants rated certain logistic factors pertaining to attendance of their BPT. Specifically, gender played a statistically significant effect on perceptions of course location, caregivers' number of children played a statistically significant effect on perceptions of time of day, and

attendance played a statistically significant effect on perceptions of course duration. Implications for these relationships will be addressed in further detail in the Discussion section of this document.

Chapter 5: Discussion

Introduction

This study sought to analyze caregivers' perceptions of potential facilitators and barriers to attending a BPT, in particular the BPT programs HOT DOCS and DOCS K-5. Programs such as HOT DOCS and its recently created sister program, DOCS K-5, have led to significant improvements in caregivers' management of children's problem behaviors (Agazzi et al., 2010; Childres et al., 2011; Childres et al., 2012; Ogg et al., 2014; Salinas et al., 2011; Williams, 2007; Williams et al., 2010). However, treatment engagement in evidence-based BPTs like HOT DOCS is highly variable in nature. Low attendance may have detrimental effects on caregiver and child outcomes, because caregivers who miss classes are exposed to less content than caregivers who attend all of the classes in a BPT. This study hopes to expand the knowledge of, and implications for, factors that impact caregiver attendance in a BPT.

This discussion will first address this study's findings related to demographic characteristics. Several factors such as socioeconomic status/household income, race, ethnicity, and gender were included in this study because these factors are thought to be tied to caregiver attendance of BPT classes (Baker et al., 2011; Ogg et al., 2014). In addition, other environmental factors such as access to transportation and availability of childcare, as well as the BPT classes' fit within caregivers' work and home schedules, have been shown to be critical to attendance of a BPT (Preece et al., 2016). Hence, these factors also were included in this study. Finally, this

study analyzed the effects of previous participation in a BPT, caregivers' number of children in the household, and caregivers' attendance rates in their respective BPT classes.

Following the discussion of demographic characteristics, the findings of this study pertaining to overall ratings of items on the Facilitators and Barriers Questionnaire are reviewed. In addition to these overall findings, more specific preferences are discussed, as well as their applications to findings in previous studies. Finally, interactions between demographic variables and participants' ratings of certain factors as facilitators and barriers are assessed for future implications, as well as consistencies with existing literature. Finally, the study limitations and future implications for practitioners and researchers will be considered. It is the hope of the primary researcher that the results of this study will be considered for the purposes of modifying and improving the HOT DOCS and DOCS K-5 programs, as well as other BPTs.

Demographic Characteristics

Attendance. All caregivers who were included in this study attended at least four of six classes or five of seven classes. All DOCS K-5 classes took place within a six-week format. The number of weeks in the HOT DOCS program changed from seven to six weeks partway into the study, with the first and second classes of the HOT DOCS curriculum (Early Brain Development and Routines and Rituals) being combined. Hence, some HOT DOCS participants completed the seven-week program, and others completed the six-week program. DOCS K-5 demonstrated more variability in participants' attendance rates than HOT DOCS, but all participants met the minimum attendance criteria for completion (i.e., attending 5 of 7 classes or 4 of 6 classes) of their respective programs. Attendance rates in both programs were relatively high, whereas past HOT DOCS research has shown variable attendance rates.

Gender. The majority of caregivers who participated in this study identified themselves as female. This gender representation is relatively consistent with gender representations from other studies conducted in regards to HOT DOCS and other BPTs. As shown in past research, mothers tend to seek out and attend BPT classes more often than fathers, and fathers have been shown to perceive BPTs as catered more so toward mothers (Ogg et al., 2014). Thus, although the study sample does not contain significant levels of diversity regarding gender, it does appear to be representative of typical BPT class populations.

Race and ethnicity. The vast majority of caregivers who participated in this study identified themselves as Caucasian/white. This is consistent with past HOT DOCS research demonstrating that the majority of caregivers who participate are white. Moreover, studies show that white caregivers tend to seek out BPT opportunities more often than caregivers who identify as other non-white races (Baker et al., 2011). Thus, while the study sample does not contain significant levels of diversity regarding race, it does appear to be representative of typical BPT class populations, similar to gender. There was some variability in ethnicity, with the majority of caregivers identifying themselves as non-Hispanic/Latino.

Household income and education. The majority of caregivers in this study reported their household income to be at or above $50,000 a year. This is consistent with prior studies showing that caregivers from higher socioeconomic backgrounds tend to seek out and attend BPTs more often than caregivers from lower socioeconomic backgrounds (Baker et al., 2011). Regarding caregivers' highest level of education, the vast majority of caregivers who participated in this study possessed a Bachelor's or advanced degree. This also is consistent with participants' demographic characteristics in past HOT DOCS research, although previous studies

have typically included larger groups of individuals who have completed some form of technical school or training (Salinas et al., 2011, Williams, 2007).

