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The Role of Fathers in Behavioral Parent Training: An Exploration of Parent-Related Factors in Parent and Child Treatment Outcomes

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The Role of Fathers in Behavioral Parent Training: An Exploration of Parent-Related Factors in
Parent and Child Treatment Outcomes

by

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A dissertation submitted in partial fulfillment
of the requirements for the degree of
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We can only be said to be alive in those moments when our hearts are conscious of our treasures. ~Thornton Wilder

This dissertation is dedicated to those who have made my life rich with love, support, learning, and laughter. I truly treasure all of the friends, family, and mentors who have shared in this journey with me. I am forever indebted to my parents for their unwavering love and support, for instilling in me a belief that anything is possible, and for teaching me by their words and deeds how to enjoy the journey. I am so thankful to my husband for being an incredible partner and champion, for all the deeds of support both great and small, and for the life we have built together. I am so grateful to my children for bringing me the deepest joy of my life by making me a mother, for sharing the wonder and magic of seeing the world through a child's eyes, and for giving me a reason to smile every day no matter the circumstances.

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ABSTRACT

Despite a well-documented need for parent training in the treatment and prevention of child behavior problems, as well as the well-documented benefit of including fathers in preventative and treatment interventions, surprisingly little clinical intervention research examines the role of fathers in such trainings. This research examined the role of father involvement in behavioral parent training by examining parent-related characteristics in relation to treatment outcomes for both mothers and fathers, examining differences between mothers and fathers, and examining the additive benefit of including fathers in treatment across two studies. Both studies utilized archival data obtained from a university- and community-based parent training program for families and service providers of children displaying challenging or disruptive behavior offered through a large south eastern university medical center. The first study examined associations and relationships among parenting knowledge, parenting stress, and treatment engagement in 39 fathers and 107 mothers. The second study examined the associations and relationships among child behavior problems, treatment engagement, and therapy attitudes in 43 fathers and 98 mothers. Surprising patterns of effects were found; overall, the pattern of results of both studies across multiple levels indicated that the treatment was effective and that the pre-post changes observed were robust to a number of covariates. These findings indicate that the observed treatment efficacy was not diminished when examining specific groups of participants. It is possible that specific strengths of the program discussed in detail such as the social support and problem-solving opportunities augmented treatment benefit

for subgroups of participants and mitigated the impact of group differences. While differences between mothers and fathers are often portrayed as having dramatic impacts on treatment engagement and efficacy, these group differences may not be as straightforward as is commonly depicted in the literature. Treatments that identify the nature of differential patterns of benefit and address them through treatment design may be able to deliver efficacious treatment generalizable to multiple subgroups of parents. These findings may have important implications for improving treatment engagement and treatment efficacy in the future. Based on the synthesized findings of these two studies, recommendations for treatment development, clinical practice, and future research are discussed.

CHAPTER ONE:

INTRODUCTION

An estimated one in every four to five youth in the United States meet criteria for a mental health disorder with severe impairment and/or distress across their lifetime (Merikangas et al., 2010). However, many have argued that the true extent of mental illness in recent years, particularly for mild to moderate impairment, is unknown (Merikangas, Bromet, & Druss, 2017). The magnitude of this mental health disturbance is especially troubling given its associations with myriad significant negative trajectories, such as academic difficulties, socioemotional difficulties, and recurrent mental health problems in adulthood (O’Leary-Barrett et al., 2013). In particular, externalizing problems in childhood put youth at increased risk for negative experiences with education, juvenile justice, and mental health systems, as well as increased risk for poor educational attainment, low socioeconomic status, and criminal justice involvement in later life (Fabelo, et al., 2011; Okado, 2015). The recognition that common mental health disorders and associated negative outcomes in adults emerge in youth and adolescence has led to increased emphasis on early intervention and prevention strategies (Merikangas et al., 2010; O’Leary-Barrett et al., 2013). Furthermore, recent research has demonstrated that early parental behaviors in response to child externalizing problem behaviors are predictive of symptom trajectories (Olson, Choe, & Smeroff, 2017). In the last fifty years, researchers have identified that parental factors such as parenting behaviors are viable avenues for early intervention and Behavioral Parent Training (BPT) has emerged as a widely supported evidence based treatment

for externalizing problems (Eyeberg, Nelson, & Boggs, 2008; Piquero et al., 2016; Tiano & McNeil, 2005). However, the majority of research examining BPT has been conducted in the context of maternal involvement and the research often marginalizes the other major parenting source: fathers (Niec, Barnett, Gering, Triemstra, & Solomon, 2015). As is discussed in detail below, father involvement and parenting behaviors have important implications for child mental health outcomes. The present study examined changing family contexts, the evolving role of fathers, maternal and paternal involvement in child mental health, especially behavioral parent training, and parent characteristics that impact the efficacy of treatments like behavioral parent training such as parental stress, treatment engagement, and treatment attitudes.

The Changing American Family

A confluence of social and economic influences building over the course of several decades has contributed to a considerable shift in the functioning and formulation of the American Family. Functionally, these changes have translated to new conceptualizations of the traditional gender roles of men and women regarding work and family life and subsequent changes to the way men and women function within the family (McLaughlin & Muldoon, 2014). As women have increasingly entered the workforce and greater numbers of women have become primary bread-winners even in dual-income households, demands for child-rearing resources have risen (Duke, Bergmann, Cunradi, & Ames, 2013; McLaughlin & Muldoon, 2014). Correspondingly, fathers have taken on a greater role in childrearing behaviors and societal expectations regarding their involvement have changed (McLaughlin & Muldoon, 2014; Ranson, 2012). However, the transition has not been seamless. Many male-dominated professions maintain a culture where long work hours are normative and parenting behaviors are disparaged

(Cha, 2013; McLaughlin & Muldoon, 2014; Sarkadi, Kristansson, Oberklaid & Bremberg, 2008). Furthermore, women remain much more likely to adjust work factors to respond to family need than men (Laurijssen & Glorieux, 2013; Pleck & Masciadrelli 2004). These factors have resulted in increased levels of family stress (Duke, Bergmann, Cunradi, & Ames, 2013). While the putative role of the father in the 21st Century is characterized by greater involvement, the research has primarily focused on married, Caucasian families (Mikelson, 2008). It is unclear how these changes generalize to the myriad diverse familial formulations within the United States (Mikelson, 2008).

Regarding family formulation, the number of children born to unmarried parents reached a record number in 2013 with 41% of all births in the U.S. in 2013 classified as non-marital births (Martin, Hamilton, Osterman, Curtin, & Mathews, 2013). A small decline has been observed in recent years however, a significant number of children are born to unmarried parents each year, with 39.8 % of all births in the U.S. in 2016 classified as non-marital births (Martin Hamilton, Osterman Driscoll, & Drake, 2018). Although non-marital births have historically been conceptualized as related to non-residential or uninvolved fathers, data from the Fragile Families Study indicates that over 50% of non-marital births are to cohabitating parents and more than 80% are to romantically involved parents at the time of birth (Carlson & McLanahan, 2010; Payne, Manning, & Brown, 2012). While high rates of cohabitation and paternal involvement at birth are encouraging, they are dramatically diminished by the time a child reaches 5 years of age, with nearly two-thirds of non-marital birth children living apart from their biological fathers by age 5 (Carlson & McLanahan, 2010). This diminished habitation and romantic involvement with mothers has deleterious implications for father involvement as unmarried and non-residential fathers demonstrate lower levels of father involvement than their

married and residential counterparts (Cabrera et al., 2004; Marsiglio, Amato, Day, & Lamb, 2000). These factors also disproportionately impact low-income and minority families (Carlson & McLanahan, 2010). Although, within low-income males, African American fathers are more likely to have contact with their non-residential children than Caucasian or Hispanic fathers (Carlson & McLanahan, 2010). The trajectory of decreased involvement from birth to age five has also been demonstrated to continue throughout the lifespan (Fagan & Palkovitz, 2007). These inversely changing patterns of habitation and involvement may contribute to widened achievement gaps between affluent and low-income minority families as research has routinely demonstrated the beneficial effects of positive father involvement and the detrimental effects of father absence for their offspring (Cabrera & Tamis-LeMonda, 2013).

Father Involvement in Child Development

Father involvement has repeatedly been associated with a wealth of positive cognitive, academic, emotional, behavioral, and social outcomes (Adamsons & Johnson, 2013; Cabrera, & Tamis-LeMonda, 2013; Cabrera et al., 2008; Meuwissen & Carlson, 2015). When fathers are positively involved, children are more likely to demonstrate healthier cognitive development, greater academic success (Caldwell, Antonakos, Assari, Kruger, Loney, & Njai, 2014; Caldwell, Wright, Zimmerman, Walsemann, Williams, & Isichei, 2004), better socioemotional adjustment (Flouri, Midouhas, & Narayanan, 2015; Jia, Kotila, & Schoppe-Sullivan, 2012), higher perceptions of competence (Dubowitz et al., 2001) and stronger psychological well-being than peers with non-involved fathers. When fathers are not involved, children are more likely to demonstrate cognitive, academic, emotional, behavioral, and social problems (Cook, Roggman,

& Boyce, 2011; DeBell, 2008; Jaffee, Caspi, Moffitt, Taylor, & Dickson, 2001; Mandara, Murray, & Joyner, 2005; Pan & Farrell, 2006; Pougnet, Serbin, Stack, & Schwartzman, 2011).

However, recent research has demonstrated that not all father involvement is beneficial. Specifically, when fathers demonstrate antisocial behaviors, engage in substance abuse, or exhibit psychological symptoms, youth are more likely to demonstrate behavioral and emotional problems (Burke, Pardini, & Loeber, 2008; Coley, Carrano, & Lewin-Bizan, 2011; Jaffee, Moffitt, Caspi, & Taylor, 2003, Kopp & Beauchaine, 2007). These fathers may confer more than just a genetic risk for psychopathology but may also contribute to the development of psychopathology in their offspring via maladaptive behaviors. For example, in a study examining parent psychopathology and hostile parenting, researchers found in both genetically-related and genetically-unrelated fathers and children, paternal antisocial behavior influenced child antisocial behavior through father-to-child hostility (Harold, Elam, Lewis, Rice & Thapar, 2012). Taken together, this cache of research indicates that positive father involvement can be protective against psychopathology and maladaptive outcomes, while either the absence of father involvement or the presence of negative father involvement can contribute to the development of psychopathology and maladaptive outcomes for children.

Engagement of Fathers in the Treatment of Psychopathology

As demonstrated above, the associations between father involvement and the development of child psychopathology are well established. However, the role of fathers in the maintenance or treatment of psychopathology is less understood. When it comes to the role of fathers in treatment, there is a dearth of literature examining the treatment seeking behaviors of fathers. Generally, men are less likely to utilize mental health care for themselves than are

women (Cusack, Deane, Wilson, & Ciarrochi, 2004; Vogel, Wester, Hammer, & Downing-Matibag, 2014). Men are also less likely to receive support from other men in their social groups and families to seek mental health services (Vogel, Wade, Wester, Larson, & Hackler, 2007; Wester, Christanson, Vogel, & Wei, 2012). Furthermore, one study on the influence of gender role conflict and stigma reported that men who endorsed greater restricted emotionality more similar to stereotypical gender roles were less willing to refer friends and family members experiencing a mental health concern to seek treatment (Vogel et al., 2014). This finding indicates that men, especially those who align with stereotypical gender roles, may be less likely to seek treatment for their children.

Once children are in treatment, fathers are less likely to be as involved as mothers. There are several proposed mechanisms such as previous father-child relations contributing to presenting problems of the population, treatment modality, treatment setting, therapist characteristics and the gender associations with help seeking behavior discussed above. Just as children with psychopathology are less likely to live with both their mother and father, children in treatment for psychopathology are also less likely to live with their father (Phares, Rojas, Thurston, & Hankinson, 2010). This indicates that pre-treatment levels of father involvement associated with the presenting problems may also have implications for the treatment involvement of fathers. The treatment modality may also play a role in the level of father involvement, approaches such as family therapy and behavioral parent training (BPT) inherently involve parents, whereas many cognitive behavioral treatments focus on the child or adolescent without parental involvement in treatment (Brown et al., 2008; Phares et al., 2010). Treatment setting can also impact the role of father involvement. Schools or specialized clinics delivering services may only serve children during times that are incompatible with parent employment

obligations whereas private practice settings are more likely to have flexible scheduling practices and are more likely to involve fathers (Phares et al., 2010). Additionally, fathers are more likely to remain engaged in treatment when treatment settings are welcoming of both men and women. If clinic settings are decorated with traditionally feminine colors or patterns and materials such as magazines that only represent women, men are likely to view participation in the therapeutic setting as inconsistent with their gender role (Phares et al., 2010).

Several therapist-related factors may influence paternal engagement in treatment. Therapist biases associated with difficulty recruiting and maintaining fathers in treatment may lead them to be less inclusive or more readily accepting of fathers' excuses for not participating in treatment (Duhig, Phares, & Birkeland, 2002; Hecker, 1991; Walters, Tasker, & Bichard, 2001). Therapist beliefs about gender roles may also impact their treatment engagement efforts. If therapists ascribe to stereotypical gender roles where mothers are the primary caretakers, they may be more likely to accept excuses for nonparticipation in treatment related to a bread-winning role or be less likely to encourage fathers' participation in treatment (Phares et al., 2010). Similarly, these therapists may disproportionately consult and interact with mothers as leading caretakers and inadvertently alienate fathers (Phares et al., 2010; Prentice & Carranza, 2002). Furthermore, therapists who lack experience with training models that emphasize the role of both parents in treatment are less likely to engage fathers in treatment (Duhig et al., 2002; Phares et al., 2010).

Taken together this research indicates that fathers may play an important role in the engagement and success of children in treatments for emotional and behavior problems. More research is required to understand the role fathers may play in specific treatment modalities.

