ANDREWS, EMILY K., Ph.D. Child Problem Behavior and Parent Factors Impacting Parent Engagement and Children's Social Competence During Head Start. (2020) Directed by Dr. Julia Mendez Smith. 126 pp.

The impacts of poverty on parent and child functioning are far-reaching (Duncan & Brooks-Gunn, 2000). Early childhood education programs have been developed to better support socioeconomically disadvantaged young children and their families, and often seek to engage parents in support of their child's development. However, parent participation in current preventive programs in early childhood settings is low, and relatively few studies specifically evaluate parents' intervention engagement as well as how it impacts intervention outcomes (Mendez, 2010). To address this gap, the current study aimed to more closely evaluate parents' engagement in The Companion Curriculum (TCC), a parenting and home-school connection intervention delivered within Head Start. Specifically, the current study evaluated parents' behavioral (e.g., TCC attendance, usage of TCC strategies at home) and attitudinal (e.g., TCC satisfaction) engagement as it related to child and parent characteristics as well as children's end-of-year social competence following the intervention.

Participants included 176 predominantly African American (92.6 %) preschool children and their parents and teachers. Parents reported on parent and child characteristics through measures administered by study researchers in an interview format in the Fall. Parents in the intervention condition received all school readiness materials as part of the study and were compensated with a gift card for their participation in the interviews. Teachers completed measures assessing children's social competence in the classroom in both the Fall and the Spring. Parent attendance was

tracked by researchers at each of nine monthly TCC intervention sessions. Parent reported usage of TCC materials at home and satisfaction with the TCC intervention materials were assessed following completion of the intervention in the Spring.

Analyses showed no significant relations among the behavioral and attitudinal indicators of parent engagement (e.g., TCC attendance, TCC usage, and TCC satisfaction). Using Structural Equation Modeling, results indicated that child and parent factors were differentially related to indicators of parent engagement. Higher child behavior problems predicted lower TCC attendance and satisfaction and higher parent self-efficacy predicted higher TCC satisfaction only. Additionally, higher parental depression indirectly and negatively impacted parent engagement, as measured by TCC satisfaction, through lower parent self-efficacy. No indicator of parent engagement was found to predict children's end-of-year social competence following the intervention, after controlling for children's social competence in the Fall. However, higher levels of child behavior problems were related to lower child social competence in the Fall. Study findings are discussed as they relate to current theory and research on parent engagement in parent-focused prevention programs. Additionally, implications for practice in early education settings for effectively supporting parent engagement among ethnically diverse, socioeconomically disadvantaged populations are considered.

CHILD PROBLEM BEHAVIOR AND PARENT FACTORS IMPACTING PARENT ENGAGEMENT AND CHILDREN'S SOCIAL COMPETENCE DURING HEAD START

by

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A Dissertation Submitted to
the Faculty of The Graduate School at
The University of North Carolina at Greensboro
in Partial Fulfillment
of the Requirements for the Degree
Doctor of Philosophy

Greensboro
2020

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June 16, 2020
Date of Acceptance by Committee

June 16, 2020
Date of Final Oral Examination

ACKNOWLEDGMENTS

A warm thank you to all the mentors over the years who have prepared me for and helped guide me through this intellectual journey. A special thank you to my advisor, Dr. Julia Mendez Smith, whose mentorship and passion for supporting all young children's optimal development has been particularly influential. To my family and friends, your constant love and support has always sustained me and has been a key ingredient in all of my successes.

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CHAPTER I

INTRODUCTION

The adverse impact of poverty on children's social, behavioral, and academic development has been well documented (Blair, 2002; Blair & Raver, 2012; Duncan & Brooks-Gunn, 2000). Poverty has also been found to negatively impact parenting behaviors associated with these developmental outcomes (Hill & Craft, 2003; Patterson & Stouthamer-Loeber, 1984). To help offer low-income parents support, a variety of parent-focused preventive interventions have been developed and implemented within early childhood settings serving socioeconomically disadvantaged families. These parent-focused programs have been found to enhance the impact of early childhood education settings and to improve a variety of parent behaviors (e.g., increased play and stimulation for learning in the home, increased consistency in discipline and support for positive behaviors) and child outcomes (e.g., improved early math and literacy skills, increased social competence, reduced behavior problems) (Bierman et al., 2015; Brotman et al., 2005; Marti et al., 2018; Webster-Stratton, 1998; Webster-Stratton, et al., 2001). Additionally, evidence suggests that some child gains are maintained one year after intervention delivery as well as into the transition to formal schooling (Bierman et al., 2015; Bierman et al., 2016; Breitenstein et al., 2012; Webster-Stratton, 1998) However, low levels of parent engagement in these supportive intervention programs for low-

income parents have been documented consistently across studies, (Garvey et al., 2006; Mendez, 2010).

For parent-focused prevention programs to better realize their full impact, a better understanding of facilitators and barriers to parent engagement is necessary to inform engagement efforts as well as potential intervention adaptations that may be needed. Towards this goal, the current research study aimed to comprehensively evaluate parents' engagement in The Companion Curriculum (TCC), a parenting and home-school connection preventative intervention delivered within Head Start. In prior work, parent engagement has been conceptualized as including both parent attitudes and behaviors that relate to parent participation in an intervention, which can vary based on their level of involvement in the intervention (i.e., attendance versus quality of participation and technique utilization) as well as the timing within the intervention (i.e., pre-enrollment engagement versus post-enrollment engagement) (McCurdy & Daro, 2001; Staudt, 2007). However, there is a gap between this conceptualization and its operationalization across studies, with many previous studies of parent-focused preventive interventions focusing on single indicators of parent engagement (e.g., attendance) or exclusively examining behavior indicators when multidimensional constructs have been evaluated (Baydar et al., 2003; Coatsworth et al., 2017; Reid et al., 2001). To address this gap, the current study proposed and evaluated a multidimensional model of parent engagement that included both behavioral (e.g., attendance, usage of intervention strategies at home) and attitudinal (e.g., satisfaction with the intervention) components. Additionally, to better evaluate the implied theory of change in parent-focused preventive interventions, the current study

examined the impact of parent engagement on a key child intervention outcome, namely, children's social competence with peers in Head Start programs.

To build a more effective evidence base for parent-focused prevention programs, more research is needed to identify key factors that impact parents' decision-making about participation in these opportunities with ethnic minority parents, as there is evidence of current disparities in their program participation and outcomes (Baydar et al., 2003; Begle et al., 2012; Nix et al., 2005; Nix et al., 2018; Snell-Johns et al., 2004). A greater focus on research with specific cultural groups has been advocated in order to elucidate both normative processes as well as variability within these groups (Garcia Coll et al., 1996). Therefore, the current study specifically examined parent engagement within a predominantly African American sample of parents with children attending Head Start, with the goal of better understanding the within group variability among a socioeconomically disadvantaged, ethnic minority sample.

Parent Engagement in Preventive Interventions During Early Childhood

There is a robust literature documenting the impacts of poverty on young children and families (Blair & Raver, 2012; Duncan & Brooks-Gunn, 2000). To better understand the potential mechanisms through which poverty-related stressors put children at increased risk for poorer social, behavioral, and academic functioning, Blair and Raver (2012) made a conceptual distinction between the material and psychosocial impacts of poverty. The material context of poverty refers to environmental conditions, such as lack of neighborhood safety, crowded and substandard housing, and exposure to community violence. The psychosocial context of poverty refers to the consequences of managing

multiple stressors, including constrained emotional resources and an increased risk for poorer mental health functioning. Poverty has been identified as a key factor leading to racial and ethnic disparities in achievement, behavior, and health, with ethnic minority children and families being disproportionately represented among those living in poverty (Dawson-McClure et al., 2015; Duncan & Brooks-Gunn, 2000). Specifically related to parenting, these material and psychosocial impacts of poverty can adversely impact parents' ability to engage in behaviors that optimally facilitate children's early development, such as support for positive behaviors, consistent discipline, and school involvement (Hill & Craft, 2003; Patterson & Stouthamer-Loeber, 1984). For example, socioeconomic disadvantage has been associated with lower levels of stimulation for learning and child-directed speech in the home (Bradley et al., 2001; Hart & Risley, 1992).