Number of children and previous BPT experience. The majority of caregivers had two children in their household. This number affected their responses on the time of day during which the course was offered, as discussed later on in this chapter. Studies have shown that having multiple children can potentially add further stress in managing behaviors, particularly if the children display some sort of behavioral or developmental disorder (Stahmer et al., 2017). This could explain why there was a larger number of caregivers with two or more children than caregivers with one child in this study. Finally, the vast majority of caregivers had not participated in a BPT prior to enrolling in their respective HOT DOCS or DOCS K-5 course. This lack of previous experience should be noted, as it may have an impact on caregivers' responses, since they do not have other BPTs to compare the DOCS programs to.

Interpretation of Results

Research question 1. To what extent do mean differences exist across caregiver perceptions of facilitators to treatment engagement in HOT DOCS/DOCS K-5?

Results indicate that over half of the caregivers who participated in this study appeared to find the course location, class length, time of day, course duration, and access to transportation facilitators to attending HOT DOCS and DOCS K-5 classes. Moreover, the majority of caregivers rated access to transportation as a "very large facilitator", and transportation had the highest overall mean across all other factors. Based on these overly positive ratings, it appears that caregivers had adequate access to transportation to their DOCS classes. This could be due to the fact that the majority of participants in this study were from a higher socio-economic background and thus had more access to resources like transportation. Regardless, this study

shows that the availability of transportation has the potential to be an important facilitator in determining caregiver attendance. These findings are consistent with past research, which has indicated that transportation can be a common factor affecting caregivers' attendance of BPTs (Chacko et al., 2016). BPTs should take this factor into consideration when deciding on locations for their classes, as well as what types of transportation are available near that location.

Time of day was seen to be a "somewhat significant facilitator" overall based on frequencies of responses. Similar to the findings in this study, past research has shown that caregivers are more likely to attend a BPT if the time of day during which it occurs fits within work and home schedules (Baker et al., 2011). Many caregivers appeared to prefer evening class times, such as the 6-8pm time slot offered by the DOCS programs. This could be due to the fact that this time slot occurs outside of most individuals' work schedules. Anecdotally, several caregivers in this study expressed that they came to class directly from their workplace. If the classes were offered during the day, caregivers would potentially need to take time off of work to attend the BPT. Caregivers' number of children also appeared to have an impact on preferences for time of day, as is discussed later on in this section.

Class length was shown to be somewhat neutral overall in regards to caregivers' preferences. The majority of caregivers rated class length as "a slight barrier" or "a slight facilitator", indicating that class length potentially did not have a very strong impact on whether or not caregivers attended classes. This could be due to the fact that classes were only two hours long, as opposed to longer time periods. Caregivers in past studies have indicated that sessions lasting one or two hours are often a sufficient amount of time to learn new information while not significantly interfering with the family's schedule (Baker et al., 2011; Strauss et al., 2012). It

appears that even if the class length was seen as a barrier by the caregivers in this study, it did not deter their attendance in the DOCS courses.

Course location was generally seen as a facilitator by the majority of caregivers. This could be due to the course locations largely being in metropolitan areas that have easy access to transportation, sufficient parking space, and are close to major interstate roads. Those who did appear to find the location to be a barrier indicated that the distance of the location from the caregiver's home or workplace made attending classes more difficult. This finding is consistent with past literature, which has shown that caregivers' preferences of course location can depend on the distance of the course location from their home and/or place of employment (Gaad & Thabet, 2016). As discussed later in this chapter, males appeared to find the course location to be a larger barrier than females, perhaps because their workplace may have been far from the course location. Anecdotally, caregivers whose classes took place in locations with parking garages also expressed satisfaction with easily being able to find parking spaces.

Participants appeared to identify the course duration (i.e., six or seven weeks, depending on the DOCS course) as a facilitator, as well. Because the DOCS courses are relatively short, this may have allowed caregivers to include the time to participate in the curriculum in their schedule. Recently, HOT DOCS was reduced from seven to six classes in order to consolidate information and to make it easier for caregivers to attend all classes in the course's curriculum (e.g., reduced the program from 7 weeks to 6 weeks). This change may have affected caregivers' perceptions regarding course duration, though further research is needed to verify this hypothesis. Course duration appeared to depend on participants' individual work and home schedules, and past research supports the findings in this study regarding the diverse preferences of caregivers on this topic (Gaad & Thabet, 2016). Caregivers' attendance rates also may have

affected their perceptions of the course duration, which will be discussed in more depth later on in this chapter. However, based on analysis of these means, it appears that caregivers perceive the course duration to be a facilitator of attending classes.