Father Involvement in BPT

As discussed above, father involvement and parenting behaviors have important implications for child mental health outcomes. When parents demonstrate consistency, self-confidence, and appropriate displays of emotion, child outcomes improve whereas when parents utilize punitive and inconsistent discipline strategies, negative child outcomes emerge (Fabiano, 2007). This strong association between parenting behaviors and child outcomes has resulted in the development of treatments that target parenting skills, such as BPT (Fabiano, 2007).

In the last fifty years, BPT has emerged as a widely supported evidence based treatment for externalizing problems (Eyeberg, Nelson, & Boggs, 2008; Tiano & McNeil, 2005). However, the majority of research examining BPT has been conducted in the context of maternal involvement and the research often marginalizes father involvement (Niec, Barnett, Gering, Triemstra, & Solomon, 2015). Evidencing the marginalization of fathers in clinical trials of BPT, several literature reviews have demonstrated that, of the families included in BPT treatment research, only 13-20% of families had fathers represented (Budd & O'Brien, 1982; Coplin & Houts, 1991; Fabiano, 2007; Fletcher, Freeman, & Matthey, 2011; Niec et al., 2015; Tiano & McNeil, 2005). Furthermore, only 45-50% of research on BPT reports any statistics related to fathers (Budd & O'Brien, 1982; Coplin & Houts, 1991; Fabiano, 2007; Fletcher et al., 2011; Niec et al., 2015; Tiano & McNeil, 2005). The majority of research on BPT has instead been conducted with Caucasian mothers, limiting the generalizability of findings to fathers and diverse populations (Tiano & McNeil, 2005).

There are, however, research studies on BPT that have included fathers (Phares et al., 2010). One of the earliest studies on fathers in BPT was conducted by Webster-Stratton (1985) who examined child outcome differences between father-involved or father-absent treatment

groups. Webster-Stratton's research demonstrated that father involvement in BPT resulted in greater improvements in child behavioral changes post-treatment and at 1-year follow-up and the father-absent group demonstrated fewer gains (Webster-Stratton, 1985). However, one noted limitation of this early research was that it was difficult to parse out the effects of father involvement in treatment and father involvement on co-parenting and socioeconomic factors (Webster-Stratton, 1985).

The clear connection between maladaptive father-child interactions and behavioral problems in youth combined with the early evidence demonstrated by Webster-Stratton that father involvement may compound the efficacy of BPT, highlighted father involvement in BPT as an exciting target for intervention. Bagner and Eyberg (2003) later built upon Webster-Stratton's work and incorporated differentiation between fathers uninvolved in treatment but present in the home and fathers absent from both treatment and the home to isolate effects related to co-parenting and socioeconomic factors from treatment effects (Bagner & Eyberg, 2003). Results from this research found that involving fathers in treatment did not improve outcomes immediately post-treatment and that mothers from father-absent families actually rated greater gains than mothers from father-involved families (Bagner & Eyberg, 2003). However, at 4 months post treatment, mothers from the father-absent group demonstrated a decline in treatment gains while mothers from the father-involved groups maintained treatment gains, indicating that involving fathers in BPT may be critical for maintaining treatment gains (Bagner & Eyberg, 2003).

The associations between paternal involvement in BPT and child outcomes have also been examined via meta-analytic investigations. In a meta-analysis conducted by Lundahl et al. (2008) examining over 25 studies involving fathers in BPT, results indicated that groups

including fathers demonstrated stronger effects on both child and parent behavioral outcomes. However, father involvement did not demonstrate strong associations with child outcomes in long-term follow-up (Lundahl et al., 2008). This finding is contrary to the results observed by Bagner and Eyberg and future research is needed to identify factors that contribute to the presence or absence of short-term and long-term gains associated with father involvement in BPT. It is possible that paternal treatment engagement or efforts to influence treatment attitudes associated with each treatment may have impacted the differential patterns of treatment gains associated with paternal involvement.

The meta-analysis conducted by Lundahl and colleagues also examined whether or not mothers and fathers benefit equally from BPT programs. The pattern of findings observed in this review indicated that fathers demonstrated fewer gains than mothers regarding parenting behavior, perceptions of parenting, and perceptions of the likelihood of future child gains (Lundahl et al., 2008). Similar patterns were observed in a meta-analysis of the impact of the Triple P-Positive Parenting Program on fathers' parenting which is a treatment similar to BPT (Fletcher, Freeman, & Matthey, 2011). This review found that the effect of positive parenting practices was smaller for fathers than mothers (Fletcher et al., 2011).

Taken together, the present body of literature examining father involvement in BPT is mixed. There is encouraging evidence to support that father involvement can be beneficial for children, mothers, and fathers. However, factors contributing to the inconsistencies observed in the literature related to treatment trajectories and magnitude of benefit must be examined more closely. It is possible that there are boundary conditions related to paternal characteristics such as education level and psychopathology that impact the generalizability of these programs and pattern of findings observed. Furthermore, as the majority of BPT programs are designed and

validated with primarily maternal populations, the degree to which fathers were involved in the development and validation of these programs may also be driving the inconsistent patterns of benefits (Fletcher et al., 2011; Lundahl et al., 2008; Phares et al., 2010).

More recently, research has begun to examine the paternal factors that influence outcomes when fathers are engaged in BPT. For instance, van den Hoofdakker et al. (2014) demonstrated that paternal ADHD symptoms and parenting self-efficacy moderated behavioral problem outcomes after treatment. Such research is important for identifying the contexts in which father involvement in behavioral parent training may be most successful.

Moving Toward Models that Maximize Benefits of Father Involvement

Overall, research supports the inclusion of fathers in treatments for child behavior problems such as BPT. The inclusion of fathers is most beneficial when they have adequate support to manage stress, emotional problems, behavioral symptoms, and maladaptive parenting behaviors (Burke, Pardini, & Loeber, 2008; Coley, Carrano, & Lewin-Bizan, 2011; Jaffee, Moffitt, Caspi, & Taylor, 2003; Kopp & Beauchaine, 2007). However, even when the research on BPT has included fathers, it often fails to examine differences between mothers and fathers or the impact of including fathers in treatment (Niec et al., 2015). Furthermore, many studies fail to even administer outcome measures to fathers and rely instead on maternal reports (Niec et al., 2015). Concerted efforts must be made to more actively engage fathers in treatment research.

When paternal involvement is examined in clinical intervention research, these observations are generally limited to whether the presence or absence of fathers contributes to treatment gains. To date, little research has been conducted to examine important factors such as process variables that would help maximize the benefit of father involvement in therapies for

child-behavior problems such as BPT. Father-related and treatment-related factors must be examined to more fully understand their role in improving BPT child treatment outcomes. Examining factors such as homework involvement, perceived stress, and attitudes towards therapy may be important avenues for improving father engagement and outcomes in BPT interventions. Furthermore, this research must be extended to more diverse populations such as minority populations, to better serve all children and families. More inclusive treatment research that incorporates diverse populations and fathers, seeking to expand our understanding of father and treatment related factors may help us to develop and deliver more effective interventions.

Parent Related Factors Influencing the Impact of Father Involvement

As demonstrated above, a great deal of research has demonstrated the positive effects of parental engagement in child and family mental health treatment (Haine-Schlagel & Walsh, 2015). As research in this area has progressed, focus has shifted toward the parent-related factors that are connected to treatment outcomes in child-oriented therapy. Research examining parent related factors such as homework compliance, perceived parental stress, and parents' attitudes toward therapy has primarily examined their role within the context of maternal research and less is known about these factors in relation to fathers or how mothers and fathers differ. Each of these factors are important to consider in research on therapy targeting child behavior, as they have been demonstrated to have important implications for treatment initiation, engagement, and long-term maintenance. The next section examines the associations of perceived parental stress, homework compliance, and parents' attitudes toward therapy with treatment outcomes in therapy as well as discuss what is known regarding the role of these factors in relation to fathers.

Parental Stress and Child Psychopathology

An important parental factor that has been associated with child symptoms, treatment initiation, treatment engagement, and treatment outcomes is parental stress (Beernink, Swinkels, Van der Gaag, & Buitelaar, 2012; Kazdin & Whitley, 2003; Östberg & Hagekull, 2013). Behavioral problems and psychopathology in children are associated with parent perceptions of stress and adjustment for mothers and fathers (Beernink, Swinkels, Van der Gaag, & Buitelaar, 2012; Creasey & Reese, 1996; Östberg & Hagekull, 2013). Additionally, correlational research has established associations between parent reports of stress and both internalizing and externalizing problem behaviors in children (Creasey & Jarvis, 1994; Östberg & Hagekull, 2013; Rodriguez, 2011). Research has also demonstrated that child behavior problems contribute significantly to parental stress (Beernink et al., 2012). Furthermore, experimental research has also demonstrated that parents are more likely to demonstrate maladaptive behavior after exposure to children demonstrating behavioral problems (Lang, Pelham, Johnston, & Gelerner, 1989; Pelham et al. 1997). This foundational research indicates that parent stress and child symptomatology may be interrelated.

Indeed, recent research indicates that parenting stress and childhood externalizing problems co-develop (Stone, Mares, Otten, Engels, & Janssens, 2015). Parental stress ratings have also been demonstrated to predict child and parent depressive symptoms in families of children with oppositional defiant disorder (Lin et al., 2017). The interrelatedness of child symptoms and parental stress may have important implications for the development and delivery of treatments for child behavior problems. Treatments and early interventions that include parental coping skills to reduce distress may translate to improved treatment engagement and outcomes. However, these findings of the interrelatedness of child symptoms and parental stress

were found in mothers and have limited generalizability to fathers (Stone, 2015). Future research must examine the interrelatedness of child symptoms and parental stress in fathers.

Parental stress is also an important consideration in the development and delivery of clinical interventions given that parental stress may impact engagement in treatments such as BPT. Parent reports of life stressors have been identified as a significant barrier to treatment initiation and engagement in BPT (Webster–Stratton & Hammond, 1990; Kazdin & Whitley, 2003). Furthermore, efforts to directly address parental stress to improve treatment engagement have been associated with both improved levels of engagement and child outcomes (Chacko, Wymbs, Chimiklis, Wymbs, & Pelham, 2012; Kazdin & Whitley, 2003). Research has also demonstrated that parents are more likely to have increased confidence and ratings of parent efficacy, as well as reductions in stress, when they are taught behavior management strategies (Pisterman et al., 1992). However, none of these studies examined these effects in the paternal context nor how these connections may differ for mothers and fathers. Future research should seek to elucidate the role of parental stress in child treatment outcomes for fathers. Future research should also seek to determine the synergistic effects of child symptom improvement and parental stress as symptom reduction may reduce parental stress, permitting enhanced treatment engagement and the potential for greater treatment gains as well as maintenance.

Perceived Stress and Fathers

The interrelatedness of parental stress and child symptoms may be particularly salient for fathers given that parenting stress for fathers has increased in recent years. Fatherhood research has demonstrated that the changing role of fathers in the United States has been characterized by fathers taking on a greater role in childrearing behaviors and has shown that there are shifting

societal expectations regarding paternal involvement (McLaughlin & Muldoon, 2014; Ranson, 2012). However, many employment contexts and expectations have remained unchanged, resulting in dual-role conflict wherein fathers feel pressured to be a strong financial provider and to be an involved father (Williams, 2010). In a study examining work-family conflict, work-related stress, and dissatisfaction with child behavior for fathers who are firefighters, work-related stress was significantly associated with dissatisfaction with child behavior (Shreffler, Meadows, & Davis, 2011). This research highlights the unique paternal relationship between parent-related factors such as stress and child-outcomes.

This increase in role-conflict may disproportionately impact low-income and non-resident fathers as employment opportunities for these fathers rarely provide family-friendly arrangements such as flexible job schedules (Williams, 2010). There is a well-established literature documenting high levels of stress in low-income and non-residential fathers (Nomaguchi, & Johnson, 2014). Indeed, research on low-income fathers has demonstrated that these men report considerable levels of stress associated with their parenting role resulting from their difficulties with providing adequate financial support for children and difficulty in negotiating accommodations for caregiving responsibility in the workplace (Fox, 2009; Williams, 2010). Despite this increase in both general stress and parenting stress specific to fathers, very little research has examined this parental factor in relation to child outcomes in treatment.

In a study examining parenting stress and child behavior problems involving both mothers and fathers for a non-referred, community sample of second, third, and fourth graders, Creasey and Reese (1996) found that child behavior problems and non-parenting stress were both associated with parenting stress. Child total behavior problems evaluated via the Child

Behavior Checklist and Teacher Report Form appeared especially salient as, in a majority of multivariate analyses, child behavior problems played a much stronger, predictive role than general stress (Creasey & Reese, 1996). Furthermore, teacher reports of child behavior problems were positively correlated with both maternal and paternal parenting hassles, indicating that parenting stress was associated with stress pertaining to realistic perceptions of child behavior problems (Creasey & Reese, 1996). This research was strengthened by the inclusion of teacher reports to separate the effects of parental stress and reports of child behavior.

One study that included both mothers and fathers examining the associations of work and family issues with internalizing and externalizing problems found that mothers' and fathers' parenting stress and mothers' work-family conflict predicted children's internalizing behavior (Hart & Kelley, 2006). This study also found that mothers' work-family conflict, mothers' and fathers' parenting stress, the number of hours fathers' worked, and mothers' beliefs about father involvement predict externalizing symptoms in children (Hart & Kelley, 2006). In an examination of the experience of both mothers and fathers with disruptive preschoolers, researchers found that mothers reported more severe disruptive behavior and higher parenting stress than fathers (Calzada, Eyberg, Rich, & Querido, 2004). This research also noted that mothers showed more responsiveness than fathers during parent-child interactions, even though children were more compliant during interactions with fathers (Calzada et al., 2004). Furthermore, fathers' parent-related stress was predictive of both mothers' and father's reports of disruptive child behavior (Calzada et al., 2004). Although the research in this area is limited, it indicates that paternal stress plays an important role in child psychopathology and assessment, highlighting the importance of including fathers in treatment research (Calzada et al., 2004). This

research also indicates that differences in the experiences of mothers and fathers of disruptive children may be an important research area and treatment target.