The early childhood period has been documented to be a critical time for intervention for socioeconomically disadvantaged young children and their families, with research indicating the greater cost-effectiveness of intervening early as well as short and long-term impacts of preventive programs on child outcomes (Cannon et al., 2018; Jones et al., 2019; Olds et al., 1998). The early childhood years are also an important time to begin to engage parents in children's learning and development, with research suggesting that motivation for involvement may be particularly high for parents during this developmental period and that parent involvement in preschool can set the stage for parent involvement during the transition to formal schooling (Marcon, 1999; Shaw et al., 2006). Additionally, engaging parents to better support children is consistent with the

mission of two-generation early intervention programs, such as Head Start (National Center on Parent, Family, and Community Engagement, 2018).

Considering developmental timing and the far-reaching impacts of poverty noted above, a variety of parent-focused preventive interventions have been developed for implementation within early childhood settings serving socioeconomically disadvantaged young children and their families. The aims of these parent-focused programs are consistent with the goals of early childhood education settings, including promoting child development across a variety of domains as well as increasing children's readiness to transition to formal schooling (National Center on Parent, Family, and Community Engagement, 2018). Additionally, these programs are conceptualized as extending the reach of early childhood education settings by increasing complementary interactions and activities to the home environment as well as bolstering the home-school connection for children (Bierman et al., 2015; Dawson-McClure et al., 2015). Among these parent-focused preventive interventions, programs tend to emphasize school readiness more broadly or children's behavioral functioning more specifically. Despite some differences in the content of these programs, there is overlap in the structure and strategies employed. Additionally, all programs share a focus on impacting parenting as a primary mechanism of change to support child developmental outcomes (Nix et al., 2018).

School readiness has been described as including both academic (e.g., language, early literacy and mathematics knowledge and skills) and social-emotional (e.g., social competence, self-regulation abilities) skills that are related to optimal school adjustment and achievement, with disparities in school readiness documented for socioeconomically

disadvantaged children (Bierman et al., 2008). Consistent with this understanding, parent-focused prevention programs targeting school readiness have focused on a broad range of parenting skills (e.g., reading books, engaging in developmentally-appropriate play, increasing talk about feelings, supporting children in emotion regulation) and tend to include both classroom and home-based components to support parents' knowledge and skill development (Bierman et al., 2015; Marti et al., 2018; Mendez, 2010). Parent-focused programs promoting school readiness have been found to significantly increase parents' stimulation for learning in the home, teacher-reported school involvement, parents' frequency of reading, and teacher-reported parent-teacher relationship quality (Brotman et al., 2011; Dawson-McClure et al., 2015; Mendez, 2010). Additionally, these programs have been found to positively impact children's academic skills at the end of preschool and during the transition to kindergarten, including children's early literacy, language, and math skills (Bierman et al., 2015; Brotman et al., 2013; Marti et al., 2018). Related to children's social-emotional school readiness, there is evidence of programs increasing children's social competence and self-regulation skills (Bierman et al., 2015; Marti et al., 2018; Mendez, 2010). Additionally, there is evidence that these school readiness gains are maintained in kindergarten and 2nd grade (Bierman et al., 2015; Bierman et al., 2016).

Similarly, studies evaluating parent-focused programs targeting child behavioral functioning involving socioeconomically disadvantaged, ethnically diverse families have found evidence for their efficacy, including a significant decrease in negative parenting behaviors (e.g., critical statements, corporal punishment), a significant increase in

positive parenting behaviors (e.g., consistent discipline, stimulation for learning at home) as well as reduced conduct problems and increased social competence for children (Breitenstein et al., 2012; Brotman et al., 2005; Webster-Stratton, 1998; Webster-Stratton et al., 2001). Additionally, there is evidence that some of these social-emotional gains are maintained one year after completing programs (Breitenstein et al., 2012; Webster-Stratton, 1998; Webster-Stratton et al., 2001).

While parent-focused preventive interventions in early childhood have been found to be efficacious for parents who participate, poor parent engagement is currently limiting the ability of these programs to reach all families who may benefit. For example, for parent-focused programs targeting school readiness, less than half of parents attended workshops (Dawson-McClure et al., 2015; Mendez, 2010). Similarly, parent-focused preventive interventions targeting child behavioral functioning have reported average enrollment rates between 30% to 48% of eligible families and an average parent attendance rate of about 39% to 61% of sessions (Baker et al., 2011; Garvey et al., 2006; Heinrichs et al., 2005). In addition to the fact that exposure is necessary for any gains to take place, higher parent engagement, as measured by parent attendance and usage of program strategies at home, has been associated with greater improvement in both parent and child behavior following completion of programs as well as longer-term retention of improvements (Begle et al., 2012; Bierman et al., 2015; Brotman et al., 2011; Dawson-McClure et al., 2015; Garvey et al., 2006; Gross et al., 2009; Marti et al., 2018; Nix et al., 2018; Reid et al., 2004; Webster-Stratton et al., 2001).

Conceptual Models of Parent Engagement

Both the clinical and preventive intervention literatures have proposed conceptual models to help understand factors that predict parent engagement in a more coherent way that promotes the application of findings to interventions. Early parent engagement studies from the clinical literature identified factors related to premature termination, including sociodemographic (e.g., low socioeconomic status, young maternal age, single marital status, minority group membership), parent (e.g. harsh discipline, high parenting stress), and child (e.g., severity of antisocial behavior, poor academic functioning) factors (Kazdin, 1990; Kazdin et al., 1993). While helpful as an initial approach to identifying potential barriers to parent engagement in treatment, this approach does not elucidate the mechanisms through which these factors lead to lower or higher levels of parent engagement in children's mental health services. To address this, Kazdin and colleagues (1997) developed the barriers-to-treatment model as a way to conceptualize and predict poor participation in and premature termination from child therapy. The barriers-to-treatment model posits that there are unique treatment barriers that emerge after treatment is initiated, which predict premature termination above and beyond the impact of known sociodemographic, parent, and child risk factors. Kazdin and colleagues (1991) developed the Barriers to Treatment Participation Scale (BTPS) to assess these later-emerging barriers to parent engagement in treatment, including stressors and obstacles to attending sessions, the perception of treatment as demanding, the perceived relevance of treatment, and the perceived quality of the relationship with the therapist providing services.

In their article reviewing evidenced-based strategies for facilitating participation in treatment for underserved populations, Snell-Johns et al., (2004) apply a social-ecological framework to the understanding of parent engagement by considering factors impacting participation at multiple levels, including the individual level (e.g., symptom severity), the microsystem level (e.g., characteristics of the home and school environments), the exosystem or community level (e.g., availability of services, neighborhood characteristics), and the macrosystem or cultural level (e.g., racism, availability of culturally competent services). This theoretical framework provides a contextualized perspective on parent engagement, by highlighting that parent engagement is influenced by factors that impact them at varying levels of directness. Additionally, this framework emphasizes that parents' engagement is at least partially determined by more distal factors (e.g., work demands and schedules, limited transportation options, robustness and policies of local social service agencies), many of which are outside of the parents' immediate control and are unrelated to their level of motivation or interest in services.

Within the prevention literature, models of parent engagement have been proposed that take into account the unique barriers associated with voluntary supportive programs for children and families considered at-risk due to socioeconomic disadvantage. McCurdy and Daro's (2001) conceptual model of parent engagement examines factors related to engagement at three distinct phases of intervention involvement, including the intent to enroll, enrollment, and retention. Additionally, McCurdy and Daro proposed that four domains impact parents' engagement at each phase of intervention involvement,

including individual factors (e.g., readiness to change, attitude towards services), provider factors (i.e., cultural competence, service delivery style), program factors (e.g., supervisory caseload, funding), and neighborhood factors (e.g., social capital, social disorganization). Similar to Kazdin's (1997) barriers-to-treatment model, their conceptual model recognizes that program and provider characteristics can impact parents' engagement in interventions. McCurdy and Daro's (2001) conceptual model is unique in its explicit emphasis on the impact of community norms and characteristics that may facilitate (e.g., positive community perception of program, acceptability of services within community) or limit (e.g., high levels of community disorganization, negative community perception of program) parent engagement, which is also consistent with social-ecological theory. Taken together, these conceptual models highlight that 1) a variety of factors predict parent engagement, with no one factor being necessary or sufficient, and 2) factors can impact parents' decision-making at varying levels of directness and may interact to explain parents' engagement in interventions. More broadly, there appears to be a dearth of theoretically grounded research on parent engagement in interventions across both the clinical and preventive literatures, with some notable exceptions (Eisner & Meidert, 2011; Kazdin & Wassell, 2000; Kazdin et al., 1997; LaForett & Mendez, 2010).