Research question 2. To what extent do mean differences exist across caregiver perceptions of barriers to treatment engagement in HOT DOCS/DOCS K-5?

The primary barrier evidently identified by caregivers was the lack of childcare while they participated in their HOT DOCS or DOCS K-5 course. This barrier was identified by greater than half of the participants. This finding is consistent with previous literature, which indicates that caregivers find lack of childcare to be a deterrent in attending BPT courses, particularly due to the added stress of finding other childcare options (Chacko et al., 2016). However, most caregivers who rated childcare availability as a barrier indicated that it was only "a slight barrier", implying that this factor may not have deterred them from participating in their DOCS courses. Perhaps this was because many caregivers in this study may have had more access to childcare options, such as family members or friends. Anecdotally, several caregivers in the DOCS courses mentioned having spouses or relatives watch the children while they participated in classes. Additionally, when caregivers enroll in the DOCS programs, oftentimes days or weeks before the programs begin, they are told that childcare is not available and that they must make the appropriate arrangements. This preliminary provision of information may allow caregivers more time to seek out childcare options prior to the beginning of their DOCS courses.

Research question 3. To what extent do mean differences exist across caregiver demographic variables (e.g., socioeconomic status, race/ethnicity, gender, parent status, number

of children, number of adults, and prior participation in a parent training program) regarding facilitators to treatment engagement in HOT DOCS/DOCS K-5?

Regarding the effects of demographic variables and facilitators, there appeared to be a statistically significant effect of attendance on caregivers' perceptions on the course duration. Caregivers who had attended all classes in their respective HOT DOCS or DOCS K-5 program were shown to be more likely to rate course duration as a facilitator. This could be due to the fact that course duration fit well within their schedule, or because they found the content valuable and manageable within the course timeframe. This finding is consistent with past parent training literature, which demonstrates that attendance is lower in courses with longer durations, and scheduling conflicts in particular can deter caregivers from attending the course (Baker et al., 2011). It appears that the six-week course was not seen as too long by the majority of caregivers in this study, which may make six weeks an appropriate course duration for BPT curricula. However, future research is needed in order to verify this finding across other BPTs.

There also appeared to be a statistically significant effect of number of children on time of day, with 84% of caregivers with one child being more likely to report time of day as a facilitator, as opposed to caregivers with two or more children. The majority of these classes took place at night from 6-8pm, which may explain why caregivers with one child might find it easier to attend classes than caregivers with two or more children. These caregivers may have had additional childcare options for their children, as well. In addition, past research has shown that caregivers with more than one child, and who have at least one child with a disability, can have greater difficulty attending BPT classes due to the added stress of finding childcare for multiple children, especially children with special needs (Baker et al., 2012; Stahmer et al., 2017). These previous findings seem to align with the results in this study regarding caregivers

of multiple children potentially having more difficulty in securing childcare while attending BPT classes.

Finally, there appeared to be a statistically significant effect of gender on course location, with 64% of females being more likely to see the course location as a facilitator, as opposed to 20% of males. The majority of females indicated that the course location's distance from their home or workplace made the location more convenient to attend. Perhaps this finding was due in to the fact that female caregivers worked in locations that were closer to the course location, or perhaps their homes were in closer proximity to the course location. There is also the possibility that some female caregivers were stay-at-home parents and were potentially driven to classes by their partners once their partners finished work.

Research question 4. To what extent do mean caregiver differences exist across demographic variables (e.g., socioeconomic status, race/ethnicity, gender, parent status, number of children, number of adults, and prior participation in a parent training program) regarding barriers to treatment engagement in HOT DOCS/DOCS K-5?

As stated above, there appeared to be a statistically significant effect of attendance on course duration. Caregivers who had not attended all classes in their respective HOT DOCS or DOCS K-5 program were more likely to rate course duration as a barrier. This could be due to the fact that the number of weeks in the course may not have fit within their family's schedule, as indicated by their lower rates of attendance. Caregivers who did not attend all of their respective classes indicated that both the number of weeks of the course and the amount of material provided in the course were factors impacting their rating. Additionally, a statistically significant effect appeared to exist regarding number of children on time of day, with an increase in percentages of caregivers rating time of day as a barrier, evidently based on the number of

children in their family. Perhaps these caregivers with two or more children may have had more difficulty securing childcare or ensuring that the class time of day did not interfere with their children's extracurricular activities.