Despite the clear need for involving fathers in treatment research examining the role of parental stress in therapies for children, little to none exists. One study examining family involvement in treatment for children with disruptive behavior disorders found that parents reporting stress may experience negative beliefs about their role and efficacy to support their child's education, which may thereby negatively influence their involvement (Semke, Garbacz, Kwon, Sheridan, & Woods, 2010). Although fathers were included in this study, the majority of participants (89%) were mothers. Future research should involve fathers in the examination of the role of parenting stress and motivational beliefs as well as implications for treatment engagement and outcomes. Furthermore, parenting efficacy and parental stress may change as a result of participation in BPT as skills to manage disruptive child behaviors are acquired. Future research should examine the relationships among these treatment factors. Such research may better inform our knowledge of how stress impacts treatment initiation, engagement and maintenance.

Homework Compliance

Another important parent-related factor that impacts treatment gains is parental engagement in homework. Research on psychological treatment processes has demonstrated that homework can enhance treatment outcomes by reinforcing skills and accelerating the rate of skill acquisition (Kazantzis, Deane, & Ronan, 2000; Kazantzis, Whittington, & Dattilio, 2010; Mausbach, Moore, Roesch, Cardenas, & Patterson, 2010). The benefits of homework also appear to apply to therapy for both children and parents, however, rates of completion are low (Haine-

Schlagel & Walsh, 2015). A recent review of parent participation in child and family mental health treatment research reported that the average homework completion rate was 49%, with a range from 19 % to 89 % (Haine-Schlagel & Walsh, 2015). This review also found that homework compliance was significantly related to greater improvement in target outcomes (Haine-Schlagel & Walsh, 2015). As is common in this field, the majority of research is conducted with mothers or mixed samples where fathers are underrepresented.

This research indicates that the success of very effective treatments, such as BPT is attenuated by poor treatment adherence. For instance, more than half of families enrolled in BPT programs never attend treatment or terminate prematurely (Barkley et al., 2000; Fabiano et al., 2009; Helfenbaum-Kun & Oritz, 2007). Even when parents do regularly attend BPT treatment sessions, they frequently fail to complete homework assignments (Fabiano et al., 2009). This is problematic as completion of homework assignments has been consistently demonstrated to have significant associations with treatment outcomes (Ros, Hernandez, Graziano, & Bagner, 2016). Even the earliest research on BPT demonstrated that parent compliance with homework assignments was strongly associated with the maintenance of newly acquired parenting skills at follow-up (Clark & Baker, 1983).

Homework compliance continues to maintain associations with positive treatment outcomes in recent BPT clinical trials (Högström, Enebrink, Melin, & Ghaderi, 2014). Furthermore, homework completion has been demonstrated to not only benefit children, but parents may benefit as well. Research examining BPT for children with developmental delay demonstrated that higher rates of parental homework completion predicted parenting outcomes such as increased positive parenting skills and decreased levels of parenting stress, as well as child outcomes such as lower levels of externalizing behavior problems (Ros et al., 2016). While

the existing research on parent homework adherence indicates that it plays an important role in therapies such as BPT, the majority of this research has been conducted with mothers. Little is known about how homework adherence functions in a paternal context.

Homework Compliance and Fathers

Very little research has been conducted on treatment process factors including fathers. A recent study examining homework adherence in PCIT reported significant differences between mother and father homework completion with mothers completing homework at higher rates in both the child directed and parent directed phases of treatment (Danko, Brown, Van Schoick, & Budd, 2016). Another recent study examined the role of homework adherence of parents and children undergoing CBT treatment for anxiety and found no association between parent homework adherence and child outcome (Arendt, Thastum, & Hougaard, 2015). However, ratings were joint between mothers and fathers and only the quantity, not the quality, was observed (Arendt et al., 2015). One study examining BPT for fathers of children with ADHD reported that the COACHES program, specifically designed for fathers, demonstrated increases in attendance and homework compliance for fathers compared to standard BPT (Fabiano et al., 2009). The COACHES program used several strategies to engage fathers in treatment. The program utilized existing evidence-based BPT content from the Community Education Program (COPE; Cunningham, Bremner, & Secord, 1998) but framed and communicated goals as a “coaching children” program rather than a “parent training” program (Fabiano et al., 2009). The program also incorporated recreational sports activities to increase the acceptability to fathers (Fabiano et al., 2009). The first hour of sessions was for parent training and a “coping-modeling-problem-solving” approach to teach fathers to identify problems most meaningful to them as

well as to work with the group to identify the role of their behavior in the problem and devise solutions (Fabiano et al., 2009). Fathers also watched tapes to think critically about how parenting behaviors contributed to problem child behaviors. The second hour of sessions was spent playing soccer with children while fathers practiced positive parenting skills while clinicians coached fathers on these skills (Fabiano et al., 2009). Ultimately fathers in the COACHES program rated children as more improved regarding behavior problems, rated greater consumer satisfaction, and were significantly more engaged than fathers who participated in the standard BPT group as evaluated by attendance and punctuality (Fabiano et al., 2009). Although this study demonstrated increases in attendance and homework compliance for fathers, it did not examine the degree to which this increased homework compliance impacted treatment outcomes. The findings from this study indicate that when fathers are considered in the development of BPT they are more likely to engage in treatment and be active participants. Future research should consider fathers in the development of treatments when evaluating their engagement in treatment and the benefits of their involvement. Taken together, the extremely sparse literature examining the effects of paternal homework adherence in therapies such as BPT is inconclusive. Further father research is required to elucidate the impact of paternal engagement and homework adherence on child treatment outcomes.

Attitudes Toward Treatment

Another important parental factor that has been associated with treatment initiation, engagement, and outcomes is attitudes toward treatment. Parental attitudes can impact treatment seeking behavior as well as their evaluations and reports of child behavior (Chavira, Lopez, Blacher, & Shapiiro, 2000; Livingston, 1999). Parent attitudes can even impact their level of

engagement in treatment (Kerwin, Giorgio, Steinman, & Rosenwasser, 2014). Treatment can also impact parental attitudes. For instance, parents report improved parenting skills and attitudes following engagement in behavioral parent training (Galanter et al., 2012; Pisterman, et al., 1992). However, many of these studies lack long-term follow-up evaluations. Although research has demonstrated a relationship between parent attitudes toward treatment and both parent and child outcomes, as well as the subsequent impact on treatment initiation and treatment engagement, researchers have failed to examine how these attitudes impact long-term maintenance of treatment gains.

Taken together, research on therapies for maladaptive child behavior has demonstrated that parental attitudes can play an important role in treatment initiation and treatment engagement behaviors of parents. However, the majority of research conducted on parental attitudes has neglected to incorporate fathers, and therefore limits our understanding of how attitudes toward treatment impact families more broadly. It is important to consider the role of fathers to identify methodologies that may maximize treatment opportunities and gains for treatments.

Fathers and Attitudes Toward Treatment

Regardless of their parental status, men are generally less likely than women to seek mental health services for themselves as a function of negative attitudes toward help seeking behaviors (Cusack, Deane, Wilson, & Ciarrochi, 2004; Vogel, Wester, Hammer, & Downing-Matibag, 2014). Attitudes related to mental health stigma may also present a problem for encouraging mental health treatment for their children. Men who align with stereotypical gender roles in particular are less likely to seek treatment for their children (Logan & King, 2001; Vogel

et al., 2014). These negative attitudes toward treatment may also have a negative influence on their willingness to participate in their child's treatment. Research has demonstrated that fathers' attitudes predict both treatment initiation and treatment engagement (Walters et al., 2001).

Early research on family therapy demonstrated that fathers' view of the therapist was an important predictor of treatment success (Carr, 1991). Little research examining this important treatment process variable has been examined since. One research study that did conduct an examination of paternal attitudes and their association with treatment demonstrated that fathers who reported a high quality relationship with their own father during childhood, adolescence, and adulthood, are more likely to attend child treatment sessions (Carlson & McLanahan, 2010). The authors also reported this relationship between fathers and their fathers was more important than other treatment attitudes (Walters et al., 2001).

One study on parental attitudes toward their child's therapist and therapy reported that fathers rate their feelings toward their child's therapist less positively than do mothers (Nevas & Farber (2001). However, although this research included both mothers and fathers, differences between mothers and fathers were not reported consistently.

Paternal attitudes following treatment may also be important. However, currently, men are less likely than women to report benefit from treatment (Lundahl et al., 2008). When treatments are developed with fathers, then fathers are more likely to report beneficial and positive attitudes toward treatment (Fabiano et al., 2009). If fathers experience positive inclusive treatment they may be more likely to encourage other fathers to seek services and engage in treatment with their families. This may have important implications as research demonstrates that men are more likely to seek and engage in mental health services if attitudes of men in their social network are supportive (Vogel, Wade, Wester, Larson, & Hackler, 2007; Wester et al.

2007). If fathers report treatment satisfaction, it may also have important implications for long-term maintenance of treatment gains. Future research should seek to examine the role of both maternal and paternal attitudes toward therapy in the maintenance of treatment gains.

Although the literature on fathers in clinical interventions is sparse, findings do indicate that paternal attitudes may play an important role in treatment outcomes for children and families. Future research should examine paternal attitudes and their role in treatment outcomes of child-oriented therapies such as behavioral parent training.

The Current Research

Despite a well-documented benefit of including fathers in preventative and treatment interventions, surprisingly little research on clinical interventions examines the role of fathers. One major issue with such minimal research on fathers in treatment is the lack of diverse populations. It is unclear how father-related factors and treatment-related factors may operate within diverse minority populations. Researchers should aim to be more inclusive of these populations to better serve children and families.

Furthermore, when paternal involvement *is* examined in clinical intervention research, these observations are generally limited to whether the presence or absence of fathers contributes to treatment gains. This methodology has ultimately led to mixed findings related to the trajectories of child benefit in the presence of paternal involvement, as father-related factors and treatment-related factors are rarely considered. Going beyond simple correlational outcome conceptualizations of father involvement and expanding research to examine father-related factors and treatment-related factors is essential for understanding and maximizing the involvement of fathers in therapy for children's maladaptive behavior.

There exists a great need to examine the way parent-related factors such as homework compliance, parental stress, and parental attitudes toward therapy are associated with outcomes for children and families. Furthermore, research is needed to examine the way these variables interact. Father research is required to elucidate the associations between paternal engagement, homework adherence, and child treatment outcomes. Research is needed to examine the way paternal stress may be related to treatment outcomes in child oriented therapies within the context of changing paternal roles. Furthermore, research is needed to examine the interactive effects of parental stress and parenting efficacy in the context of behavioral parent training for both mothers and fathers. More research is also needed to examine the interactions between homework adherence and parental stress for both mothers and fathers.

Additionally, the overwhelming majority of studies on parent-related factors in either maternal or paternal populations fail to examine these variables in the context of longitudinal models. The relationships among these important parent-related factors and treatment processes must be examined within longitudinal models to better inform our understanding of these interactive factors and their impact on phases of treatment. Engaging in treatment research that goes beyond simple correlational outcome conceptualizations of father involvement to expand our understanding of father-related factors and treatment-related factors may help us to more effectively develop and deliver interventions for children.

The current research seeks to address these gaps in the empirical literature by building on existing evidence that points to the importance of parent-related factors and applying it to the examination of father involvement in behavioral parent training. This research first examined parent-related characteristics in relation to treatment outcomes for both mothers and fathers. Differences between mothers and fathers on parent characteristics and associated outcomes were

then examined. Finally the additive benefit of including fathers in treatment was examined. This multilevel examination of parent factors and father involvement was conducted in the context of two studies. The first study examined associations and relationships among parenting knowledge, parenting stress, and treatment engagement. The second study examined the associations and relationships among child behavior problems, treatment engagement, and therapy attitudes. If the present research can identify parent characteristics that influence treatment gains in behavioral parent training, it may have important implications for improving treatment engagement and treatment efficacy in the future.

CHAPTER TWO:

STUDY 1

As described above, parenting stress and engagement have important implications for the success of behavioral parent training interventions. Therefore, study one examined associations and relationships among parenting stress, treatment engagement, and changes in parenting knowledge (Figure 1).

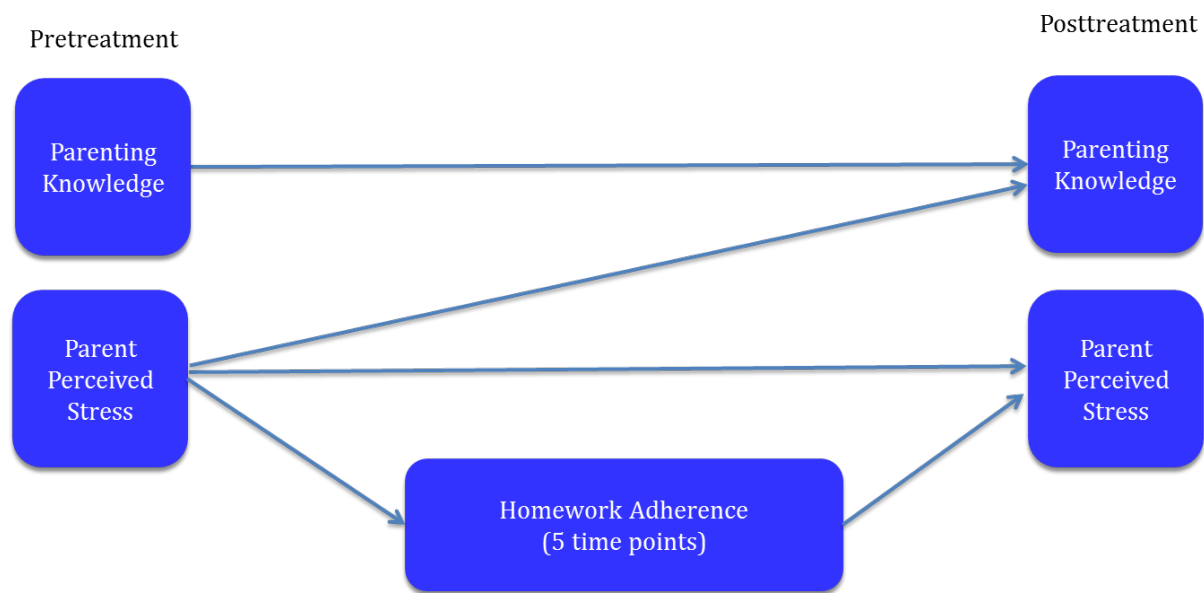


Figure 1. Parent-Related Factors in Behavioral Parent Training.