Measurement Challenges in Parent Engagement

While much empirical work has focused on the topic of engaging parents in mental health services, there is no shared definition of what constitutes parent engagement (Staudt, 2007). A current problem in the literature is that some

conceptualizations of engagement are narrow, emphasizing parents' initial decisions to begin treatment, while other conceptualizations are more comprehensive, emphasizing a range of parent behaviors and implied attitudes throughout the treatment process (Prinz & Miller, 1991).

Researchers in both the clinical and preventive literature have made some key conceptual distinctions related to parent engagement. Staudt (2007) argues that parent engagement is best understood as having two related components: behavioral and attitudinal. Behavioral engagement involves both treatment attendance and treatment adherence (e.g., participating in sessions, completing homework). Attitudinal engagement refers to an emotional investment in treatment as well as the beliefs that treatment will be beneficial and that treatment benefits outweigh the costs. Staudt argues that attitudinal engagement is an essential component of engagement and that behavioral engagement is best conceptualized as a result of attitudinal engagement. Additionally, she notes that attitudinal and behavioral engagement do not always co-occur and that this can have important implications for understanding treatment engagement and outcomes. For example, in the case of court-ordered treatment, parents may sometimes be present yet not fully engage attitudinally or exhibit high levels of participation during sessions. Alternatively, a parent may be attitudinally engaged in treatment, yet not able to overcome barriers to attendance (e.g., transportation, work schedule, child care).

Nock and Ferriter (2005) make a distinction between treatment attendance and treatment adherence to describe different levels of parent engagement in child treatment. Treatment attendance refers to the presence of the agreed upon participants in treatment

to the treatment setting. They define the treatment setting broadly to include the clinic, home, school or even a scheduled telephone conversation. Several studies have found that attendance (i.e., dosage) is related to parent and child change after completing the intervention (Garvey et al., 2006; Reid et al., 2004; Webster-Stratton et al., 2001). Treatment adherence refers to active participation during and between sessions on the part of participants in treatment. For example, treatment adherence could include the quality or quantity of participation in discussions, use of the skills taught in treatment, and completing homework assignments between sessions. While treatment attendance is necessary for treatment adherence, parent adherence to treatment is the proposed causal mechanism through which child behavior is changed. Compared to treatment attendance, there is a dearth of studies measuring the impacts of treatment adherence on parent and child outcomes. In the context of parent-focused preventive intervention programs, the term "technique utilization" or usage were used to describe parents' daily use of the program skills taught in interactions with their children (Eisner & Meidert, 2011, p. 84; Marti et al., 2018; Nix et al., 2018). Additionally, researchers have found that parents' use of techniques increased as they attended more sessions and as the leader-reported positive course climate increased (Eisner & Meidert, 2011; Nix et al., 2018). Overall, fewer studies have measured treatment adherence as it relates to child and parent outcomes compared to treatment attendance. When considering the preventive literature in particular, more studies assessing treatment adherence are needed. Conceptually, parents' level of adherence to program strategies may be the most related to their

intervention outcomes, given that greater use of skills outside of program sessions would more systematically shape both parent and child functioning in positive ways.

Researchers have used a variety of measures to assess parent engagement in parent-focused preventive interventions within early childhood settings. Some researchers have measured parents' stated intent to enroll and actual enrollment as an indicator of initial engagement (Dumas et al., 2007; Dumas, Arriaga, et al., 2010; Heinrichs et al., 2005). Attendance is the most common way that parent engagement has been operationalized across studies. This is due in part to the ease of collecting this type of data. The number of sessions attended has been used to create a variety of variables, both continuous and dichotomous. Many studies have simply examined associations between the number of sessions attended and parent, child, and family characteristics (Begle et al., 2012; Bierman et al., 2015; Marti et al., 2018; Nix et al., 2018). Some studies have used attendance data to create dichotomous variables to compare groups that exhibit different levels of engagement during the course of the intervention. For example, studies have examined factors associated with attrition over the course of the intervention, comparing parents who complete the intervention to those who drop out (Eisner & Meidert, 2011; Webster-Stratton, 1998). Other studies have compared parents who are "high" versus "low" attenders (Jobe-Shields et al., 2015; Mendez, 2010). Decision to enroll, attendance, and categories based on attendance are all considered behavioral indicators of parent engagement.

Another behavioral indicator of parent engagement that researchers have examined is parents' quality of participation during group sessions. For one research

group, group leaders rated the quality of participation for each parent at the end of the session (Begle et al., 2012; Dumas et al., 2007; Dumas, Arriaga, et al., 2010; Dumas et al., 2011; Jobe-Shields et al., 2015). Specifically, each parent was rated on the quantity of their participation as well as their observed attentiveness and interest (e.g., asking questions) during the session. One study measured quality of participation at the group level. Specifically, Eisner and Meidert (2011) measured the course climate by having group leaders complete a questionnaire assessing the extent to which parents were attentive and actively participating during each session.

Several studies measured parent engagement between sessions, which is also considered a behavioral indicator of parent engagement. Many parent-focused preventive interventions assign "homework" to parents, which typically involves practicing the skills taught during sessions at home with their children. Several studies have examined homework completion among parents as an indicator of engagement by documenting the number of sessions to which the parent brought completed homework (Baydar et al., 2003; Reid et al., 2004). Additionally, several studies examined parents' technique utilization between sessions (Eisner & Meidert, 2011; Marti et al., 2018; Nix et al., 2018).

Many studies have included a measure assessing parents' satisfaction with the program, which is an attitudinal indicator of parent engagement (Brotman et al., 2003; Brotman et al., 2011; Dumas et al., 2011; Gross et al., 2003; LaForett & Mendez, 2010; Reid et al., 2001). Common topics assessed across satisfaction measures include: 1) usefulness and ease of using the program's techniques, 2) relevance the program's content, 3) usefulness of program's methods for content delivery (i.e., discussion,

videotapes, etc.), and 4) evaluations of the group leaders' skills and ability to make parents feel comfortable and safe. Most studies collected these satisfaction measures at the end of the program. However, one study examined parent satisfaction at two points during the program and another had parents rate their satisfaction at the end of each session (Brotman et al., 2011; Dumas et al., 2011).

Among the studies that include multiple measures of parent engagement, there are generally fewer reports of the relationship among these indicators. One research group evaluated a multidimensional model of parent engagement made up of three behavioral indicators, including parents' attendance at group sessions, parents' completion of homework assignments between groups, and parents' level of participation during group sessions as rated by group leaders (Baydar et al., 2003; Reid et al., 2001). This multidimensional model of parent engagement was found to significantly predict both parent and child outcomes following completion of the intervention. However, the relationships between the individual parent engagement indicators were not explored. Overall, this is consistent with other studies of parent-focused prevention programs that have assessed multiple indicators of parent engagement (Gross et al., 2003; Dumas et al., 2011). Only two studies reviewed did evaluate the relationship among indicators of parent engagement. For example, Brotman and colleagues (2011) evaluated the relationship between attendance and intervention attitudes for parents, finding no association between parents' attendance and their average satisfaction across sessions. Additionally, Eisner and Meidert (2011) evaluated the relationship between program attendance and usage of program strategies at home and found that attendance predicted

technique utilization several months after participating in a parent-focused prevention program.

In summary, parent engagement has been conceptualized as including both parent attitudes and behaviors that relate to parent participation in an intervention, which can vary based on their level of involvement in the intervention (i.e., attendance versus quality of participation and technique utilization) as well as the timing within the intervention (i.e., pre-enrollment engagement versus post-enrollment engagement). However, there is a gap between this conceptualization of parent engagement and its operationalization across studies of parent-focused preventive interventions in early childhood, with many studies using behavioral indicators of parent engagement, especially attendance, and few focusing on attitudinal indicators of parent engagement. Additionally, the relationships between different indicators of parent engagement have not been commonly evaluated. There is a need for greater specificity in measuring parent engagement in parent-focused prevention programs, with greater attention needed to the measurement of parents' attitudes and usage of program strategies outside of intervention settings in particular.

Factors Predicting Parent Engagement in Parent-Focused Preventive Interventions

A better understanding of the modifiable mechanisms through which relevant parent and child factors impact parents' engagement is needed. This is an important next step because it will inform intervention modifications that may ultimately increase parents' engagement in parent-focused preventive interventions in early childhood settings. Towards this goal, modifiable child and parent factors are identified from

previous research evaluating parent-focused interventions, and their potential relationship to parent engagement is considered.