Finally, there appeared to be a statistically significant effect of gender on course location, with 80% of males (n = 8) rating the course location as a barrier, a higher rate than their female counterparts. The majority of males indicated that the distance of the course location from their home or workplace was the primary factor in their rating the course location as a barrier. This finding is consistent with existing literature that has demonstrated that fathers may have more difficulty fitting BPT classes into their work schedules, and some research has shown that fathers may prefer online delivery (e.g., telehealth, online modules, videos, etc.) due to their busy work schedules (Frank et al., 2015; Salinas et al., 2011). In addition, perhaps male caregivers needed to drive home after work to pick up their co-parent and then drive to the course location. It should be noted, however, that there was a much smaller number of male participants than female participants, which may have affected the robustness and variability of this sample. These implications will be discussed in further detail later in this document.

Implications for Practitioners

The results of this study indicate that caregivers may have distinct preferences regarding BPT programs. In particular, it appears that caregivers with higher rates of attendance may seem to provide higher ratings for course logistics, such as location, time of day, duration, and class length. Based on qualitative feedback obtained from caregivers during classes, it appears that the course's fit within families' work and home schedules may be a common barrier in caregiver attrition of BPTs. Practitioners can address this potential concern in a variety of ways. They can provide several different options to caregivers who are unable to attend classes due to schedule

conflicts. For example, practitioners can disseminate course content through online methods if caregivers miss a class, or they can engage in individualized consultation or instruction with caregivers. HOT DOCS and DOCS K-5 is already beginning to provide one-on-one consultation for caregivers and their families, as well as make-up sessions provided through online applications (telehealth) or over the phone. Accommodations such as these can allow for caregivers to access the BPT if their schedule or availability of transportation does not allow them to attend in-person classes.

Another potentially significant implication for practitioners is to consider male caregivers' perspectives when evaluating a BPT. A very small number of caregivers included in this study were male, which is consistent with the overall research base analyzing BPTs. Father participation in BPTs has historically been lower than mother participation, due to fathers feeling that their perspectives are unaddressed, their perspective of familial roles, and other logistic factors, such as the course's fit within work schedules (Frank et al., 2015). In order to increase male caregivers' participation, and thereby perspectives in BPTs, practitioners could conduct additional focus groups with this population, as past HOT DOCS research has attempted to do (Ogg et al., 2014). By analyzing the perceived barriers to attending BPTs, practitioners can then adapt their course curriculum and logistic factors to make BPTs more inclusive to male caregivers.

Finally, the number of children present in the home may potentially affect caregivers' perspectives of facilitators and barriers to attending a BPT program. Practitioners should consider how they can find ways to provide childcare availability for caregivers who are enrolled in their courses, whether that be direct childcare services provided by the BPT coordinators or recommendations for childcare services in the surrounding community. Practitioners also should

consider providing classes to caregivers during times in which the children will most likely be occupied, such as in the evening from 6-8pm. During this time, there is most likely another family member or family friend who may provide childcare services while the caregiver attends classes. HOT DOCS and DOCS K-5 provide evening classes during 6-8pm so that caregivers do not need to miss work and so they can have more options in securing childcare while they attend classes. Utilizing course locations that provide childcare options for caregivers also may encourage more caregivers to attend BPT classes. Finally, caregivers for whom the number of children in their home may impede their attendance of classes can be given additional options for learning class content, such as the individualized online option mentioned above. By giving caregivers numerous resources and options for attending classes, practitioners may encourage higher attendance rates from participants enrolled in their BPTs.

Limitations

There were several limitations to this study. First, the sample size for this study was relatively small with 43 caregivers. The small sample size was due to some caregivers in earlier cohorts not completing the Facilitators and Barriers Questionnaire because of a misconfiguration in Qualtrics, as well as a lack of fidelity in providing the survey in paper format. In addition, due to the onset of the COVID-19 pandemic on February 28th, 2020, gathering further data for this study became more difficult as individuals were encouraged to stay home and avoid large groups. Because of these unprecedented changes, the DOCS team needed adequate time to address whether HOT DOCS and DOCS K-5 classes would be offered in the near future, as well as the modality in which they would be offered. The primary researcher also was concerned with the validity of data that may be collected from participants who were experiencing other stressors related to the COVID pandemic. Finally, the collected demographic data were representative of

the typical HOT DOCS class, which made the primary researcher more confident in proceeding with analyses of data gathered prior to February 28th.