Study 1 Aims

Specific Aim 1: *To examine changes in parenting knowledge and parent perceived stress for mothers and fathers as a function of participation in behavioral parent training.*

As described above, there is a need to build upon existing treatment research to examine associations between parent characteristics and treatment outcomes for behavioral parent training, especially with research involving fathers. Nascent research has demonstrated there are associations between parent characteristics such as stress and adherence with treatment outcomes, however this literature is sparse and often leaves out fathers (Beernink, Swinkels, Van der Gaag, & Buitelaar, 2012; Kazantzis, Deane, & Ronan, 2000; Kazantzis et al., 2010; Kazdin, & Whitley, 2003; Mausbach et al., 2010; Östberg & Hagekull, 2013). As such, it was expected that parent characteristics would improve as a function of participation in treatment and it was expected that pretreatment characteristics would predict posttreatment levels.

Hypothesis 1A: Parenting knowledge would be higher at posttreatment for both mothers and fathers.

Hypothesis 1B: Parent perceptions of stress would be lower at posttreatment for both mothers and fathers.

Hypothesis 1C: Parenting knowledge at baseline would predict parenting knowledge posttreatment.

Hypothesis 1D: Parent ratings of perceptions of stress at baseline would predict parent knowledge posttreatment, with higher stress associated with lower knowledge scores.

Hypothesis 1E: Parent ratings of perceptions of stress at baseline would predict homework adherence, with higher stress associated with lower homework adherence.

Hypothesis 1F: Homework adherence would predict parent perceptions of stress posttreatment, with higher homework adherence associated with lower stress.

Hypothesis 1G: Parent ratings of perceptions of stress at baseline would predict parent ratings of perceptions of stress posttreatment, with higher stress associated with higher stress scores.

Specific Aim 2: *To examine processes of parental engagement in behavioral parent training as a function of parenting stress.*

As described above, little research involves fathers in the examination of the role of parenting stress and motivational beliefs as well as implications for treatment engagement and outcomes. However, some research has been conducted in this area and demonstrated that parenting stress is predictive of parent and child treatment outcomes such that higher levels of stress predict smaller gains in treatment (Calzada, Eyberg, Rich, & Querido, 2004). As such, parenting stress was expected to be associated with treatment engagement and subsequent parenting stress ratings posttreatment.

Hypothesis 2A: Parent perceptions of stress pretreatment would predict parent homework adherence, with higher stress associated with lower homework adherence scores.

Hypothesis 2B: Parent homework adherence would predict parent perceptions of stress post training, with higher rates of homework adherence associated with lower levels of stress.

Hypothesis 2C: Parental stress pretreatment would impact homework adherence which would in turn impact posttreatment improvement in stress (mediation).

Specific Aim 3: *To examine differences between mothers and fathers in parental characteristics and treatment engagement in behavioral parent training.*

As described above, mothers and fathers differ in their ratings of parenting stress, perceptions of treatment, and treatment engagement (Calzada, Eyberg, Rich, & Querido, 2004; Logan & King, 2001; Vogel et al., 2014). As such it was expected that mothers and fathers would differ in their ratings of parenting characteristics and treatment outcomes.

Hypothesis 3A: Maternal ratings of stress pretreatment would be greater than father ratings.

Hypothesis 3B: Maternal ratings of stress posttreatment would be greater than father ratings.

Hypothesis 3C: Maternal parenting knowledge pretreatment would be greater than father ratings.

Hypothesis 3D: Maternal parenting knowledge posttreatment would be greater than father ratings.

Hypothesis 3E: Maternal homework adherence would be greater than paternal ratings of homework adherence.

Specific Aim 4: *To examine whether mothers participating in treatment with fathers report greater benefit than those participating alone.*

As described above, very little research has been conducted to determine differences in benefit between mothers alone in behavioral parent training and mothers with fathers involved in behavioral parent training. However, existing literature in this area has indicated burgeoning evidence for the benefit of father involvement (Bagner & Eyberg, 2003). Therefore, mothers with fathers participating in treatment (known as father-involved mothers) should report greater benefit from treatment than mothers participating alone.

Hypothesis 4A: Greater change scores in knowledge would be observed for father-involved mothers than non-father-involved mothers.

Hypothesis 4B: Greater change in parental stress would be observed for father-involved mothers than non-father-involved mothers.

Hypothesis 4C: Greater homework adherence would be observed for father-involved mothers than non-father-involved mothers.

CHAPTER THREE:

STUDY 1 METHOD

Participants

Participants in this study were mothers and fathers (biological or step) of children between the ages of 16 months and 9 years of age (mean age 42.0 months--3.5 years--and SD of 19.8) who were identified as displaying challenging behaviors and participated in BPT from October 2009 to June 2010. The observed sample is a convenience sample as participation in the BPT was optional. Caregiver participants reported their children were primarily male (71.6%), which is common in behavior management treatment populations. Participants in this study were 39 fathers and 107 mothers. The sample was primarily Caucasian (65.5%), with the remaining participants spread across many racial/ethnic backgrounds. The mean parent age was 34.0 (SD of 6.9). As can be seen in Table 3, parental education ranged from less than high school to a graduate degree. Of those mothers included, 75 were mothers without fathers involved in treatment and 32 had fathers involved in treatment. There were 7 father-only treatment families. The participating parents included biological mothers and both biological fathers and step-fathers who participated in the program. Participants were recruited via referring physicians or therapists or via community advertisements to participate in a university- and community-based parent training program (e.g., HOT DOCS) for families and service providers of children displaying challenging or disruptive behavior. Participants included in this study had to have completed at least 4 treatment sessions. Session four was selected as the cutoff for entry in this study for several reasons. Firstly, the average number of sessions completed by participants in previous

research utilizing this treatment was 4.42 (Childres, Agazzi, & Armstrong, 2011). Session four was also selected as the cutoff for entry in this study because it would capture participants who received at least one session of core treatment content and at-home practice. More specifically, the first two sessions are primarily spent orienting parents to the treatment and child development more generally while the third session is the first session introducing skills for problem solving challenging behavior. Therefore, the first session that obtains data from the skills training and at-home application is session four. Selecting session four allowed for data collection of all participants who participated in at least one session of behavioral management skills training and practice. Additionally, sessions 1-5 are parenting skills core content sessions with the remaining sessions focused on parenting self-care, practice, and review. Completing four of five core content sessions is an 80% completion rate for obtaining new parenting information and skills practice and was therefore determined to be a minimum therapeutic dose.

Measures

HOT DOCS Demographics Form

HOT DOCS stands for Helping Our Toddlers, Developing Our Children's Skills. The Demographics Form was developed by the HOT DOCS creators to collect information about the caregiver participants who were involved in the parent training program as well as the identified child the parents reported as having challenging behavior. The Demographics Form includes 10 questions asking the caregivers their address, gender, age, child's age, age(s) of other children in the home, type and name of health insurance, relationship to targeted child, ethnicity, and level

of education. The demographics form is available in both English and Spanish (see Appendices A and B).

HOT DOCS Knowledge Test

The Knowledge Test was also developed by the HOT DOCS creators to assess knowledge of child development, behavioral principles, and parenting strategies. For the present study, total scores were analyzed. The test consists of thirty-one multiple choice statements and takes approximately ten minutes to complete. The pre-test was administered during the first session, following the program overview and prior to the first lecture. The posttest was administered during the sixth session, following completion of the final lecture. The knowledge test is available in both English and Spanish (see Appendices C and D). Previous research publication using this measure reported poor reliability ($\alpha = .47$), however, this alpha level was calculated using binary responses with each correct response as a “1” and each incorrect response as a “0” and summing the total points for each participant this may have impacted the ability to accurately calculate the amount of true score variance since the variance in responses was artificially truncated. The scores of the scale items demonstrated satisfactory internal consistency reliability for the current sample (pretest $\alpha = .89$; posttest $\alpha = .77$).

HOT DOCS Tip Tracker Sheets

The Tip Tracker sheets (TTS) were developed by the HOT DOCS creators to conduct daily monitoring of caregiver utilization of specific skills learned outside of session while at home. The TTS obtain daily 5-point Likert-type scale ratings, asking caregivers to rate each day their ease of use of the specific parenting skill of the week with their child. The Likert scale

ranges from 1 = *Very difficult* to 4 = *Easy*. In addition, a response option, *Did not use skill*, is provided. The TTS also asks caregivers to give specific examples of how they used the parenting tip with the identified child. Caregiver responses were used to validate the participants understanding of the skill and appropriate implementation. The sheets are available in both English and Spanish (see examples in Appendix E). In this study homework participation was coded dichotomously as completed or not completed. An average engagement score was derived based on completion rate. The scores of the weekly completion items demonstrated strong internal consistency reliability for the current sample ($\alpha = .90$).

Perceived Stress Scale-10

The Perceived Stress Scale-10 Items (PSS-10; Cohen & Williamson, 1988) is a brief, self-report measure assessing the degree to which life activities and experiences are perceived as stressful by an individual, with higher scores on the PSS-10 indicating greater levels of perceived stress. A score on the PSS-10 is obtained by summing participant responses across all items. Item numbers four, five, seven, and eight are reverse-scored (4 = 0, 3 = 1, 2 = 2, 1 = 3) before inclusion in the total score. Average scores obtained for the normative sample ranged from 11.9 to 14.7 with a mean score of 12.9 (see Appendix F). The PSS-10 was normed using a large, diverse national sample ($N = 2,387$) and has demonstrated good reliability ($\alpha = .78$) and moderate validity (Cohen & Williamson, 1988, p. 55). The scores of the PSS items demonstrated strong internal consistency reliability for the current sample (pretest $\alpha = .89$; posttest $\alpha = .90$).

Procedures

This study used archival data previously collected by the *HOT DOCS* authors prior to the implementation of the research program. Data for this study were accessed through the HOT DOCS program housed in the Department of Pediatrics, at the University of South Florida. All data used in this study were collected as planned by the HOT DOCS program developers, prior to involvement of the primary researcher of the current study. Data were collected while participants were engaged in the training program and entered into a password protected database by the project director using unique identification codes. Two school psychology graduate students serving as HOT DOCS staff conducted integrity checks comparing the raw data to the data entered for every 10th participant into the database to ensure the accuracy of the data. Raw data are maintained at the Children's Medical Services building. For quick reference of measures collected at each session, see Table 1.

Setting

The HOT DOCS program was a service provided through the Department of Pediatrics, Children's Medical Services Clinic of a large Florida University. Training sessions were conducted in conference rooms of the clinic or community settings such as Head Start Classrooms, faith-based organizations, and community centers.

HOT DOCS Parent Training Program

The HOT DOCS, or Helping Our Toddlers Developing Our Children's Skills (Armstrong, Lilly, & Curtiss, 2006), behavioral parent training program delivery is intended to be conducted in seven sessions lasting approximately two hours. The initial session provides 20

minutes for introductions, twenty minutes for evaluation, and one hour of the core parent training. Sessions two through five provide 30 minutes for peer support, group problem solving, and review, and 90 minutes of parent training of new content. Session six follows this format with an additional twenty minutes for posttest and program evaluation. Session seven, the final session, is a booster session delivered two months after the six core sessions in the same format with an emphasis on reviewing material and peer supported problem-solving.

Across the training sessions, participants receive a lecture component, video vignette, *Parenting Tip*, and *Special Play Activity*. For Parenting Tips, participants are instructed in a specific caregiver skill and asked to focus on that skill for practice at home throughout the week. Each parent was encouraged to engage in independent skills practice. This skill practice was documented using the HOT DOCS Tip Tracker sheets. The Special Play Activities are five minute play activities parents are encouraged to engage in with their children daily to build their relationship and play skills. Parents are provided with information on how they can use the activities to teach their child specific motor, communication, and social-emotional skills. During sessions, participants also engage in practice exercises, role-playing, and collaborative problem solving.

Session one introduces participants to the HOT DOCS program as well as early childhood development psychoeducation. Session two centers on the importance of healthy routines in supporting development and adaptive behavior for young children. Session three focuses on behavior and learning principals to support development of young children such as antecedents and consequences. Session four emphasizes the importance of preventative strategies useful in the management of child behavior such as effective transitions, timers, prompts, and visual schedules. Session five assists parents with training children to replace maladaptive

behavior with more adaptive behaviors as well as how to manage non-compliance. Session six trains parents in effective stress management techniques as well as providing a review of program content. Session seven, a booster session conducted two months after session six, reviews content from the training program, reviews skills progression, and assists participants with refinement of skills.

Additionally, the HOT DOCS program is delivered in Spanish as well as English. All of the materials, presentations, and handouts for the program have been translated and culturally adapted for Spanish speakers (Agazzi et al., 2010).

Data Collection Procedures

Data were collected throughout the HOT DOCS program. All caregivers completed the Demographics Form and Knowledge Pretest during their first session. Tip Tracker sheets were collected during weekly sessions throughout the program. The Knowledge Posttest was administered during the end of the sixth session. Following each weekly training session, the HOT DOCS project director entered deidentified participant data into a password protected database located in the Children's Medical Services clinic. This archival dataset was accessed in the current study to examine the aims and hypotheses of Study 1.

Data Analysis

Sample Size Estimation

A statistical power analysis was performed for each type of analysis for sample size estimation. Based on the assumptions of alpha of 0.05, a power of 0.80, a medium effect size (ρ

= 0.3), and two tailed tests, a sample size of 82 was required to adequately power all analyses (Faul et al., 2008). The present study had a minimum of 100 people in each analysis and was therefore well powered to detect a medium effect. To determine the sample size required to find a medium effect for .8 Power for mediation analysis, empirical estimates determined established by Fritz and MacKinnon (2007) were utilized and the established desired sample size is 78. With a study minimum of 100 observations, this study was well powered to identify a medium effect for mediation analyses.