Parenting Self-Efficacy

Several studies in the clinical literature have examined the role of parents' attributions about their parenting as they may impact parent engagement in child treatment. Morrissey-Kane and Prinz (1999) propose that parents who have experiences of ineffectiveness in managing their child's disruptive behavior will make attributions about their parenting ability as well as their child's behavior that impact their affective response, their expectations for future success, and their subsequent behavior (i.e., their engagement in child therapy). Related to parent's evaluations of their parenting ability, it is suggested that repeated difficulties managing child behavior can lead to attributions about one's parenting ability as being stable and outside of one's control, leading to feelings of apathy, helplessness and hopelessness. This leads to the expectation that one's parenting ability is static, which would predict limited motivation for and engagement in child therapy. Similarly, in their review of the role of parenting self-efficacy in parent engagement, Mah and Johnston (2008) argue that high levels of parenting self-efficacy may be positively related to parents' early engagement, due to studies showing that parenting self-efficacy is associated with persistence on difficult tasks (Berry & West, 1993 as cited in Mah & Johnston, 2008). Johnston and colleagues (2010) found some support for this hypothesis, finding that parenting self-efficacy was positively associated with treatment effectiveness and parents' experience using the strategies post-treatment. This finding suggests that parents with higher parenting self-efficacy viewed treatment

strategies as more effective and that this led to greater confidence in and satisfaction with the use of these strategies following treatment. Overall, previous theory and research in the clinical literature has conceptualized high parent self-efficacy as a facilitator of parent engagement in treatment.

Less research has focused on the impact of parent self-efficacy on parent engagement in parent-focused preventive interventions. One study found that parent attendance was negatively associated with parenting self-efficacy, such that lower levels of parenting self-efficacy were related to higher levels of parent attendance (Garvey et al., 2006). This finding suggests that parents who have lower evaluations of their parenting ability are more likely to engage in parent-focused preventive interventions, possibly due to lower parenting self-efficacy increasing parents' perception of the intervention as helpful or relevant for them. In contrast, two studies found no relation between parents' perception of their parenting ability and their engagement. Eisner and Meidert (2011) found that perceived parenting difficulty did not predict enrollment in the Triple P program. Similarly, Gross et al., (2001) found that parenting self-efficacy was not related to dropping out of the Incredible Years program. Considering the construct of self-efficacy, researchers have conceptualized and measured it as a broad factor (e.g., assuming that certain parents have a tendency to feel less efficacious in general across domains) or as a narrower factor (e.g., highlighting specific and important domains in which parents may have low efficacy) (Bandura, 1989; Garvey et al., 2006; Waanders et al., 2007). Across the studies reviewed in the parent-focused prevention program literature, researchers have tended to use domain specific measures of parent self-

efficacy, which have evaluated parents' efficacy in different parenting domains (e.g., efficacy in managing child behaviors or efficacy in promoting children's learning). However, across these domain specific measures of parent self-efficacy, parents' perceived ability to guide their child's development is assessed.

Overall, the findings related to parent self-efficacy in the parent-focused prevention literature are sparse and contradictory, which limits the conclusions that can be made about their relationship to parent engagement. However, there is some evidence that the relationship between parenting self-efficacy and parent engagement may differ across clinical and preventive interventions. For preventive interventions in particular, the populations targeted are at risk for, but not necessarily demonstrating, impaired functioning. Given this, parents who are experiencing impaired functioning, such as parents who do not feel efficacious in their role as a parent, may be more motivated to access preventive services offered to them.

Parental Depression

Previous studies have documented higher levels of depressive symptoms among socioeconomically disadvantaged parents of young children participating in preventive interventions, with rates of clinically significant depressive symptoms impacting over a third of program participants (Beeber et al., 2017; LaForett & Mendez, 2010). The greater incidence of depressive symptoms among parents raising children in poverty likely reflects the increased life stressors faced by these parents, which can significantly impact emotional functioning (Pianta & Egeland, 1994). Despite depressive symptoms being associated with a variety of parenting behaviors, such as lower levels of home and

school involvement, depressive symptoms have not been consistently found to be associated directly with parents' engagement in preventive interventions (LaForett & Mendez, 2010).

Baydar et al. (2003) examined the impact of maternal mental health on engagement in the Incredible Years program in a Head Start sample. High maternal depressive symptoms accounted for a small reduction in engagement as measured by attendance, quality of participation, and percentage of homework completed. Additionally, while mothers with high as well as low levels of depressive symptoms showed improvements in their parenting in the expected direction (i.e., decreasing their harsh and inconsistent parenting and increasing their supportive parenting), mothers with higher levels of depressive symptoms showed smaller gains in parenting behaviors based on observer ratings compared to mothers with lower levels of depressive symptoms. Garvey and colleagues (2006) found that quality of participation was related to improvements in parents' depressive symptoms. This indicates that parents' group participation may be hindered by their depressive symptoms, which may be one way in which depressive symptoms limit parents' program gains despite comparable rates of attendance as parents with lower levels of depressive symptoms. Additionally, Nix et al. (2018) found that more parental distress, as measured by parental depressive symptoms and parenting stress, predicted less usage of program materials at home. Other studies examining the relation between maternal depression and engagement found that higher levels of depressive symptoms were not related to attrition or attendance (Garvey et al., 2006; Gross et al., 2001). Overall, these findings suggest that parents experiencing higher

levels of depressive symptoms engage in parent-focused prevention programs at comparable rates as parents without these symptoms. However, the inconsistent findings related to the impact of parental depression on parent engagement also suggest that depression may be related to engagement indirectly, through mediators not commonly evaluated across previous studies.

Child Behavior Problems

One study evaluating parent engagement in a parent-focused prevention program found that parents identified low child risk and low family need as primary reasons for not enrolling in the program (Spoth et al., 1996). Across studies evaluating parent participation in a parent-focused substance use prevention program, while parents tended to rate their child's perceived risk as low, parents who did rate their child's problems as more severe were more likely to enroll in the program (Spoth et al., 1993; Spoth & Conroy, 1993; Spoth & Redmond, 1995). Perrino and colleagues (2001) assessed family's perceived need for a similar parent-focused substance use prevention program by having parents rate their children and family on the presence and severity of problems that were targeted by the intervention. They found that higher perceived need for the intervention, as measured by lower parent-reported investment in parenting, predicted enrollment in the program. Overall, based on the broader parent-focused preventive intervention literature, there is some evidence to suggest that parents who perceive their child or family to have needs that are targeted by the intervention may enroll and engage at higher rates.

Across studies of parent-focused prevention programs in early childhood, the level of child behavior problems was somewhat consistently related to engagement. Specifically, studies found that parents who perceived their children to have higher levels of disruptive behaviors were more likely to enroll and regularly attend programs (Dumas et al., 2007; Garvey et al., 2006; Heinrichs et al., 2005). Gross and colleagues (2009) found that parents who received a "high dose" (i.e., attending 6-11 sessions) of the Chicago Parent Program rated their children as having higher levels of aversive behaviors at a higher level of intensity compared to parents who received a "low dose" of the program (i.e., attending 0-6 sessions). Additionally, Reid et al. (2004) found that parents with children who had higher levels of behavior problems, based on parent and observer report during a home visit, showed higher levels of program engagement as measured by attendance, quality of participation, and percentage of homework completed. They further differentiated "indicated" children, which was defined as having parent-reported conduct problems one standard deviation above the sample mean, and "indicated" mothers, which was defined as mothers who made 10 or more critical statements during a home observation. They found that parents of "indicated" children and "indicated" mothers who perceived their children to have higher levels of conduct problems were more likely to engage in the program. Finally, Garvey and colleagues (2006) found that quality of participation was related to improvements in children's behavior problems as rated by both parents and teachers, which may indicate that parents are more likely to engage productively during groups as they observe the techniques to improve their child's behavior.

However, one study found that parents of children with lower levels of behavior problems and higher levels of social competence at home and at school were more likely to use program strategies at home (Nix et al., 2018). Additionally, several studies found that the level of parent-reported child disruptive behaviors was not related to enrollment, attendance, or attrition (Brotman et al., 2011; Eisner & Meidert, 2011; Gross et al., 2001). Overall, studies suggest a link between parent's perception of their child's disruptive behavior and their decision to engage in parent-focused preventive programs at multiple stages. Specifically, this research points to child behavior problems as an important factor impacting higher rates of help seeking for parents.