Additionally, it was not possible to analyze parenting status or household structure with a level of statistical significance due to a lack of variability in the obtained data, although the included data were fairly representative of the typical class population for HOT DOCS. Additional variability in race data would have also allowed the primary researcher to analyze differences in other races across responses, rather than combining all non-white races into one category. The lack of variability in race data resulted in less information on how race may have affected participants' perceptions of questionnaire items as facilitators or barriers. In addition, the lack of variability most likely affected the statistical power with which one could analyze race, particularly the relationship between race and other variables. More data analyzing the differences between telehealth and in-person classes would have also been valuable to this study, but these data were limited in quantity. In future studies, as more data are gathered, and as more variability is achieved in the data, these differentiations among demographic variables will have higher statistical power and validity when analyzed.

Finally, there are limitations of the measures used in this study. Because the Facilitators and Barriers Questionnaire was developed for the purposes of this study and is still in its pilot phase, it requires further analysis regarding its validity and reliability. Additionally, this new measure does not address factors specific to telehealth instruction, such as internet connectivity issues or other technical concerns that may arise with telehealth. In the future, the questionnaire could be adapted to include these variables pertaining to telehealth instruction.

Future Directions

Future studies should consider a larger and more diverse sample size. For example, gathering additional data from future HOT DOCS and DOCS K-5 cohorts regarding race, parenting status, and modality of instruction in particular could be examined in further detail in subsequent research analyses. It may also be important to analyze demographics of current BPT participants and determine which racial, ethnic, socioeconomic, and gender groups have been less likely to attend classes. Researchers can use these existing demographic variables to hold focus groups with underrepresented populations and determine what may be barriers to their attendance of BPT classes. One way that future studies can focus on increasing caregiver attendance of BPTs is by analyzing the level of access that caregivers of different backgrounds have to BPT services. Researchers should consider how BPT classes are advertised to caregivers, as the modality in which the classes are advertised can certainly affect the populations that access the BPT services.

Future research also should analyze the comparisons between modalities of instruction. Classes given in-person in group formats, classes give in-person in individual formats, classes delivered through online modules, and classes provided through telehealth in group or individual formats should all be taken into consideration. Online modules may involve caregivers navigating through each class in the BPT independently on the BPT's website, watching videos modeling behavior management skills, and completing assessments (such as quizzes) to ensure understanding of course material. Telehealth instruction may involve BPT providers teaching classes to participants through online meeting applications, such as Microsoft Teams. In particular, BPT outcomes related to telehealth instruction should be given close attention in research, as telehealth options of BPTs will most likely gain popularity during and after the

COVID pandemic. An increased number of caregivers may choose to seek out telehealth BPT services rather than in-person services, which may impact treatment outcomes. However, telehealth is still a developing factor in BPTs, with limited relevant research. It is expected that during the pandemic, there will possibly be an increase in studies addressing telehealth therapeutic services. Future research should analyze caregiver preferences of facilitators and barriers that are unique to attending telehealth classes in BPTs, such as access to a computer or smart device, adequate internet connection, and the class's fit within caregivers' work and home schedules. These preferences may also be affected by caregivers' diverse backgrounds, and analyzing the connections between demographic variables and preferences may prove invaluable in helping practitioners understand how to best serve caregivers through telehealth.

Finally, it is important that future studies continue to examine potential barriers to parents attending BPT programs, as well as how to address these barriers, as increased access to these programs can be beneficial to caregivers and their families. Likewise, future studies should continue to identify, analyze, and utilize existing facilitators in BPTs, as these are critical resources that play a role in encouraging caregivers to attend their BPT classes. By enhancing the facilitators already in place, BPTs can continue to increase and maintain their caregiver participation. Future research should determine who to best promote facilitators and reduce barriers in BPTs, as this balance will be extremely important in maximizing the provision of behavioral management services to caregivers, children, and families.

Conclusions

Based on this study, it is evident that gaining parent input is highly beneficial to the success of a BPT. Practitioners can address the results of this study in numerous ways. They can provide resources and additional instructional options to families who may be affected by lack of

childcare, scheduling conflicts, and distance of their home or workplace from the course location. Online instruction through telehealth services will most likely become far more prevalent in the upcoming months, which can potentially give more families access to BPT services. Practitioners can also increase the diversity in their course populations by analyzing their current demographic data and determining which groups are underrepresented in their courses. It is important that BPT programs problem-solve issues of diversity by seeking out input from individuals of different backgrounds and identifying facilitators and barriers to their attendance of classes. Focus groups could be conducted with individuals from diverse populations such as racial minorities, male caregivers, and individuals from low socio-economic backgrounds to determine ways of creating facilitators to attending BPTs.