Preliminary Analyses

Descriptive statistics were run on the demographic variables and each of the measures to determine the means, standard deviations, and ranges for the sample. Before conducting analyses to address specific study aims, distributional properties of study variables were examined to determine if analyses robust to violations of assumptions should be employed. All descriptive statistics of study variables can be seen in Table 4. The distribution of homework adherence was nonnormal, with disproportionate amounts of participants displaying very high adherence. This nonnormality was addressed by use of the MLR-complex estimator in Mplus 7.11 (Muthén & Muthén, 2013).

Attrition and Missing Data

Regarding missing data procedures, 14% of data were missing on all analyzed measures. Several measures were taken to address missing data. All hypothesis tests were estimated using full-information maximum likelihood estimation in Mplus version 7.11 (Muthén & Muthén, 2012). Additionally, auxiliary variables were used to aid in the estimation of missing data via a

saturated correlates model. Auxiliary variables include other pre-treatment continuous predictor variables used in the study. Means and variances of all predictors and covariates were also estimated via full-information maximum likelihood estimation to aid in parameter estimation in the presence of missing data.

Analyses for Respective Study Hypotheses

Upon receipt of the data, test scores were calculated from the individual items of the measures. Descriptive statistics were run on all demographic variables and test scores to obtain means (continuous variables) or frequencies (categorical variables), standard deviations, and ranges, the results of these can be observed in Table 4. Regarding measure reliability, internal consistency was evaluated through the use of Cronbach's alpha (Cronbach, 1951), with alpha values of .70 or higher considered acceptable (Nunnally, 1978). As can be seen in Table 4, all measures for Study 1 had adequate internal consistency.

The present study design involved several analyses where participants were nested within families. Each child was assigned a Family ID and each parent engaged in treatment rating that child's behavior was assigned the same Family ID. To address nesting within families via mother/father dyads, the MLR-complex estimator was employed for all analyses, with Family ID specified as the clustering variable. For regression based models, effect sizes were reported in the metric of R^2 , with small, medium, and large effect sizes corresponding to R^2 values of .01, .09, and .25 respectively (Cohen, 1988). For pre-post change, effect sizes were measured in the metric of Cohen's d ; following recommendations by Feingold (2009) d values were calculated based on pre-post change divided by the standard deviation of pretreatment scores value of .2, .5, .8, corresponding to small, medium, and large effects, respectively.

To test Aim 1 hypotheses, mean difference tests and regressions were conducted using maternal and paternal ratings from the multiple choice test, perceived stress scale, and homework adherence data. Residualized regression and tests of mean differences were employed.

To test Aim 2 hypotheses, residualized regression and mediation analyses were conducted using maternal and paternal ratings from the perceived stress scale, and homework adherence data.

To test Aim 3 hypotheses, dummy coded regression analyses were conducted using maternal and paternal ratings from the multiple choice test, perceived stress scale, and homework adherence data with mother/father status dummy coded.

To test Aim 4 hypotheses, ANCOVA and regression analyses were performed using maternal ratings from the multiple choice test, perceived stress scale, and homework adherence data. For direct prediction of homework adherence, R^2 reflects the amount of variance explained by the predictor. For ANCOVA models examining predictors of change, a base model was created examining pre-post relationship, and then a second model including predictor covariates was examined; change in R^2 (ΔR^2) reflects the amount of variance predicted by covariates above and beyond pre-treatment scores.

CHAPTER FOUR: STUDY 1 RESULTS

Descriptive Statistics

Descriptive statistics for the present sample can be found in Table 4. Mean parenting knowledge scores were 19.25 and 23.66 at pre and post treatment, respectively. These knowledge gains are consistent with other publications examining the HOT DOCS program. Mean ratings of parent perceptions of stress were 17.22 and 16.29 at pre and post treatment, respectively. These scores on the PSS are higher than those observed in normative samples, however, the post treatment mean approaches the normative range, which is 11.9-14.7. Parent homework adherence was observed to be high with a mean completion rate of 93%.

Hypothesis Testing

The Role of Treatment for Mothers and Fathers

In the current study it was hypothesized that parenting knowledge would be higher at posttreatment for both mothers and fathers. As expected, average parenting knowledge was significantly higher at posttreatment ($p < .001$, $d = -.86$). It was also hypothesized that parent perceptions of stress would be lower at posttreatment for both mothers and fathers. However, a significant decrease in parenting stress was not observed ($p = .10$, $d = -.01$).

The Role of Pre-Treatment Parent Characteristics on Treatment Outcomes and Treatment Adherence

It was hypothesized that parenting knowledge at baseline would predict parenting knowledge posttreatment. This hypothesis was supported with a positive relationship observed between pretest parenting knowledge and posttest parenting knowledge, with higher pretest scores predicting higher posttest scores ($b = .695, p < .001, R^2 = .483$). However, parent ratings of perceptions of stress at baseline were not predictive of parent knowledge posttreatment ($b = .003, p = .97, R^2 = .00$). Similarly, pre-treatment parent ratings of perceptions of stress at baseline failed to significantly predict homework adherence ($b = -.15, p = .09, R^2 = .02$). However, the hypothesis that pre-treatment parent ratings of perceptions of stress would predict post treatment ratings of stress was supported, with higher pretest scores predicting higher posttest scores ($b = .682, p < .001, R^2 = .466$)

The Role Treatment Adherence on Parental Stress

It was hypothesized that homework adherence would predict parent perceptions of stress posttreatment, however a significant relationship was not observed ($b = -.15, p = .61, R^2 = .002$).

Examination of The Processes of Parental Engagement in Behavioral Parent Training as A Function of Parenting Stress (Mediation)

It was hypothesized that parental stress pretreatment would be related to homework adherence which would in turn be related to posttreatment improvement in stress (mediation). For mediation, following recommendations by Hayes (2013), hypothesis testing utilized confidence intervals based on unstandardized estimates. Mediation analyses revealed that pretest

perceptions of parenting stress did not have a significant effect on posttest perceptions of parenting stress through parental treatment engagement as evaluated by homework adherence 95% CI [-.056, .010].

Examination of Differences Between Mothers and Fathers in Parental Characteristics and Treatment Engagement in Behavioral Parent Training

In the current study it was hypothesized that maternal ratings of stress pretreatment would be greater than father ratings. However, no significant differences between mothers and fathers on parental stress were observed ($b = .07, p = .36, R^2 = .01$). The mean pretreatment maternal parental stress rating was 17.41 ($SD = 7.43$) while the mean pretreatment paternal parental stress rating was 16.22 ($SD = 7.56$). It was also hypothesized that maternal ratings of stress posttreatment would be greater than father ratings but this pattern was not observed ($b = -.08, p = .29, R^2 = .01$). The mean posttest maternal parental stress rating was 16.03 ($SD = 6.77$) while the mean posttest paternal parental stress rating was 16.88 ($SD = 7.38$). Maternal parenting knowledge scores pretreatment were not observed to be greater than father knowledge scores ($b = .001, p = .99, R^2 = .00$). The mean pretreatment maternal parenting knowledge score was 19.29 ($SD = 5.08$) while the mean pretreatment paternal parenting knowledge score was 19.23 ($SD = 5.35$). Similarly, maternal parenting knowledge posttreatment was not observed to be greater than paternal parenting knowledge ($b = .07, p = .49, R^2 = .01$). The mean posttreatment maternal parenting knowledge score was 23.95 ($SD = 4.12$) while the mean posttreatment paternal parenting knowledge score was 23.08 ($SD = 5.60$). Finally, no differences in homework adherence were observed between mothers and fathers ($b = .03, p = .76, R^2 = .001$). The mean

maternal homework adherence score was .94 ($SD = .14$) while the mean paternal homework adherence score was .93 ($SD = .14$).

Examination of Treatment Gains for Mothers Participating in Treatment with Fathers and Mothers Participating Alone

In the current study it was hypothesized that greater change scores in knowledge would be observed for father-involved mothers than non-father-involved mothers. However, there was no significant difference in knowledge change based on whether fathers were involved or not ($b = .16, p = .05, \Delta R^2 = .03$). The mean pretreatment parenting knowledge score for mothers without fathers involved was 18.85 ($SD = 5.33$) while the mean pretreatment parenting knowledge score for mothers with fathers involved was 20.44 ($SD = 4.22$). The mean posttest parenting knowledge score for mothers without fathers involved was 23.33 ($SD = 4.35$) while the mean posttest parenting knowledge score for mothers with fathers involved was 25.16 ($SD = 3.40$). Similarly, there was no significant difference in parental stress change based on whether fathers were involved or not ($b = .02, p = .8, \Delta R^2 < .001$). The mean pretreatment parental stress rating for mothers without fathers involved was 17.77 ($SD = 7.65$) while the mean pretreatment parental stress rating for mothers with fathers involved was 16.53 ($SD = 7.16$). The mean posttest parental stress rating for mothers without fathers involved was 16.11 ($SD = 7.00$) while the mean posttest parental stress rating for mothers with fathers involved was 16.08 ($SD = 6.84$). Finally, no differences in homework adherence were observed between father-involved mothers and non-father-involved mothers ($b = -.15, p = .12, R^2 = .02$). The mean homework adherence score for mothers without fathers involved was .95 ($SD = .09$) while the mean homework adherence score for mothers with fathers involved was .91 ($SD = .18$).

CHAPTER FIVE:

STUDY TWO

As described above, child behavior problems, parent therapy attitudes, and parent engagement have important implications for the success of behavioral parent training interventions. Therefore, study two examined associations and relationships among parental treatment engagement, parental therapy attitudes, and changes in child behavior problems (Figure 2).

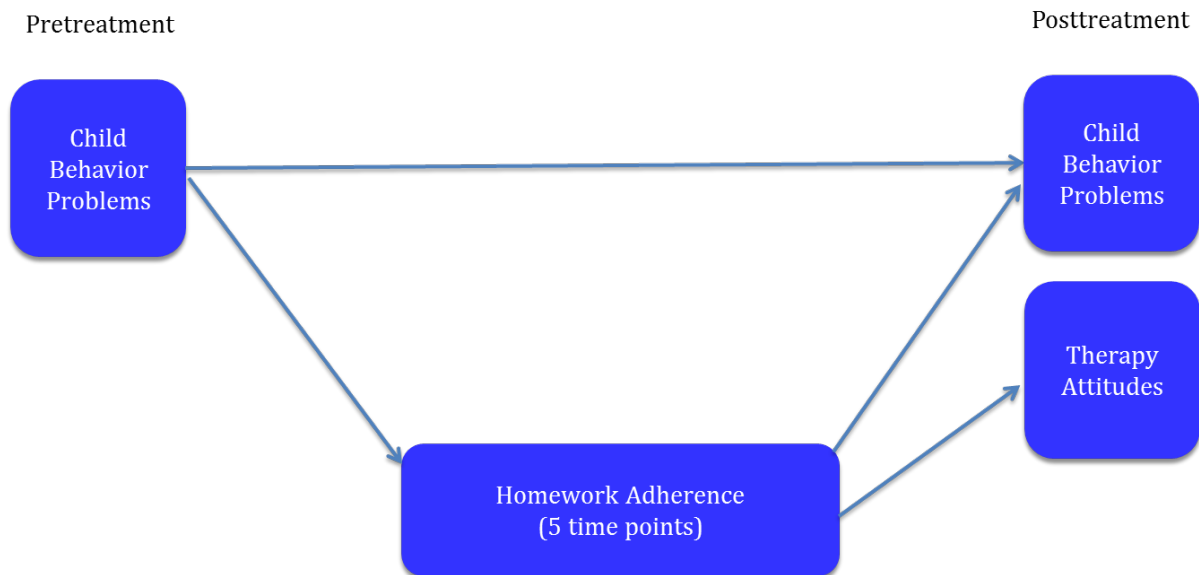


Figure 2. Parent Related Factors and Child Behavior Problems in Behavioral Parent Training.

Study 2 Aims

Specific Aim 1: *To examine changes in child behavior problem ratings for mothers and fathers as a function of participation in behavioral parent training.*

As described above, there is strong evidence for improving child outcomes through behavioral parent training programs (Eyeberg, Nelson, & Boggs, 2008; Tiano & McNeil, 2005). Therefore, it was expected that parents would rate improvements in child behavior problems after participating in the *HOT DOCS* behavioral parent training program.

Hypothesis 1A: Parent ratings of child behavior problems would improve from pretreatment to posttreatment, with lower scores at posttreatment.

Specific Aim 2: *To examine the impact of child behavior problems on parental treatment engagement and treatment attitudes.*

As described above, little research involves fathers in the examination of the role of child behavior problems in parental treatment engagement. However, these problems have been associated with greater stress and subsequent treatment engagement issues (Creasey & Reese, 1996; Semke, Garbacz, Kwon, Sheridan, & Woods, 2010). As such, child behavior problems were expected to be associated with posttreatment problems and parental treatment attitudes.

Hypothesis 2A: Child behavior problems pretreatment would predict child behavior problems posttreatment, with lower problem scores posttreatment.

Hypothesis 2B: Child behavior problems pretreatment would predict parental therapy attitudes posttreatment, with higher problem scores associated with lower treatment satisfaction.

Specific Aim 3: *To examine processes of parental engagement in behavioral parent training as a function of child behavior problems.*

As described above, child behavior problems may impact parent engagement and satisfaction with treatment. Additionally, parental homework engagement has also been demonstrated to reduce child behavior problems and improve parent outcomes (Ros et al., 2016). It was therefore expected that child behavior problems would be associated with parent engagement in treatment. Furthermore, engagement in treatment was expected to mediate treatment gains.

Hypothesis 3A: Child behavior problems pretreatment would predict parent homework adherence, with greater problems associated with lower adherence.

Hypothesis 3B: Parent homework adherence would predict child behavior problems posttreatment, with lower adherence associated with higher problem scores.

Hypothesis 3C: Child behavior problems pretreatment would be associated with homework adherence which would in turn be associated with posttreatment child behavior problems (mediation).