Impacts of Parent Engagement on Children's Social Competence

Parents are primary shapers of their children's early development, with parent-focused prevention programs targeting parenting in service of impacting child outcomes. Specifically, these interventions are thought to exert their impact on targeted child outcomes through changes in parents' attitudes and behaviors that occur as a result of engagement with the intervention (Nix et al., 2018). However, this implied theory of change has not often been evaluated across studies of parent-focused prevention programs. One important reason to better evaluate the direct link between parent engagement and intervention outcomes is to determine if the association varies based on how parent engagement is conceptualized and measured (e.g., testing if different aspects of parent engagement differentially predict intervention outcomes or if certain aspects of parent engagement are more important in impacting intervention outcomes). Another reason to evaluate the relationship between parent engagement and intervention outcomes

is that it allows researchers to better evaluate the implied model of change for their intervention (e.g., to determine if engagement impacts outcomes in a dose-response fashion or through another variable targeted by the intervention). These findings have the potential to further inform intervention modifications that could increase their impact (e.g., to promote certain types of parent engagement over others).

While studies have evaluated intervention exposure as it impacts both child and parent outcomes in parent-focused prevention programs, only a few studies have evaluated parent engagement as a mechanism of change. Baydar and colleagues (2003) found that parent engagement, as measured by attendance, quality of participation, and homework completion, was related to targeted parenting outcomes (e.g., levels of supportive, inconsistent, and harsh parenting) in a dose-response manner. Reid et al. (2004) found that parent engagement, also as measured by attendance, quality of participation, and homework completion, was associated with increases in children's prosocial behaviors and decreases in children's conduct problems as measured by observers, but not by parents. Bierman and colleagues (2015) found that attendance alone was unrelated to child outcomes, but that a parent engagement composite, including attendance and quality of participation as rated by home visitors, was related to children's reading fluency, overall academic skills, and parents' support for learning in an observational task. Finally, Nix et al. (2018) found that parents' usage of program materials at home predicted growth in children's literacy and attention skills, and their social competence as rated by parents and teachers.

Across parent-focused prevention programs that target children's school readiness and behavioral functioning, social competence is a shared child outcome of interest. Additionally, social competence is a child outcome of interest in early childhood education programs, including Head Start (National Center on Parent, Family, and Community Engagement, 2018). Indeed, researchers have argued that the social-emotional aspects of school readiness, of which social competence is one key indicator, may be the most important in supporting children as they transition to formal schooling (Blair, 2002). Not only does social-emotional readiness have implications for social adjustment to school, but it underlies children's abilities to follow rules and expectations that are necessary for learning (Bierman et al., 2008). Consistent with this understanding, social competence has been associated with children's emergent literacy skills, reading fluency, and their ability to engage in self-directed learning (Bierman et al., 2015).

Social competence in Head Start programs is commonly evaluated in children through their interactive peer play at home and at school (Bulotsky-Shearer et al., 2011; Coolahan et al., 2000; Fantuzzo et al., 1998; Fantuzzo & McWayne, 2002). Studies evaluating peer play among racially and ethnically diverse children attending Head Start have similarly found that it relates to a variety of adaptive social (e.g., less aggression, inattention, and withdrawn behaviors) and academic (e.g., increased receptive vocabulary, teacher-reported math and literacy skills, and observed language abilities) outcomes (Coolahan et al., 2000; Fantuzzo et al., 2004; Zigler & Bishop-Josef, 2006). Additionally, there is evidence that interactive peer play may serve as a protective factor for African American children attending Head Start, with interactive peer play mediating

the relationship between child problem behaviors and poorer social and academic outcomes in preschool (Bulotsky-Shearer et al., 2012; McWayne & Cheung, 2009). Children's interactive peer play in early childhood has also been found to be associated with improved social and academic functioning in first and third grade (Hampton & Fantuzzo, 2003; Sekino, 2007). Taken together, the research on social competence among ethnically and racially diverse young children suggests that it is an important outcome for interventions to target, especially during early childhood, given evidence of its contributions to children's positive adjustment and development across early childhood and beyond.

Research also shows that parents can and do influence their children's social and emotional skills across settings. Overall, previous research suggests that parenting characterized by higher levels of warmth as well as greater support for positive behaviors (e.g., praise) is generally associated with greater child social competence as well as lower levels of child problematic behavior in young children (Anthony et al., 2005; Denham et al., 1997; Denham et al., 2000; Smith et al., 2001). Additionally, parents' use of harsh discipline is related to lower levels of social competence in young children (Parent et al., 2011; Weiss et al., 1992). Supportive parenting behaviors as well as parents functioning more broadly have been found to directly impact children's social-emotional functioning in other settings outside of the home. For example, among parents of children attending Head Start, Anthony and colleagues (2005) found that higher levels of developmentally-supportive parenting practices (e.g., reading) and lower levels of parenting stress were related to higher child social competence at school as rated by teachers. Similarly,

Webster-Stratton et al. (1998) found that young children of parents who completed a parent-focused prevention program targeting child behavioral functioning showed increases in their social competence at school.

Longitudinal studies suggest some ways that parent-child interactions may shape children's development of social emotional skills over time during early childhood. For an ethnically diverse sample of socioeconomically disadvantaged parents participating in another parent-focused prevention program, Cappa et al., (2011) found that higher parenting stress predicted lower child social competence across three time points, including pre-intervention, 8 weeks post-intervention, and 1 year post-intervention. Similarly, they found that lower child social competence also predicted higher parenting stress across the same three time points. These findings suggest a bidirectional relationship between parent and child functioning over time. Another longitudinal study conducted by Gardner and colleagues (2003) evaluated the impacts of routine mother-child interactions as captured in videotaped home observations. They found that the amount of time mothers and children spent engaged in joint play when children were 3 years old predicted improvement in child behavior problems when children were 4 years old (Gardner et al., 2003). Additionally, the amount of time that children spent unoccupied and not interacting with their mother at age 3 predicted increased child behavior problems at age 4. Overall, these studies highlight the critical role that parents play in children's social-emotional development during early childhood and suggest that the quality and quantity of parent-child interactions have significant implications for children's functioning across settings and time.

Consistent with the research presented above, parent-focused prevention programs help parents to develop parenting skills and approaches that can optimally support their child's social emotional functioning. For parent-focused prevention programs targeting academic and social emotional school readiness, this is done by providing psychoeducation to parents on children's social emotional development, by teaching parents specific strategies and tools to support their child's social and emotional development (e.g., naming children's feelings, how to use pictures of feelings faces to do this in a developmentally-appropriate way), and by more broadly supporting positive and developmentally-appropriate interactions between parents and children at home through a variety of shared activities (e.g., reading books together, completing art projects) (Bierman et al., 2015; Marti et al., 2018; Mendez, 2010). For parent-focused prevention programs targeting child behavioral functioning more exclusively, supporting children's social emotional functioning is generally done by teaching parents strategies to support positive behaviors (e.g., praise, child-directed play) and decrease negative behaviors (e.g., planned ignoring, effective use of time out) as well as by encouraging parents to practice these strategies with their children at home (Begle & Dumas, 2010; Gross et al., 2009; Reid et al., 2004). Given that greater participation in parent-focused prevention programs means greater exposure to and practice of parenting behaviors that are supportive of children's social emotional development, it is likely that greater parent engagement would directly impact children's development of social competence.

The Companion Curriculum

The current study will evaluate parent engagement in The Companion Curriculum (TCC), a parent-focused preventive intervention developed for parents of preschool children (Mendez, 2010). TCC specifically aims to improve children's academic and social-emotional school readiness as well as increase parents' involvement in their child's learning both at home and at school. One unique aspect of TCC is that teachers are trained to deliver the intervention to families in order to foster a stronger home-school connection as well as increase the long-term sustainability of the intervention. TCC was developed and evaluated with predominantly African American parents and children enrolled in Head Start programs. Head Start is the largest federally-funded early intervention program for socioeconomically disadvantaged young children and their families (National Center on Parent, Family, and Community Engagement, 2018). In addition to providing early childhood education services, Head Start also seeks to support parents and families more broadly by providing programming on a variety of topics and offering opportunities for parent involvement at the classroom and program level (National Center on Parent, Family, and Community Engagement, 2018). These program goals make Head Start an ideal location for many preventive programs focusing on socioeconomically disadvantaged families. Additionally, by offering TCC within children's Head Start centers, structural (e.g., unfamiliar or inaccessible setting) and attitudinal (e.g., lack of rapport or comfort with program facilitators) barriers to program engagement were reduced.