Overall, it is critical that practitioners and researchers seek to increase the access to and provision of BPT services to caregivers and their children, as these services have a highly beneficial impact on child behavior, child socio-emotional development, caregiver stress, and parent-child interactions. By continuing to identify, analyze, and problem-solve barriers to attending BPTs, and by continuing to enhance facilitators to attending BPTs, practitioners can serve a larger number of individuals from diverse backgrounds. The best way to begin analyzing these potential barriers and facilitators is to seek ongoing caregiver input, as without input from these individuals, BPTs will continue to underserve families in need. Accessing and responding to caregiver preferences can lead to higher attendance rates and thus higher rates of treatment success in BPTs.

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Appendices

Appendix A

Demographic Questionnaire for HOT DOCS

HOT DOCS Demographic Questionnaire – Parent/Caregiver

ADULT PARTICIPANT INFORMATION SECTION:

Please fill out the following information for the adult who is attending.

Participant Name: _____

(first) (last)

DOB: _____ **Gender:** □ Male □ Female □ Prefer not to answer

Address:_____

(Street) (City) (State) (Zip)

Ethnicity	□ Hispanic or Latino □ Not Hispanic or Latino □ Prefer not to answer	
Race	□ White □ Black or African American □ American Indian or Alaska Native □ Asian	□ Native Hawaiian or other Pacific Islander □ Two or more races □ Prefer not to answer
Household Structure	□ Dual 2 Parent Household □ Dual 2 Other-Relatives/Kinship Care □ Male (Single) Head of Household □ Prefer not to answer □ Female (Single) Head of Household □ Other-Relative/Kinship Care (Single) Head of Household	
Highest level of Education in Household	□ Some or no high school □ Some college □ Advanced Degree □ High school graduate or GED □ Associates Degree □ Prefer not to answer □ Technical certificate □ Bachelor's Degree	
Number in Household	# Adults: _____ # Children: _____	

Primary Language	□ English □ Spanish □ Haitian-Creole □ Prefer not to answer	
Relationship to Child	□ Biological Parent □ Foster Parent □ Adoptive Parent □ Grandparent □ Other:_____	
Marital Status	□ Married □ Separated □ Single □ Widowed □ Divorced	
Current Employment	□ Full-time □ Not employed □ Part-time □ Prefer not to answer	
Yearly household income	□ $0 to 9,999 □ $25,000 to 34,999 □ $50,000 and above □ $10,000 to 24,999 □ $35,000 to 49,999 □ Prefer not to answer	
#1 CHILD INFORMATION SECTION: **Please fill out the following information based on your child. If you have more than one child please complete the additional info for Child #2 below.**		
Child Name: _____ (first) (last) **DOB:**_____ **Gender:** □ Male □Female □ Prefer not to answer		
Child Ethnicity	□ Hispanic or Latino □ Not Hispanic or Latino □ Prefer not to answer	
Child Race	□ White □ Black or African American □ American Indian or Alaska Native □ Asian	□ Native Hawaiian or other Pacific Islander □ Two or more races □ Prefer not to answer
Diagnosis(es): Check all that apply	□ No diagnosis □ Developmental Delay □ Speech/Language Delay □ Intellectual Disability □ Autism spectrum disorder	□ Sensory Processing Problems □ ADHD □ Oppositional defiant Disorder □ Anxiety □ Feeding Difficulties □ Other:_____

Child's Daily Living	□ Not yet in school (circle one): – Home (parent/caregiver/relative) – Daycare (friend/relative) – Daycare (center or home-based)	□ Pre-Kindergarten or Preschool – Free lunch? Yes No □ Kindergarten – Free lunch? Yes No
#2 CHILD INFORMATION SECTION: **Please fill out the following information based on your child.**		
Child Name: _____ (first) (last) **DOB:**_____ **Gender:** □ Male □Female □ Prefer not to answer		
Child Ethnicity	□ Hispanic or Latino □ Not Hispanic or Latino □ Prefer not to answer	
Child Race	□ White □ Black or African American □ American Indian or Alaska Native □ Asian	□ Native Hawaiian or other Pacific Islander □Two or more races □ Prefer not to answer
Diagnosis(es): Check all that apply	□ No diagnosis □ Developmental Delay □ Speech/Language Delay □ Intellectual Disability □ Autism spectrum disorder	□ Sensory Processing Problems □ ADHD □ Oppositional defiant Disorder □ Anxiety □ Feeding Difficulties □ Other:_____
Child's Daily Living	□ Not yet in school (circle one): – Home (parent/caregiver/relative) – Daycare (friend/relative) – Daycare (center or home-based)	□ Pre-Kindergarten or Preschool – Free lunch? Yes No □ Kindergarten – Free lunch? Yes No