Specific Aim 4: *To examine differences between maternal and paternal perceptions of child behavior problems and treatment attitudes as well as engagement in treatment.*

As described above, mothers and fathers differ in their ratings of child behavior problems, perceptions of treatment, and treatment engagement (Calzada et al., 2004; Logan & King, 2001; Vogel et al., 2014). As such it was expected that mothers and fathers would differ in their ratings of child behavior problems, therapy attitudes, and treatment outcomes.

Hypothesis 4A: Maternal ratings of child behavior problems pretreatment would be greater than father ratings.

Hypothesis 4B: Maternal ratings of child behavior problems posttreatment would be greater than father ratings.

Hypothesis 4C: Maternal ratings of therapy attitudes posttreatment would be greater than father ratings.

Hypothesis 4D: Maternal homework adherence would be greater than paternal homework adherence.

Specific Aim 5: *To examine whether mothers participating in treatment with fathers report greater mother and child outcome benefits than those participating alone.*

As described above, very little research has been conducted to determine differences in benefit between mothers alone in behavioral parent training and mothers with fathers involved in behavioral parent training. However, existing literature in this area has indicated burgeoning evidence for the benefit of father involvement (Bagner & Eyberg, 2003). Therefore, mothers with fathers participating in treatment should report greater benefit from treatment than mothers participating alone.

Hypothesis 5A: Greater change in child behavior problems would be reported by father-involved mothers than non-father-involved mothers.

Hypothesis 5B: Greater scores in maternal ratings of therapy attitudes would be reported by father-involved mothers than non-father-involved mothers.

Hypothesis 5C: Greater rates of treatment engagement would be observed for father-involved mothers than non-father-involved mothers.

CHAPTER SIX:

STUDY 2 METHOD

Participants

Participants in this study were mothers and fathers (biological or step) of children between the ages of 12 months and 10 years of age (mean age 45.0 months--3.75 years--and SD of 19.4) who were identified as displaying challenging behaviors and participated in BPT from August 2011 to August 2012. The observed sample is a convenience sample as participation in the BPT was optional. Caregiver participants reported their children were primarily male (69.2%). Participants in this study were 43 fathers and 98 mothers. The sample was primarily Caucasian (74.1%) and the mean parent age was 35.0 (SD of 7). Parental education ranged from less than high school to a graduate degree. Demographics of this sample can be observed in tables 5-6. Of those mothers included, 58 were mothers without fathers involved and 40 had fathers involved in treatment. There were three father-only treatment families. None of the same families participated in Study 1 and Study 2.

The participating parents included biological mothers and both biological fathers and step-fathers who participated in the program. Participants were recruited via referring physicians or therapists or via community advertisements to participate in a university- and community-based parent training program for families and service providers of children displaying challenging or disruptive behavior. Participants included in this study had to have completed at least 4 treatment sessions. Session four was selected as the cutoff for entry in this study for

several reasons. Firstly, the average number of sessions completed by participants in previous research utilizing this treatment was 4.42 (Childres, Agazzi, & Armstrong, 2011). Session four was also selected as the cutoff for entry in this study because it would capture participants who received at least one session of core treatment content and at-home practice. More specifically, the first two sessions are primarily spent orienting parents to the treatment and child development more generally while the third session is the first session introducing skills for problem solving challenging behavior. Therefore, the first session that obtains data from the skills training and at-home application is session four. Selecting session four allowed for data collection of all participants who participated in at least one session of behavioral management skills training and practice. Additionally, sessions 1-5 are parenting skills core content sessions with the remaining sessions focused on parenting self-care, practice, and review. Completing four of five core content sessions is an 80% completion rate for obtaining new parenting information and skills practice and was therefore determined to be a minimum therapeutic dose.

Measures

HOT DOCS Demographics Form

The Demographics Form mentioned above was also used for Study Two to assess caregiver demographic variables (see Appendices A and B).

Eyberg Child Behavior Inventory

The Eyberg Child Behavior Inventory (ECBI; Eyberg & Pincus, 1999) is a 36-item parent report measure of behavior problems in children ages 2 to 16 (Eyberg & Pincus, 1999). The

ECBI assesses behavior on two scales, assessing intensity and degree to which parents rate it as a problem. The Intensity Scale measures the degree to which conduct problem behavior occurs while The Problem Scale measures the number of behavior problem items that are reported as problems for the parent (see Appendix G). The ECBI has demonstrated strong internal consistencies and high test-retest reliability ($r = .86$ to $.98$). Research has also repeatedly demonstrated strong validity (Robinson, Eyberg, & Ross, 1980). The scores of the subscale items demonstrated strong internal consistency reliability for the current sample (Intensity $\alpha = .94$; Problem $\alpha = .93$).

HOT DOCS Tip Tracker Sheets

The TTS mentioned above was also examined in Study Two to evaluate treatment engagement homework compliance (see Appendix E). The scores of the weekly completion items demonstrated strong internal consistency reliability for the current sample ($\alpha = .95$).

Therapy Attitude Inventory

The Therapy Attitude Inventory (TAI; Brestan, Jacobs, Rayfield, & Eyberg, 2000) is a 10-item index of consumer satisfaction for participants in parent training. Items are on a Likert-type scale ranging from 1 to 5, with 1 indicating treatment dissatisfaction or lack of improvement and 5 indicating satisfaction with treatment and improvement. Items assess for satisfaction with confidence in discipline skills, quality of the parent-child interaction, the child's behavior, and overall family adjustment. The TAI has demonstrated adequate reliability and validity as well as sensitivity to treatment effects (Brestan, Jacobs, Rayfield, & Eyberg, 2000). The scores of the

items demonstrated moderate internal consistency reliability for the current sample ($\alpha = .81$). Parents completed this form following completion of treatment (see Appendix H).

Procedures

This study used archival data already collected by the *HOT DOCS* authors prior to the implementation of the research program. The setting and program description are the same as those described in Study 1 above.

Data Collection Procedures

Data were collected throughout the HOT DOCS program. All caregivers completed the Demographics Form and ECBI during their first session. Tip Tracker sheets were collected during weekly sessions throughout the program. The ECBI and Therapy Attitude Inventory were administered during the end of the sixth session. Following each weekly training session, the HOT DOCS project director entered de-identified participant data into a password protected database located in the Children's Medical Services building. This archival data was accessed in the current study to examine the aims and hypotheses described in detail above.

Analytic Plan

Preliminary Analyses

As in study 1, descriptive statistics were run on the demographic variables and each of the measures to determine the means, standard deviations, and ranges for the sample. Before conducting analyses to address specific study aims, distributional properties of study variables

were examined to determine if analyses robust to violations of assumptions should be employed. The distribution of homework adherence was nonnormal, with disproportionate amounts of participants displaying very high adherence. This nonnormality was addressed by use of the MLR-complex estimator using Mplus 7.11 (Muthen & Muthen, 2013).

Attrition and Missing Data

Regarding missing data procedures, 21% of data were missing on all analyzed measures. Several measures were taken to address missing data. All hypothesis tests were estimated using full-information maximum likelihood estimation in Mplus version 7.11 (as implemented by Wothke, 2000; Muthén & Muthén, 2012). Additionally, auxiliary variables were used to aid in the estimation of missing data via a saturated correlates model. Auxiliary variables include other pre-treatment continuous predictor variables used in the study. Means and variances of all predictors and covariates were also estimated via full-information maximum likelihood estimation (as opposed to assumed as fixed) to aid in parameter estimation in the presence of missing data.

Analyses for Respective Study Hypotheses

Upon receipt of the data, test scores were calculated from the individual items of the measures. Descriptive statistics were run on all demographic variables and test scores to obtain means (continuous variables) or frequencies (categorical variables), standard deviations, and ranges, the results of these can be observed in Table 5-7. All measures fell within normal limits with the exception of homework adherence, the management of this data is described in detail below. Regarding measure reliability, internal consistency was evaluated through the use of

Cronbach's alpha (Cronbach, 1951), with alpha values of .70 or higher considered acceptable (Nunnally, 1978).

The present study design involved several analyses where participants were nested within families. Each child was assigned a Family ID and all caregivers of the target child were assigned the same Family ID with a unique identifier. To address nesting within families via mother/father dyads, the MLR-complex estimator was employed for all analyses, with Family ID specified as the clustering variable. Observed nonnormality in homework adherence was addressed by use of the MLR-complex estimator. For regression based models, effect sizes were reported in the metric of R^2 , with small, medium, and large effect sizes corresponding to R^2 values of .01, .09, and .25 respectively (Cohen, 1988). For pre-post change, effect sizes were measured in the metric of Cohen's d ; following recommendations by Feingold (2009) d values were calculated based on pre-post change divided by the standard deviation of pretreatment scores values of .2, .5, .8 correspond to small medium and large effects respectively (1998)

To test Aim 1 hypotheses, mean difference tests were conducted using maternal and paternal ratings of child behavior problems pre and post treatment.

To test Aim 2 hypotheses, regression analyses were conducted using maternal and paternal ratings of child behavior problems and therapy attitudes.

To test Aim 3 hypotheses, regression analyses were conducted using maternal and paternal ratings of child behavior problems and homework adherence data. Additional mediation analyses with cluster robust estimation were conducted using maternal and paternal ratings of child behavior problems and homework adherence data.

To test Aim 4 hypotheses, regression analyses were conducted using maternal and paternal ratings of child behavior problems and homework adherence data with mother/father status dummy coded.

To test Aim 5 hypotheses, ANCOVA and regression analyses with cluster robust estimation were performed using maternal ratings of child behavior problems, therapy attitudes, and homework adherence. For direct prediction of homework adherence and therapy attitudes, R^2 reflects the amount of variance explained by the predictor. For ANCOVA models examining predictors of change, a base model was created examining pre-post relationship, and then a second model including predictor covariates was examined; change in R^2 (ΔR^2) reflects the amount of variance predicted by covariates above and beyond pre-treatment scores.

CHAPTER SEVEN:

STUDY 2 RESULTS

Descriptive Statistics

Descriptive statistics for the present sample can be found in Table 7. Mean child behavior problem intensity scores were 132.69 and 109.78 at pre and post treatment, respectively. Mean ratings of how problematic child behavior problems were 16 and 9.83 at pre and post treatment, respectively. Parent homework adherence was observed to be high with a mean completion rate of 90%. The observed mean for the Therapy Attitude Inventory was 44.97.

Hypothesis Testing

The Role of Treatment for Mothers and Fathers

In the current study it was hypothesized that parent ratings of child behavior problems would improve from pretreatment to posttreatment, with lower scores at posttreatment. This hypothesis was supported for both the extent to which parents found their child's disruptive behavior problematic and the intensity of behavior problems reported by parents. Parental ratings showed significant improvement regarding how problematic they found their child's behavior problems ($p < .001$, $d = .70$). Additionally, the parents reported reduced intensity of child behavior problems ($p < .001$, $d = .61$).

In the current study it was hypothesized that child behavior problems pretreatment would predict child behavior problems posttreatment. This hypothesis was supported for problematic behavior and results indicated that for every one unit increase in how problematic parents found their child's disruptive behavior at pretest, the expected (predicted) value of how problematic parents found their child's disruptive behavior at posttest increased by .633 ($b = .633, p < .001, R^2 = .401$).

Taken together, this pattern of results indicates that those on the higher end of the distribution of scores pretreatment were similarly on the higher end of the distribution of scores posttreatment but that there was a reduction of problematic behaviors endorsed by this group of parents participating in treatment overall. This hypothesis was also supported for intensity of behavior and results indicated that for every one standard deviation unit increase in how intense parents found their child's disruptive behavior at pretest the expected (predicted) value of how intense parents found their child's disruptive behavior at posttest increased by .777 standard deviations ($b = .777, p < .001, R^2 = .604$). Taken together, this pattern of results indicates that those on the higher end of the distribution of scores pretreatment were similarly on the higher end of the distribution of scores posttreatment but that there was a reduction in the intensity of behaviors endorsed by this group of parents participating in treatment overall.

Examination of The Role of Child Behavior Problems on Parental Treatment

Engagement and Treatment Attitudes

It was hypothesized that child behavior problems pretreatment would predict parental therapy attitudes posttreatment, with higher pretreatment problem scores associated with lower

treatment satisfaction. This hypothesis was not supported for problem scores ($b = -.02, p = .85, R^2 = .00$) or intensity scores ($b = -.13, p = .27, R^2 = .02$).

Examination of The Processes of Parental Engagement in Behavioral Parent Training as A Function of Child Behavior Problems (Mediation)

As a first step in these mediations, direct relationships were hypothesized. In the current study it was hypothesized that child behavior problems pretreatment would predict parent homework adherence, with greater problems associated with lower adherence. To aid in interpretation, standardized coefficients are reported. This hypothesis was not supported for either problem ($b = .05, p = .70, R^2 = .003$) nor intensity scores ($b = -.03, p = .85, R^2 = .001$). It was also hypothesized that parent homework adherence would predict child behavior problems posttreatment, with lower adherence associated with higher problem scores, however this was not supported for either problematic behavior ($b = .06, p = .66, R^2 = .003$) or intensity ($b = .02, p = .87, R^2 = .000$). To examine the processes of parental engagement in behavioral parent training as a function of child behavior problems, it was hypothesized that child behavior problems pretreatment would be associated with homework adherence which would in turn be associated with posttreatment child behavior problems. For mediation, Hayes (2013) recommends hypothesis testing utilizing confidence intervals based on unstandardized estimates, and accordingly unstandardized confidence intervals are reported for mediation models. Mediation analyses revealed that parents' pretest perceptions of child behavior problems did not have a significant effect on posttest perceptions of child behavior problems through parental treatment engagement 95% CI [-.010, .031]. Mediation analyses revealed that parents' pretest perceptions of the intensity of child behavior problems did not have a significant effect on

posttest perceptions of the intensity of child behavior problems through parental treatment engagement as evaluated by homework adherence 95% CI [-.025, .014].