The TCC intervention was embedded within Head Start centers across a full academic year. Within each classroom, an interactive "Family Corner" was developed to offer a space for parents and children to engage with TCC activities and materials in the classroom as well as to highlight examples of parents and children using TCC activities and materials in their home learning environments (e.g., through pictures). Additionally, across the school year between September and May, a total of nine TCC parent-child workshops were offered to families. The specific time of each workshop was chosen in consultation with center staff and parent leaders and was advertised to parents at both the center and classroom level (e.g., postcard sent to families one week prior to each meeting, flyers posted in centers during the week of each meeting, flyers sent home with children the day before each meeting). Each TCC workshop was led jointly by a few lead teachers within each center and focused on a different child development topic. All other teachers were also in attendance at each TCC workshop. Topics focused on different domains of child development relevant to young children's academic (e.g., creating language-rich environments, supporting early literacy skills through interactive reading, supporting early math skills through incorporating numbers and counting across fun activities as well as daily tasks) and social-emotional (e.g, supporting positive parent-child interactions through play, recognizing and naming feelings, recognizing child and family accomplishments in a developmentally-appropriate way) school readiness (see table 2 in the Method section for more information regarding workshop topics).

Regarding workshop format, lead teachers first presented information about the child development topic and offered a demonstration to all parents participating across

the center. Then each classroom teacher modeled and supported parents in completing a related joint parent-child activity within their classroom (e.g., coaching parents in how to use puppets in a playful way to discuss feelings*)*. These workshops not only allowed parents to gain scaffolded practice with a ranged of developmentally-appropriate strategies for supporting children's academic and social-emotional development, but also provided an opportunity for parents to develop a stronger relationship with their child's teacher. In order to increase access to the intervention for families who were not able to participate in TCC workshops, kits including information on the child development topic as well as materials and instructions for completing the related joint parent-child activity were sent home with children whose parents were not able to attend.

A previous study evaluated the efficacy of TCC and found that children in the intervention centers demonstrated stronger end-of-year receptive vocabulary and social competence as rated by parents, but not teachers, compared to children in the control centers (Mendez, 2010). Additionally, parents in the intervention centers demonstrated growth in their frequency of reading compared to parents in control centers. Despite low attendance overall for parents in TCC, higher parent attendance was associated with a stronger parent-teacher relationship quality. While this study evaluated parents' attendance, their usage of program materials, and their satisfaction with the TCC intervention, only parent attendance was explored as a mechanism of change in relation to intervention outcomes. Additionally, structural equation modeling was not employed, which allows for an evaluation of engagement predictors, engagement indicators, and interventions outcomes simultaneously in a single model.

Goals and Hypotheses of the Current Study

One broad goal of the current study is to extend the fields understanding of parent engagement among African American parents. Previous studies evaluating parent-focused prevention programs in early childhood settings have found evidence for lower rates of attendance among African American and other ethnic minority parents compared to White parents (Baydar et al., 2003; Nix et al., 2005; Nix et al., 2018). Additionally, one study found evidence of differential impacts of attendance on child and parent intervention outcomes for African American parents compared to White parents (Begle et al., 2012). These findings point to differences in engagement and intervention response that need to be better understood to effectively engage and support African American families. Scholars have called for more research focusing on specific cultural groups when studying children and families, in order to better understand both normative processes as well as within group variability (Garcia Coll et al., 1996). Towards this goal, the current study aims to understand within group variability in parent engagement and intervention outcomes in a socioeconomically disadvantaged sample of largely African American parents participating in the TCC program. This allows for a greater understanding of parent strengths in the context of environmental disadvantage.

More specifically, the current study seeks to expand our knowledge regarding parent engagement by: 1) using a more comprehensive conceptualization of parent engagement that incorporates behavioral and attitudinal components and evaluates the overlap between them, 2) exploring particularly salient parent and child characteristics as they impact parents' engagement in parent-focused prevention programs (e.g., parent

self-efficacy in the educational domain, child behavior problems) considering the content and developmental timing of these programs, and 3) examining if parent engagement in parent-focused prevention programs is directly associated with end-of-year child social competence as rated by teachers following participation in the program. The three research aims guiding the current study as well as specific research questions and hypotheses tested are reviewed in more detail below.

To address a limitation of previous studies that exclusively focus on parents' intervention attendance as an indicator of engagement, the first aim of the current study is to evaluate a multidimensional model of parent engagement. Specifically, the current study will examine parent engagement in TCC as measured by their attendance at TCC sessions, their usage of TCC strategies and materials at home, and their satisfaction with the TCC materials. Two key conceptual distinctions related to parent engagement informed the current study. First, researchers have differentiated between attendance and adherence (e.g., frequency of usage and fidelity to intervention strategies) as behavioral indicators of parent engagement, with adherence being hypothesized to have a stronger link to intervention outcomes compared to attendance alone (Nock & Ferriter, 2005). In the current study, parents reported on their frequency of usage of TCC activities and materials to better capture parents' treatment adherence. Second, parent engagement has been discussed as having behavioral (e.g., attendance or other observable engagement behaviors) and attitudinal (e.g., attitudes towards providers, perceived acceptability of intervention components) components, with attitudinal engagement hypothesized to underlie behavioral engagement in interventions (Staudt, 2007). In the current study,

parents reported on their satisfaction as well as their child's satisfaction with the TCC materials as an indicator of attitudinal engagement. While this measure only assesses one aspect of attitudinal engagement, the acceptability of program materials, given the important role that TCC materials play in guiding parent-child interactions at home, higher satisfaction with them is thought to increase the likelihood that parents will use TCC activities and strategies with their child.

Related to the first research aim, the current study will also evaluate the relations among the different indicators of parent engagement in the TCC program. Previous theory and research generally suggests that different indicators of parent engagement may be related to one another in positive ways. For example, Staudt (2007) conceptualizes positive intervention attitudes as leading to greater intervention engagement. Additionally, Eisner and Meidert (2011) found that parents with higher attendance also reported greater usage of intervention strategies at home with their children, suggesting that parents who attend at higher rates may also show higher levels of engagement outside of sessions as well. Given this, the three indicators of parent engagement in the TCC program are hypothesized to be positively related to one another, with greater attendance associated with higher usage of program strategies and materials at home as well higher levels of satisfaction with TCC materials.

The second research aim of the current study is to evaluate parent and child characteristics that may relate to parent engagement. While previously reviewed conceptual models of parent engagement suggest a wide range of factors that may relate to parents' engagement decisions in parent-focused interventions, there is a focus across

models on narrowing the field of inquiry, suggesting potential mechanisms through which selected factors impact parent engagement, and considering the extent to which these factors are related to parent engagement directly or indirectly. The parent-focused prevention literature in early childhood was reviewed to identify factors that may be particularly salient for parent engagement given the content and developmental timing of these interventions. Specifically, the current study evaluated parental depressive symptoms, parent self-efficacy in the educational domain, and child behavior problems.

Study hypotheses related to predictors of engagement in the current study were informed by previous research on parent-focused prevention programs. For parental depression, while some studies suggest a direct and negative relationship to parent engagement, other studies found no differences in parent engagement for parents with high versus low levels of depressive symptoms (Baydar et al., 2003; Garvey et al., 2006; Gross et al., 2001; Nix et al., 2018). This may suggest that parental depression is also related to parent engagement in indirect ways. Consistent with this is research suggesting that parental depression can adversely impact both parent and child functioning (Beeber et al., 2017; Turney, 2012). Considering previous research, this study tests the hypothesis that parental depression will impact parent engagement in both direct and indirect ways. Specifically, higher levels of parental depressive symptoms are hypothesized to predict lower levels of parent engagement. Additionally, higher parental depressive symptoms are hypothesized to predict lower parent self-efficacy and higher levels of child behavior problems, which are hypothesized to predict higher parent engagement. The hypotheses that lower levels of parent self-efficacy and higher levels of child behavior problems

would actually predict higher parent engagement are informed by previous studies suggesting that higher levels of concerns in the parent and child domain may increase parents perceived need for intervention, thus facilitating parents' intervention engagement (Dumas et al., 2007; Garvey et al., 2006; Heinrichs et al., 2005).