Appendix B

Demographic Questionnaire for DOCS K-5

DOCS K-5 Demographic Questionnaire – Parent/Caregiver

ADULT PARTICIPANT INFORMATION SECTION: **Please fill out the following information for the adult who is attending.**		
Participant Name: _____ (first) (last) **DOB:** _____ **Gender:** □ Male □ Female □ Prefer not to answer **Address:** _____ (Street) (City) (State) (Zip)		
Ethnicity	□ Hispanic or Latino □ Not Hispanic or Latino □ Prefer not to answer	
Race	□ White □ Black or African American □ American Indian or Alaska Native □ Asian	□ Native Hawaiian or other Pacific Islander □Two or more races □ Prefer not to answer
Number in Household	# Adults: _____ # Children: _____	
Household Structure	☐ Dual 2 Parent Household ☐ Dual 2 Other-Relatives/Kinship Care ☐ Male (Single) Head of Household ☐ Prefer not to answer ☐ Female (Single) Head of Household	

	☐ Other-Relative/Kinship Care (Single) Head of Household
Highest level of Education in Household	☐ Some or no high school ☐ Some college ☐ Advanced Degree ☐ High school graduate or GED ☐ Associates Degree ☐ Prefer not to answer ☐ Technical certificate ☐ Bachelor's Degree
Primary Language	□ English □ Spanish □ Haitian-Creole □ Prefer not to answer
Relationship to Child	□ Biological Parent □ Foster Parent □ Adoptive Parent □ Grandparent □ Other:
Marital Status	☐ Married ☐ Separated ☐ Single ☐ Widowed ☐ Divorced
Current Employment	☐ Full-time ☐ Not employed ☐ Part-time ☐ Prefer not to answer
Yearly Household Income	☐ $0 to 9,999 ☐ $25,000 to 34,999 ☐ $50,000 and above ☐ $10,000 to 24,999 ☐ $35,000 to 49,999 ☐ Prefer not to answer

#1 CHILD INFORMATION SECTION:

Please fill out the following information based on your child. If you have more than one child please complete the additional info for Child #2 below.

Child Name: _____

(first) (last)

DOB:_____ **Gender:** □ Male □Female □ Prefer not to answer		
Child Ethnicity	□ Hispanic or Latino □ Not Hispanic or Latino □ Prefer not to answer	
Child Race	□ White □ Black or African American □ American Indian or Alaska Native □ Asian	□ Native Hawaiian or other Pacific Islander □Two or more races □ Prefer not to answer
Diagnosis(es): Check all that apply	☐ No diagnosis ☐ Developmental Delay ☐ Speech/Language Delay ☐ Intellectual Disability Autism spectrum disorder	☐ Sensory Processing Problems ☐ ADHD ☐ Oppositional defiant Disorder ☐ Anxiety ☐ Depression Other:_____
Child's Daily Living	Check all that apply: □ Public school □ Private school □ Homeschool □ Virtual school	☐ Public School – Free or reduced lunch? Yes No ☐ Private School – Free or reduced lunch? Yes No

#2 CHILD INFORMATION SECTION:

Please fill out the following information based on your child.

Child Name: _____

(first) (last)

DOB:_____ **Gender:** □ Male □Female □ Prefer not to answer

Child Ethnicity	□ Hispanic or Latino □ Not Hispanic or Latino □ Prefer not to answer	
Child Race	□ White □ Black or African American □ American Indian or Alaska Native □ Asian	□ Native Hawaiian or other Pacific Islander □Two or more races □ Prefer not to answer
Diagnosis(es): Check all that apply	☐ No diagnosis ☐ Developmental Delay ☐ Speech/Language Delay ☐ Intellectual Disability Autism spectrum disorder	☐ Sensory Processing Problems ☐ ADHD ☐ Oppositional defiant Disorder ☐ Anxiety ☐ Depression Other:_____
Child's Daily Living	Check all that apply: □ Public school □ Private school □ Homeschool □ Virtual school	☐ Public School – Free or reduced lunch? Yes No ☐ Private School – Free or reduced lunch? Yes No

Appendix C

Facilitators and Barriers Questionnaire

FACILITATORS AND BARRIERS QUESTIONNAIRE

This survey asks questions about barriers and facilitators to attending classes.

A FACILITATOR makes attending classes easier or more motivating.
A BARRIER makes attending classes more difficult or less motivating.

For the first set of questions, consider how the following variables affected your ability and/or motivation to attend classes.

Regarding your attendance at classes, how much of a barrier/facilitator is the course location?

- ○ A very large barrier
- ○ A somewhat significant barrier
- ○ A slight barrier
- ○ A slight facilitator
- ○ A somewhat significant facilitator
- ○ A very large facilitator

Please select the reason this location is a barrier or facilitator:

- ○ The distance of the location from my home or workplace.
- ○ The availability of parking at the location.