Examination of Differences Between Maternal and Paternal Perceptions of Child Behavior Problems and Treatment Attitudes as Well as Engagement in Treatment

In the current study it was hypothesized that maternal ratings of child behavior problems pretreatment would be greater than father ratings. However, no differences in pretreatment maternal and paternal ratings of child behavior problems were observed for either problem ($b = .07, p = .39, R^2 = .01$) or intensity ratings ($b = .04, p = .54, R^2 = .002$). The mean pretreatment maternal problem rating was 16.65 ($SD = 8.61$) while the mean pretreatment paternal problem rating was 15.34 ($SD = 9.14$). The mean pretreatment maternal intensity rating was 134.51 ($SD = 37.41$) while the mean pretreatment paternal intensity rating was 131.00 ($SD = 38.26$). Similarly, the hypothesis that maternal ratings of child behavior problems posttreatment would be greater than father ratings was not supported for either problem ($b = -.04, p = .69, R^2 = .001$) or intensity posttreatment ratings ($b = .02, p = .84, R^2 = .000$). The mean posttreatment maternal problem rating was 9.58 ($SD = 7.29$) while the mean posttreatment paternal problem rating was 10.16 ($SD = 8.16$). The mean posttreatment maternal intensity rating was 109.86 ($SD = 26.59$) while the mean posttreatment paternal intensity rating was 108.91 ($SD = 27.19$). It was also hypothesized that maternal ratings of therapy attitudes posttreatment would be greater than father ratings, however, significant differences were not observed ($b = .05, p = .51, R^2 = .003$). The mean maternal rating of therapy attitudes posttreatment was 44.89 ($SD = 3.88$) while the paternal rating of therapy attitudes posttreatment was 44.60 ($SD = 4.44$). Finally, the hypothesis that maternal homework adherence would be greater than paternal homework adherence was not supported ($b =$

.03, $p = .51$, $R^2 = .001$). The mean maternal homework adherence score was .90 ($SD = .20$) while the mean paternal homework adherence score was .89 ($SD = .22$).

Examination of Treatment Gains for Mothers Participating in Treatment with Fathers and Mothers Participating Alone

It was hypothesized that greater change in child behavior problems would be reported by mothers with fathers involved than mothers without fathers involved. However, there was no significant difference in change in child behavior problems ($b = .10$, $p = .13$, $\Delta R^2 = .01$) or problem intensity ($b = .03$, $p = .74$, $\Delta R^2 = .001$) based on whether fathers were involved or not. The mean pretreatment problem rating for mothers without fathers involved was 17.06 ($SD = 8.90$) while the mean pretreatment problem rating for mothers with fathers involved was 16.06 ($SD = 8.28$). The mean pretreatment intensity rating for mothers without fathers involved was 136.85 ($SD = 36.13$) while the mean pretreatment intensity rating for mothers with fathers involved was 131.09 ($SD = 39.54$). The mean posttreatment problem rating for mothers without fathers involved was 10.18 ($SD = 8.11$) while the mean posttreatment problem rating for mothers with fathers involved was 8.88 ($SD = 6.26$). The mean posttreatment intensity rating for mothers without fathers involved was 109.84 ($SD = 25.49$) while the mean posttreatment intensity rating for mothers with fathers involved was 109.88 ($SD = 28.19$). It was also hypothesized that greater scores of maternal ratings of therapy attitudes would be reported by father-involved mothers than non-father-involved mothers. However, therapy attitude ratings were not significantly different for father-involved mothers than those of non-father-involved mothers ($b = -.12$, $p = .18$, $R^2 = .02$). The mean therapy attitude rating for mothers without fathers involved was 45.58 ($SD = 3.27$) while the mean therapy attitude rating for mothers with fathers involved was 44.26 ($SD =$

3.96). Finally, it was hypothesized that greater rates of treatment engagement would be observed for father-involved mothers than non-father-involved mothers. However, homework adherence was not significantly different for father-involved mothers than that of non-father-involved mothers ($b = -.14, p = .16, R^2 = .02$). The mean homework adherence score for mothers without fathers involved was .94 ($SD = .19$) while the mean homework adherence score for mothers with fathers involved was .86 ($SD = .22$).

CHAPTER EIGHT: DISCUSSION

The present studies sought to examine the way parent-related factors such as homework compliance, parental stress, and parental attitudes toward therapy are associated with outcomes for children and families. Extensive gaps in the literature indicated that research was needed to examine the way these variables interact. Furthermore, the overwhelming majority of studies on parent-related factors in either maternal or paternal populations failed to examine these variables in the context of longitudinal models. The relationships among these important parent-related factors and treatment processes required examination within longitudinal models to better inform our understanding of these interactive factors and their impact on phases of treatment. The objective of these studies was to present treatment research that goes beyond simple correlational outcome conceptualizations of father involvement to expand our understanding of father-related factors and treatment-related factors with the hope it may help us to more effectively develop and deliver interventions for children.

The Role of Treatment for Mothers and Fathers

To aid in interpretation and synthesis of findings, both Study One and Study Two will be discussed together. Through thorough examination of findings from both studies, the overall pattern of results indicates that children, mothers, and fathers all benefitted from the treatment across outcome measures. Study one results demonstrated significant improvements in parenting

knowledge for the sample of both mothers and fathers and Study Two results indicated that the sample of mothers and fathers reported improvements in both problematic child behaviors and intensity of behaviors, with baseline mean problem and intensity scores in the clinically significant range and posttest mean scores well below clinical cutoffs (Eyberg & Pincus, 1999). Further supporting positive treatment experience, on the Therapy Attitude Inventory, containing items related to confidence in acquired skills, utility of skills taught, satisfaction with changes in child behavior, and the parent-child relationship, parent ratings were high with a mean of 45 (SD=3.9) out of 50. Of note, parent perceptions of stress were not significantly different from pre to posttreatment. However, caution must be used when interpreting this finding as the quality of stress evaluated by the measure may be more salient for the primary objective of its use in the study (examining barriers to treatment engagement) than as a primary outcome measure associated with child behavior problems directly. Pre-post change was examined for the Perceived Stress Scale as it was possible that reductions in child behavior problems may allow parents to feel more equipped to handle other life stressors. However, stress items were not specific to parenting related stress. Therefore, it is possible that stress related to child behavior problems may have resolved while external stressors such as “In the last month, how often have you been upset by things that happened unexpectedly?” evaluated by the perceived stress scale were unlikely to be impacted by changes in child behavior directly. To examine parental stress as a primary outcome measure, a measure directly assessing parenting related stressors would be more conclusive in examining the direct effects of treatment on changes in parental stress. Furthermore, the time course (one month) utilized in the measure may not have been sensitive to change given the duration of treatment.

Associations Among Parent Characteristics, Treatment Process, and Outcomes for Mothers and Fathers

Regarding the role of the examined treatment variables in the treatment process, the overall pattern of results indicated that pretreatment scores on same construct measures were most predictive of outcome while significant prediction across constructs was not observed (e.g. pretreatment parental stress predictive of posttreatment knowledge scores). Specifically, Study One pretreatment knowledge was predictive of posttreatment knowledge scores while pretreatment perceptions of stress was not. Similarly, Study One pretreatment perceptions of stress predicted posttreatment perceptions of stress while homework adherence did not. Study Two demonstrated similar findings with baseline ratings of problematic child behaviors predicting posttreatment ratings of problematic child behaviors and baseline ratings of child behavior problem intensity predicting posttreatment child behavior problem intensity while neither child behavior problems or intensity were predictive of treatment attitudes. Consistent with these findings, baseline perceptions of stress were not predictive of homework adherence and homework adherence was not predictive of posttreatment perceptions of stress. Regarding associations with problematic child behavior, given that many families reported significant disruptive child behavior problem scores at baseline it is possible that these highly disruptive, problematic, and intense behaviors motivated parents to overcome existing barriers and engage in treatment. Additionally, despite reported stressors or distressing child behavior problems, parents in this study were very engaged in treatment with a mean homework adherence rate of 93% in Study One and 90% in Study Two. This homework completion rate was higher than has been observed in studies closely examining homework completion as a marker of treatment engagement in behavioral parent training which typically ranges anywhere from 25 to 85 % and

reported mean rates of 48% (Chacko et al., 2016; Clarke et al., 2015; Stokes et al., 2016).

Furthermore, there was little variance observed in homework adherence in either study, limiting the predictive ability of the variable. These high levels of engagement may have contributed to the strong treatment effects observed in both Study One and Study Two.

This limited variability may have also influenced the pattern of results observed for examinations of treatment processes associated with parental engagement in both studies. Study One and Study Two examined mediation models emphasizing the role of parental engagement via homework adherence. As described above, little research involves fathers in the examination of the role of parenting stress and motivational beliefs as well as implications for treatment engagement and outcomes. However, some research has been conducted in this area and demonstrated that parenting related stress is predictive of parent and child treatment outcomes such that higher levels of stress predict smaller gains in treatment (Calzada, Eyberg, Rich, & Querido, 2004). As such, parenting stress was expected to be associated with treatment engagement and subsequent parenting stress ratings posttreatment. The stressful nature of child behavior problems was expected to result in a similar hypothesized model in Study Two. As noted above, child behavior problems may impact parent engagement in treatment. Additionally, parental homework engagement has also been demonstrated to reduce child behavior problems and improve parent outcomes (Ros et al., 2016). Study Two therefore examined processes of parental engagement in behavioral parent training as a function of child behavior problems. Child behavior problems pretreatment were expected to be associated with homework adherence which would in turn be associated with posttreatment child behavior problems. Despite support from the literature that such patterns would be observed, mediation examining the role of homework adherence was not supported in either study. It is probable that the limited variance in

the mediator (homework adherence) in Study One and Study Two impacted both X-M (predictor to mediator [homework]) and M-Y (mediator [homework] to outcome) relationships. Other studies have seen similar issues with low variance in homework adherence, however, homework remains a critical variable (Kazantzis, Deane, & Ronan, 2000; Lax, Başoğlu, & Marks, 1992). This lack of variance indicates that care in measurement must be taken when examining adherence. Alternative measures of treatment adherence such as electronic monitoring or direct observation may be viable options to advance our understanding and conceptualization of treatment adherence and permit examination of skills usage or generalization of skills beyond concrete assigned homework tasks and increase variability (Kazantzis, Whittington, & Dattilio, 2010). Future research with treatments associated with or samples demonstrating greater variation in homework adherence may be better able to draw conclusions regarding the role of homework adherence in behavioral parent training for mothers and fathers.

Examination of Paternal Involvement in Behavioral Parent Training Via Maternal and Paternal Differences

To engage in examination of paternal involvement in behavioral parent training, differences between mothers and fathers on study variables was tested in both studies. Although patterns of results were surprising, they were consistent across both studies; no differences between mothers and fathers were observed. The timeframe observed in this study may have contributed to the lack of differences observed between mothers and fathers, previous research has observed that maternal and paternal differences in treatment benefit may be more pronounced at long-term follow-up (Coatsworth et al., 2016). The unique characteristics of this sample may have contributed to this unexpected pattern of findings in several ways. The

observed sample had a larger proportion of fathers than is typically reported in behavioral parent training research, 27% of participants in Study One were fathers and 29% of participants in Study Two were fathers. Several literature reviews have demonstrated that, of the families included in BPT treatment research, only 13-20% of families had fathers represented (Budd & O'Brien, 1982; Coplin & Houts, 1991; Fabiano, 2007; Fletcher, Freeman, & Matthey, 2011; Niec et al., 2015; Tiano & McNeil, 2005). Furthermore, only 45-50% of research on BPT reports any statistics related to fathers (Budd & O'Brien, 1982; Coplin & Houts, 1991; Fabiano, 2007; Fletcher et al., 2011; Niec et al., 2015; Tiano & McNeil, 2005). While the present studies did not yield an equal representation of fathers and mothers, the proportion of fathers involved in these two studies is 50 to 100% greater than participation often observed in the literature. The large proportion of fathers in this real-world treatment sample may be associated with a naturally occurring self-selection bias. The unusually high number of fathers involved may indicate that they are unusually active in parenting and/or especially informed regarding normative child behavior and the need for treatment. Furthermore, the changing paternal roles elucidated above may also contribute to increasing involvement of fathers which may be reflected in paternal participation of this real-world treatment sample. Furthermore, HOT DOCS also made deliberate steps to involve fathers in the development of their treatment and that may have contributed to greater ability to maintain fathers in treatment (Salinas, Smith, & Armstrong, 2011). Also of note, many of the disruptive behaviors were highly visible and distressing for parents with problem behavior scores well above clinical cutoffs. The significant nature of the child behavior problems in this study may have also contributed to ratings agreements between mothers and fathers. Lastly, the majority of the fathers involved in these studies were part of mother-father

dyads in which the mothers also participated in treatment. It is possible that mothers may have contributed to the high completion rates of paternal homework.

Examination of Paternal Involvement in Behavioral Parent Training Via Observed Treatment Gains for Mothers with Fathers Involved in Treatment Versus Mothers Without Fathers Involved in Treatment

To further explore paternal involvement in behavioral parent training, maternal data were utilized to examine if outcomes differed for mothers with fathers involved in treatment and mothers without fathers involved. Again, the patterns of results were surprising yet consistent across both studies; no differences between mothers with fathers involved in treatment and mothers without fathers involved were observed. These findings were surprising given the published literature indicating the importance of father involvement in behavioral parent training for maternal and child outcomes. However, one possible reason for a pattern of results inconsistent with the literature may be associated with recent controversy in the field associated with a lack of replication of findings and “file drawer effects” in which researchers either do not attempt to or are unable to publish null findings.

In a recent open science collaboration (OSC15) published in Science, several hundred researchers collaborated to test the replicability of 100 published social and cognitive psychology research studies (Open Science Collaboration, 2015). The OSC15 report revealed that only 36 percent of studies successfully replicated. Furthermore, the studies in the OSC15 report were direct replications and estimates for theoretical replications were even lower. The field of paternal involvement has a relatively small literature base from which to build upon and reported null findings in this area are scant. It is therefore possible that null findings within this area that

would be consistent with the observed findings in the present studies are far more common than is reported. Furthermore, this research may be the first study to undertake a thorough examination of parent-related characteristics in relation to behavioral parent training treatment outcomes for both mothers and fathers, differences between mothers and fathers on parent characteristics and associated outcomes, and the additive benefit of including fathers in treatment. Therefore, these findings must be interpreted with caution until further research evaluating the theoretical and direct replicability of these findings is conducted.