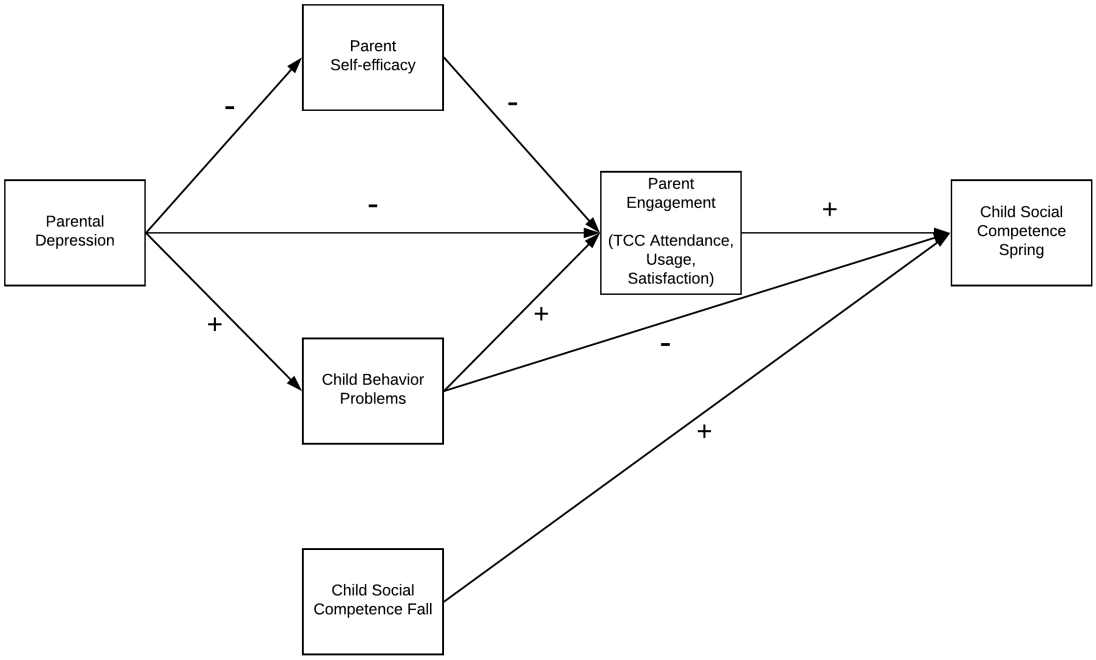
A third research aim of the current study includes evaluating parent engagement as a mechanism of change impacting key child intervention outcomes. While parent-focused prevention programs are thought to impact child outcomes due to changes in parenting resulting from parents' intervention engagement, this implied theory of change has rarely been evaluated (Nix et al., 2018; Reid et al., 2004). In the current study, children's end-of-year social competence, as measured by teacher-rated interactive peer play at school, was evaluated as a key child intervention outcome. Social competence is commonly targeted across early childhood education programs as well as many parent-focused prevention programs due to research suggesting its central role in young children's overall functioning as well as in children's adjustment to formal schooling (Blair, 2002).

Greater parent engagement in TCC is thought to be associated with increased exposure to knowledge of how to support children's social emotional development as well as increased practice with and use of developmentally appropriate parenting strategies. Due to this, increased parent attendance across TCC sessions, increased usage of TCC strategies and materials at home, and parents satisfaction with TCC materials are all hypothesized to predict increased social competence for children at the end of the school year. Also consistent with this reasoning, parent engagement is hypothesized to

serve as a mediator between parent and child characteristics at the beginning of the school year (e.g., parental depression, parent self-efficacy, child behavior problems) and children's end-of-year social competence. In order to better evaluate children's end-of-year social competence as part of their developmental trajectory across the school year, child social competence at the beginning of the school year is also considered within the model. It is hypothesized that higher levels of social competence in the Fall will predict higher levels of social competence in the Spring. Additionally, informed by previous research suggesting that high levels of behavior problems are inconsistent with social competence, it is hypothesized that higher levels of child behavior problems at the beginning of the school year will predict lower levels of child social competence at the end of the school year (Moreland & Dumas, 2007). Figure 1 depicts the conceptual model guiding the current study, including the hypothesized relations among study variables.

Figure 1

Full Conceptual Model



CHAPTER II

METHOD

Participants

The sample for the current study was drawn from a larger study involving three cohorts of preschoolers and their caregivers and teachers from four Head Start centers located within the southeastern United States. The original study sample included 288 caregiver-child dyads, with 177 participants in the TCC intervention condition and 111 participants in the control condition. The current study sample included caregiver-child dyads in the intervention condition that completed study measures (n = 176). The final sample contained roughly equal numbers of boys and girls, with 51% of the sample being girls. The average child age was 49.41 months (*SD* = 6.87; range = 33 to 61 months). The large majority of participating children were identified as African American (92.6%), with the remaining participating children being identified as Latino (1.7%), White (1.7%), biracial or multiracial (1.7%), and Asian (.6%). The large majority of participating caregivers were biological or adoptive mothers (94.3%), with the small majority of mothers reporting ethnicity identifying as African American (51.1%). The majority of caregivers were single (75%), with 20.5% of caregivers being married. Regarding caregivers' education level, 13.6% completed some high school, 36.9% earned a high school diploma, 35.8% completed some college or an associate's degree, 4% earned a college degree, 4.5% earned a vocational degree, and about 1% completed some

graduate or professional school. Regarding caregivers' employment status, 47.2% reported working full time, 27.3% were either working part time or seeking employment, and around 21% were unemployed. While some caregivers were not biological parents, the word parent will be used when referring to primary caregivers in the remainder of the study to signify the role they play in children's lives. Average monthly income for families was $1,277.13 (*SD* = $951.03). Family size across the study sample ranged from 2-7, with about 55% of the sample reporting a household size of 3-4 individuals.

A total of 21 classrooms participated across the 3 centers that received the TCC intervention. According to federal performance standards guiding the delivery of Head Start, each classroom within Head Start centers has 20 students and two teachers, including a lead and assistant teacher. Table 1 includes the number of students participating in the current study sample across centers and classrooms. Teacher data were only collected on lead teachers across participating classrooms and data are missing for 4 teachers from center 3. Overall, regarding teacher ethnicity, all lead teachers for which data were collected identified as African American. Across centers, teachers had an average of 12 years of teaching experience (*SD* = 8.07), with experience ranging from 1 to 30 years. Specifically for center 1, teachers had an average of 20 years of teaching experience (*SD* = 10.42), with experience ranging from 8 to 30 years. At center 2, teachers had an average of 7.5 years of teaching experience (*SD* = 3.70), with experience ranging from 1 to 11 years. At center 3, teachers had an average of 16 years of teaching experience (*SD* = 2.94), with experience ranging from 7 to 14 years.

Table 1

Study Participants by Center and Classroom

Center 1 (N = 47)		Center 2 (N = 55)		Center 3 (N = 71)	
Classroom	Participating Students	Classroom	Participating Students	Classroom	Participating Students
1	11	1	8	1	6
2	9	2	10	2	8
3	9	3	6	3	9
4	11	4	3	4	12
5	7	5	7	5	6
		6	6	6	12
		7	5	7	11
		8	10	8	7

Note. Classroom is unknown for 3 cases.

Procedures

To determine the centers that received the TCC intervention, four Head Start centers managed by the same agency were randomly assigned to either the TCC intervention or the waitlist control condition across the three-year study. After completing one year in the control condition, during which parents at the control centers received standard parent programming provided by the center staff, waitlist centers then received the TCC intervention the following year. Center 1 received TCC in year 1, Center 2 received TCC in year 2, and Center 3 received TCC in year 3. Parents were given information about the opportunity to participate in the TCC intervention and study during their parent orientation meeting at the beginning of the school year. Parent measures were administered via interviews conducted by trained graduate students in person or on the phone during the second and last month of the school year. Teacher ratings of child

behavior were also collected at these two time points. Children's academic achievement was evaluated two times per year by trained graduate students or trained assessors provided by the Head Start Quality Research Consortium, which was a federally-funded research group that provided external evaluators for the intervention. Finally, parent and family attendance was recorded at each of the nine TCC sessions.

The goal of the TCC intervention is to increase the social-emotional and academic school readiness of preschool children attending Head Start by increasing parents' school involvement and stimulation for learning outside of school. The TCC intervention facilitates these goals through providing strategic support and training to Head Start teachers and school administrators as well as enriching the classroom environment. Specifically, Head Start staff members were provided with information about how to foster a stronger home-school connection with parents and were trained to deliver the TCC intervention. Regarding teacher training across centers, lead and assistant teachers attended a 2-hour training on parent engagement to familiarize them with the objectives of the TCC program during a staff meeting at the beginning of the school year. Lead teachers received additional training and support prior to each TCC workshop in order to plan and practice for implementing the monthly program topic. The TCC intervention includes nine sessions presented monthly on a variety of child development topics. Table 2 contains a list of TCC intervention session topics. For each TCC session, lead teachers introduced the child development topic and then facilitated a parent-child activity in their classroom aimed at demonstrating how to support children's development in the domain of interest (e.g., emotion recognition and expression, vocabulary, number recognition). In

order to reduce barriers to participation, TCC sessions were scheduled at regular times based on consultation with Head Start program staff at each site. Additionally, meals, transportation, and childcare were provided for families. Parents were given in-home use materials and handouts from each intervention session either at the workshop, or via the child the next day if parents were not in attendance.