How much of a barrier/facilitator is the class length (2 hours)?

- ○ A very large barrier
- ○ A somewhat significant barrier
- ○ A slight barrier
- ○ A slight facilitator
- ○ A somewhat significant facilitator
- ○ A very large barrier

Please select the reason the class length (2 hours) is a barrier or facilitator:

- ○ The amount of material presented in the class length.
- ○ The class length's fit within my family's schedule.

How much of a barrier or facilitator is the time of day of each class?

- ○ A very large barrier
- ○ A somewhat significant barrier
- ○ A slight barrier
- ○ A slight facilitator
- ○ A somewhat significant facilitator
- ○ A very large facilitator

Please select the reason the time of day is a barrier or facilitator:

- ○ The course takes place during the morning hours.
- ○ The course takes place during the evening hours.

How much of a barrier/facilitator is the course duration (6-7 weeks)?

- ○ A very large barrier
- ○ A somewhat significant barrier
- ○ A slight barrier
- ○ A slight facilitator
- ○ A somewhat significant facilitator
- ○ A very large facilitator

Please select the reason the course duration is a barrier or facilitator:

- ○ The amount of material covered in the entire course.
- ○ The number of weeks (6-7) in the course.

How much of a barrier/facilitator is the availability of transportation to your classes?

- ○ A very large barrier
- ○ A somewhat significant barrier
- ○ A slight barrier
- ○ A slight facilitator
- ○ A somewhat significant facilitator
- ○ A very large facilitator

How much of a barrier/facilitator is the availability of childcare during your classes?

- ○ A very large barrier
- ○ A somewhat significant barrier
- ○ A slight barrier
- ○ A slight facilitator
- ○ A somewhat significant facilitator
- ○ A very large facilitator

Finally, have you participated in or completed a parent training program before HOT DOCS or DOCS K-5?

- ○ Yes, I have completed another parent training program (not HOT DOCS/DOCS K-5).
- ○ Yes, I have participated in but not completed another parent training program (not HOT DOCS/DOCS K-5).
- ○ Yes, I have previously completed HOT DOCS/DOCS K-5.
- ○ Yes, I have previously participated in but not completed HOT DOCS/DOCS K-5.
- ○ No, I have not previously participated in a parent training program.

Appendix D

Code Book for Data Analysis

Demographic Questionnaire	
Categorical Response	**Number Value Assigned**
Gender Identification (Parent)	
Male	1
Female	2
Hispanic or Latino Identification (Parent)	
Hispanic or Latino	1
Not Hispanic or Latino	2
Race/Ethnicity Identification (Parent)	
White	1
Black or African American	2
American Indian or Alaska Native	3
Asian	4
Native Hawaiian or Other Pacific Islander	5
Two or More Races	6
Household Structure	
Dual 2 Parent Household	1
Dual 2 Other-Relatives/Kinship Care	2
Male (Single) Head of Household	3
Female (Single) Head of Household	4
Other-Relative/Kinship Care (Single) Head of Household	5
Highest Level of Education in Household	
Some or no high school	1
High school graduate or GED	2
Technical certificate	3
Some college	4
Associates Degree	5
Bachelor's Degree	6
Advanced Degree	7
Number of Children in Household	
1	1
2	2
3	3
4	4
5	5
6 or higher	6
Yearly Household Income	

$0 to 9,999	1
$10,000 to 24,999	2
$25,000 to 34,999	3
$35,000 to 49,999	4
$50,000 and above	5
Facilitators and Barriers Questionnaire	
Categorical Response	**Number Value Assigned**
Facilitators and Barriers Likert Scale Responses	
A very large barrier	1
A somewhat significant barrier	2
A slight barrier	3
A slight facilitator	4
A somewhat significant facilitator	5
A very large facilitator	6
Facilitators and Barriers Multiple-Choice Responses	
The distance of the location from my home or workplace.	1
The availability of parking at the location.	2
The amount of material presented in the class length.	1
The class length's fit within my family's schedule.	2
The course takes place during the morning hours.	1
The course takes place during the evening hours.	2
The amount of material covered in the entire course.	1
The amount of weeks (6-7) in the course.	2
Previous Experience in Parent Training Programs	
Yes, I have completed another parent training program (not HOT DOCS).	1
Yes, I have participated in *but not completed* another parent training program (not HOT DOCS).	2
Yes, I have completed HOT DOCS.	3
Yes, I have participated in *but not completed* HOT DOCS.	4
No, I have not participated in a parent training program.	5