When considering the results as a whole, one possible explanation for why group differences were not observed is that the intervention itself led to robust changes that do not depend on covariates - that is, the intervention itself accounted for the majority of change that was observed. A strong treatment response is common in behavioral parent training and samples often demonstrate clinically significant change from clinical to non-clinical behavior problems (Kazdin, 2008). However, even when these strong treatment effects have been observed, variables in this study such as parental stress and treatment engagement have been predictive of differential treatment response (Kazdin, 2008). Aspects of the treatment may have addressed factors that typically contribute to group differences such as content tailored toward father engagement as well as structured time for social support and troubleshooting implementation barriers. More specifically, the steps the HOT DOCS creators took to incorporate fathers in the development and modification of treatment may have made the treatment equally accessible for both mothers and fathers and subsequently mitigated differential patterns of benefit between the two parental groups. Similarly, in more didactic treatment approaches mothers without fathers involved in treatment may experience difficulty associated with a lack of social support or a lack of resources to engage in troubleshooting when implementing or generalizing the treatment.

However, the HOT DOCS program permits structured group time for the engagement of social support and collaborative problem solving. The structure of the treatment may have addressed social support needs to a degree that mitigated differential patterns of benefit between the group of mothers with fathers involved in treatment and the group of mothers without fathers involved. The value of the social support and opportunity to problem solve with the guidance of professionals was reported in a qualitative study of paternal responses to the treatment, however, the maternal response to this specific aspect of the treatment has yet to be examined (Salinas, Smith, & Armstrong, 2011). Future research examining the social support and problem-solving opportunities component of the HOT DOCS treatment in comparison to other treatment approaches, particularly as it relates to parent dyads versus parents attending treatment alone, would clarify whether this treatment component can augment treatment benefit for parents attending treatment alone.

Overall, the pattern of results of both studies across multiple levels indicates that the treatment was effective and that the pre-post changes observed were robust to a number of covariates, indicating that this efficacy was not diminished when examining specific groups of participants. It is possible that specific strengths of the program discussed above such as the social support and problem-solving opportunities augmented treatment benefit for subgroups of participants and mitigated the impact of group differences. When taken together, the observed patterns of findings within the context of existing literature indicate further research is needed to enhance our understanding of the importance of parent-related factors in behavioral parent training treatment efficacy as well as their role in the context of father involvement in behavioral parent training.

Limitations

Although the pattern of findings was unexpected, several limitations may have contributed to the observed patterns of results. Firstly, this study was conducted with archival data and several limitations are associated with this methodology. For example, participants were not selected at random and unique aspects of the observed population noted above, such as the high number of participating fathers, may limit the generalizability of findings. An additional limitation associated with the archival nature of this study is that data on the fathers who were not involved in the study were not available. This limitation impacts our ability to make comparisons with fathers who do not engage in treatment. Similarly, objective ratings on child behavior were not available for analysis. Such data may have provided different additional opportunities to observe the impact of father involvement and parent related factors on child and family outcomes. Furthermore, measures utilized in this study were selected for clinical utility and not selected for their psychometric properties as is typical in prospective research approaches. Therefore, it is uncertain whether some findings observed such as the high rate of homework adherence are a result of unique aspects of the treatment or measurement error.

The archival methodology also contributed to the rates of missing data observed. Several steps were taken to address missing data that can produce estimates which match population parameters. All hypothesis tests were estimated using full-information maximum likelihood estimation in Mplus version 7.11 (Muthén & Muthén, 2012). Additionally, auxiliary variables were used to aid in the estimation of missing data via a saturated correlates model. Means and variances of all predictors and covariates were also estimated via full-information maximum likelihood estimation to aid in parameter estimation in the presence of missing data. Although missing data is always an important consideration when interpreting findings, the data observed

are consistent with real-world treatment studies and therefore have increased generalizability when considering these treatment variables in the context of community based treatment delivery. Secondly, all factors were examined within the context of one identified treatment. It is possible that aspects of the specific treatment noted above such as structured social support or content tailored to fathers may have influenced the patterns of results in a manner specific to this study. Future research utilizing randomized control trial methodology for example may be able to clarify effects associated with treatment specific components versus those observed across treatments more generally. Specifically, researchers in future studies may want to randomly assign parents to treatment as usual group or treatment without social support to determine the extent to which social support impacts paternal involvement effects.

Despite these limitations, several strengths of this study such as the thorough and multi-level examination of real-world treatment sample and the large number of fathers participating enable this research to add to our knowledge of parent factors and paternal involvement in behavioral parent training.

Clinical Implications and Future Directions

Clinically, these results suggest that the HOT DOCS behavioral parent training program is efficacious and associated with increases in parent knowledge, positive treatment attitudes, high levels of treatment adherence, and clinically significant reductions in child behavior problems and intensity. Furthermore, these benefits were observed for both mothers and fathers as well as for mothers with or without fathers involved in treatment. These findings demonstrate that engaged fathers and their children may benefit as well as mothers. Future research may

clarify the degree to which treatment components such as structured social support mitigates group differences in treatment benefit.

Theoretical Implications and Future Directions

Theoretically, these results may indicate that while the published research literature indicates paternal involvement in treatment is important for maternal and child outcomes and specific parent-related factors may impact treatment (Phares et al., 2010; Kazdin, 2008), it is possible that strong treatment addressing core constructs driving those findings (such as a lack of social support and collaborative problem-solving for mothers engaging independently) may minimize individual and group differences in observed treatment benefit. For example, the social support offered in group parent training has been hypothesized to improve engagement and mitigate negative effects of rigid treatment delivery format inherent in group treatment (Chacko et al., 2016). However, caution must be used when interpreting these findings until replication and extension studies are available to provide further context. Further research is needed to determine the replicability of findings observed in this study. It is also possible that researchers may observe greater group differences once parents are removed from the treatment context and aspects of the treatment such as social support are no longer present. Future research is also needed to determine if the null findings are observed over time or if patterns of treatment gains are maintained at differential rates.

While the present study did not identify specific parent characteristics that influence treatment gains in behavioral parent training, it did highlight potential treatment components that may mitigate the impact of specific parent characteristics and therefore may have important implications for improving treatment engagement and treatment efficacy in the future.

TABLES

Table 1. Study 1 Measures.*

Study	Pretest	Session 2-6	Posttest
<u>1</u>	Demographics HOT DOCS Knowledge Test Perceived Stress Scale	Homework	HOT DOCS Knowledge Test Perceived Stress Scale
<u>2</u>	Demographics Eyberg Child Behavior Inventory	Homework	Eyberg Child Behavior Inventory Therapy Attitude Inventory

*From all mothers and fathers separately (when fathers were involved in treatment)

Table 2. Study 1 Sample Demographics: Gender, Marital Status, and Race.

<u>Variable</u>	<u>N (%)</u>
<u>Parent Gender</u>	107 (Female; 73%)
<u>Child Gender</u>	106 (Male; 71.6%)
<u>Marital Status</u>	108 (married; 73%)
<u>Race</u>	
African American/Black	14 (9.5%)
Caucasian	97 (65.5%)
Hispanic/Latino	23 (15.5%)
Asian	5 (3.4%)
American Indian or Alaskan Native	2 (1.4%)
Native Hawaiian or Pacific Islander	2 (1.3%)
Bi/MultiRacial/Other	7 (4.7%)

Table 3. Study 1 Parent Education.*

Degree Completed	N (%)
Less than high school	8 (5.4%)
High school	41 (27.7%)
Technical school	14 (9.5%)
Two year college	24 (16.2%)
Four year college	28 (18.9%)
Graduate degree	25 (16.9%)

**This variable does not add up to 100 percent due to 8 missing responses.*

Table 4. Study 1 Descriptive Statistics.*

Measure	N	Mean (SD)	Min/Max	Range	Skewness	Kurtosis	Alpha Level
<i>HOT DOCS Knowledge Test</i>							
Pretest	130	19.25 (5.08)	4/28	24	-0.68	0.11	0.89
Posttest	100	23.66 (4.55)	7/30	23	-0.99	1.458	0.77
<i>Perceived Stress Scale-10</i>							
Pretest	139	17.22 (7.45)	2/35	41	0.04	-0.80	0.89
Posttest	124	16.29 (6.96)	3/36	21	0.20	-0.50	0.90
<i>Homework Adherence</i>							
Mean Score T4	136	.93 (.14)	0/1	.93	-2.96*	11.03*	0.90

* ^a Measure exceeds the critical value of 2.0, suggesting some degree of non-normality.

Table 5. Study 2 Sample Demographics: Gender, Marital Status, and Race.*

Variable	N (%)
<u>Parent Gender</u>	98 (Female; 70.0%)
<u>Child Gender</u>	99 (Male; 69.2%)
<u>Marital Status</u>	103 (married; 72%)
<u>Race</u>	
African American/Black	9 (6.3%)
Caucasian	106 (74.1%)
Hispanic/Latino	7 (4.9%)
Asian	3 (2.1%)
American Indian or Alaskan Native	2 (1.4%)

*This variable does not add up to 100 percent due to 7 missing responses.

Table 6. Study 2 Parent Education.*

Degree Completed	N (%)
Less than high school	9 (6.3%)
High school	30 (21%)
Technical school	18 (12.6%)
Two year college	15 (10.5%)
Four year college	38 (26.6%)
Graduate degree	18 (12.6%)

**This variable does not add up to 100 percent due to 15 missing responses.*

Table 7. Study 2 Descriptive Statistics.*

Measure	N	Mean (SD)	Min/Max	Range	Skewness	Kurtosis	Alpha Level
<i>Eyberg Child Behavior Inventory</i>							
Intensity Pretest	115	132.69 (37.84)	38/217	179	-0.08	-0.31	0.94
Problem Pretest	115	16 (8.87)	0/36	36	0.12	-0.56	0.93
Intensity Posttest	104	109.78 (26.60)	50/188	138	0.21	-0.22	0.91
Problem Posttest	104	9.83 (7.54)	0/30	31	0.72	-0.14	0.90
<i>Therapy Attitude Inventory</i>							
Total Score	133	44.97 (3.9)	27/50	23	-1.25	2.93*	0.80
<i>Homework Adherence</i>							
Mean Score T4	105	.90 (.21)	0/1	1	-2.78*	7.56*	0.95

* ^a Measure exceeds the critical value of 2.0, suggesting some degree of non-normality.

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APPENDIX A: DEMOGRAPHIC SURVEY

Measure removed due to copyright issues.

APPENDIX B: DEMOGRAPHIC SURVEY

Measure removed due to copyright issues.

APPENDIX C: HOT DOCS KNOWLEDGE TEST

Measure removed due to copyright issues.

APPENDIX D: HOT DOCS KNOWLEDGE TEST

Measure removed due to copyright issues.

APPENDIX E: HOT DOCS TIP TRACKER SHEETS

Measure removed due to copyright issues.

APPENDIX F: PERCEIVED STRESS SCALE

Measure removed due to copyright issues.

APPENDIX G: EYBERG CHILD BEHAVIOR INVENTORY

Measure removed due to copyright issues.

APPENDIX H: THERAPY ATTITUDE INVENTORY

Measure removed due to copyright issues.

APPENDIX I: IRB APPROVAL LETTER



RESEARCH INTEGRITY AND COMPLIANCE
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2/27/2017

Brittany Jordan-Arthur,
Psychology
Psychology Department
4202 East Fowler Ave, PCD 4118G
Tampa, FL 33620

RE: **Expedited Approval for Initial Review**

IRB#: Pro00028952

Title: The Role of Fathers in Behavioral Parent Training: An Exploration of Parent-Related Factors in Parent and Child Treatment Outcomes

Study Approval Period: 2/27/2017 to 2/27/2018

Dear Ms. Jordan-Arthur:

On 2/27/2017, the Institutional Review Board (IRB) reviewed and **APPROVED** the above application and all documents contained within, including those outlined below.

Approved Item(s):

Protocol Document(s):

[Dissertation Proposal](#)

[Study Protocol](#)

Consent/Assent Document(s)*:

Waiver of process granted

*Please use only the official IRB stamped informed consent/assent document(s) found under the "Attachments" tab. Please note, these consent/assent documents are valid until the consent document is amended and approved.

It was the determination of the IRB that your study qualified for expedited review which includes activities that (1) present no more than minimal risk to human subjects, and (2) involve only procedures listed in one or more of the categories outlined below. The IRB may review research through the expedited review procedure authorized by 45CFR46.110 and 21 CFR

56.110. The research proposed in this study is categorized under the following expedited review category:

(5) Research involving materials (data, documents, records, or specimens) that have been collected, or will be collected solely for nonresearch purposes (such as medical treatment or diagnosis).

Your study qualifies for a waiver of the requirements for the informed consent process as outlined in the federal regulations at 45CFR46.116 (d) which states that an IRB may approve a consent procedure which does not include, or which alters, some or all of the elements of informed consent, or waive the requirements to obtain informed consent provided the IRB finds and documents that (1) the research involves no more than minimal risk to the subjects; (2) the waiver or alteration will not adversely affect the rights and welfare of the subjects; (3) the research could not practicably be carried out without the waiver or alteration; and (4) whenever appropriate, the subjects will be provided with additional pertinent information after participation. (Secondary data).

As the principal investigator of this study, it is your responsibility to conduct this study in accordance with IRB policies and procedures and as approved by the IRB. Any changes to the approved research must be submitted to the IRB for review and approval via an amendment. Additionally, all unanticipated problems must be reported to the USF IRB within five (5) calendar days.

We appreciate your dedication to the ethical conduct of human subject research at the University of South Florida and your continued commitment to human research protections. If you have any questions regarding this matter, please call 813-974-5638.

Sincerely,



John Schinka, Ph.D., Chairperson
USF Institutional Review Board