Table 2

TCC Intervention Topics

Session	Title	Child Development Topic
1	Introducing Play	Social competence-peer play, parent-child warmth, learning through play
2	Talking About Feeling	Emotion recognition, emotion expression, emotion regulation
3	Learning New Words	Vocabulary building, shapes, colors
4	Storytelling	Oral language, narratives
5	Alphabet Connection	Phonemic awareness, letter recognition
6	Numbers & Counting	Number recognition, sequencing, adding, subtracting, sorting, and matching
7	Reading Together	Parent-child joint reading, creativity and imagination, concepts of print
8	Building an I CAN Attitude	Self-esteem, family history
9	Exploring Your World	Parent involvement in children's elementary education, concepts of science

Notes. Based on table presented in Mendez (2010).

Measures

Parent Engagement

TCC Attendance. Families were given the opportunity to attend a TCC session each month during the school year on their own, with their children, or with additional family members. At each of the TCC sessions, family attendance was recorded, with

possible attendance scores ranging from 0 to 9 sessions. This measure is conceptualized as a behavioral indicator of parent engagement.

TCC Usage. At the end of the TCC intervention, parents were asked to rate how much time they spent working with their child on activities included in the TCC intervention. Parents rated their frequency of engaging in these activities on a 4-point scale, with 1 being "Less than once per month," 2 being "1-2 times per month," 3 being "Once per week," and 4 being "3 or more times per week." Higher scores indicated greater usage of TCC program materials and activities at home. This measure is conceptualized as a behavioral indicator of parent engagement.

Satisfaction with TCC Intervention. At the end of the TCC intervention, two items were used to assess parent and child satisfaction with the program materials and activities. Given the importance of program materials in guiding the joint parent-child activities at home, parent and child satisfaction with materials is conceptualized as assessing one component of treatment acceptability for the TCC program that has implications for program engagement. Each item was rated on a 4-point scale, with 1 being "Not at all enjoys," 2 being "Somewhat enjoys," 3 being "Mostly enjoys," and 4 being "Very much enjoys." The two items assessing satisfaction were summed, such that higher scores indicate higher levels of parent and child satisfaction with TCC materials and activities. This measure is conceptualized as an attitudinal indicator of parent engagement.

Parent and Child Characteristics

Parent Self-Efficacy. The About Being a Parent Scale (ABPS) was used to evaluate parent-reported self-efficacy just prior to the TCC intervention (Wentzel, 1993). The ABPS is a 5-item scale that assesses parents' perceived efficacy in impacting their child's education and development. Items are rated on a 6-point Likert scale, with 1 indicating that parents' "Strongly Disagree" and 6 indicating that parents' "Strongly Agree" with statements such as "Parents are very limited in how much they can teach their children because a child's teacher has a large influence on learning." Given the language used across items on the ABPS, it also assesses parents' beliefs about their role relative to the role of their child's teacher in guiding their child's development. Items were reverse coded and summed such that higher scores indicate higher levels of parent self-efficacy in the educational domain. High parent self-efficacy as reported on the ABPS has previously been found to be associated with higher levels of home involvement in learning among samples of parents with children attending Head Start (Downer & Mendez, 2005; Waanders et al., 2007). Previous studies using the ABPS with Head Start samples have reported adequate internal consistency (α = .78) (LaForett & Mendez, 2017).

Parental Depression. The shortened version of the Center for Epidemiologic Studies-Depression scale (CES-D) was used to determine parents' level of depressive symptoms at the start of the TCC intervention. The shortened scale includes 12 items inquiring about the experience of depressive symptoms within the last week (Radloff, 1977). Each item is rated on a scale from 1, "Rarely or None of the time," to 4, "Most or

Almost all of the time." To determine depression severity, the following cut-off scores were used: 0–4 = not depressed, 5–9 = mildly depressed, 10–14 = moderately depressed, and 15 and above = severely depressed (Administration for Children and Families, 2006). The CES-D has been used with diverse populations, including parents of children attending Head Start (ACF, 2006; Malik et al., 2007). Previous studies using the shortened CES-D with parents of children attending Head Start have reported good internal consistency (α ranges from .83 to .86) (ACF, 2006; LaForett & Mendez, 2017). Items were summed such that higher scores indicate higher levels of recent depressive symptoms. While parental depression is used to refer to the construct in the current study, it is important to note that the measure used was not diagnostic, but it did allow for identification of parents with clinically significant levels of depressive symptoms.

Child Behavior Problems. Parents' perception of their child's aggression and hyperactivity at the start of the TCC intervention were assessed using items taken from the Child Behavior Checklist (Achenbach, 1996), a commonly used measure of child psychopathology. These items were selected based on a discriminant validity study conducted by the Administration on Children, Youth, and Families (2001) that found that these items were able to discriminate between clinical and non-clinical samples of preschool children. The resulting 7-item scale can be further broken down into separate scores for aggression and hyperactivity. Parents were asked to rate each child behavior (e.g., "Has temper tantrums or hot temper") as 1, "Very often true," 2, "Sometimes true," or 3, "Not true" within the past month. Previous studies involving children attending Head Start have used this 7-item scale and have found the aggressive and hyperactive

scores that make up the scale to have acceptable internal consistencies (αs = .62 and .69, respectively) (Carpenter & Mendez, 2013). Items were reverse coded and summed such that higher scores indicate higher levels of aggressive and hyperactive child behaviors. This measure was collected from parents for the first two cohorts participating in the TCC program, resulting in scores for 55% of the study participants.

Intervention Outcome

Child Social Competence. The Penn Interactive Peer Play Scale (PIPPS) assesses children's social competence in the context of peer play (Coolahan et al., 2000; Fantuzzo et al., 1998). The teacher version includes 32 items that relate to different aspects of children's peer play in the classroom. The PIPPS has three sub-scales: play interaction, play disruption, and play disconnection. Play interaction is an indicator of social competence and involves prosocial behaviors. Play disruption and play disconnection are indicators of lower social competence. Play disruption involves impulsive and antisocial behaviors and play disconnection involves shy and withdrawn behaviors. The PIPPS was developed and normed on diverse, Head Start samples with the input of Head Start parents and educators (Fantuzzo et al., 1998). Teacher-rated child social competence was measured using the 9-item play interaction subscale of the PIPPS before and after the TCC intervention (e.g., in the Fall and Spring) in order to evaluate the impact of the TCC intervention on this child outcome. Previous studies using the PIPPS play interaction subscale with diverse Head Start populations have reported adequate to high internal consistency (αs = .88, .89, .90) (Coolahan et al., 2000; Fantuzzo et al., 1998; Mendez, 2010). Raw scores were converted into T-score, with higher scores

indicating higher levels of child social competence as evidenced by children's peer play at school.

Statistical Analyses

Data Analytic Plan

Descriptive and preliminary analyses were conducted using SPSS version 26. To address research question 1, correlations were run between the parent engagement variables, including intervention attendance, usage of intervention activities and materials at home, and satisfaction with intervention activities and materials. This provided a test of the relation between behavioral and attitudinal components of parent engagement.

To address research questions 2 and 3, a series of path analyses were conducted using Mplus 8 (Muthén & Muthén, 2017) to examine the direct and indirect effects of parental depression, parent self-efficacy, and child behavior problems on parent engagement (e.g., TCC Attendance, TCC Usage, TCC Satisfactions) and child social competence at the end of the school year, following the TCC intervention. A comparable path analysis was run for each of the three parent engagement indicators to examine their unique relationships with child and parent characteristics at the beginning of the school year (e.g., parental depression, parent self-efficacy, child behavior problems), before starting the intervention, and child functioning at the end of the school year (e.g., child social competence in the Spring), following the intervention. Child social competence in the Fall was also included in each model in order to understand children's Spring social competence controlling for their social competence in the Fall, at the start of the school year. All study variables were indicated as manifest variables. Missing data was

addressed using full information maximum likelihood estimation methods (FIML) across models, which enables estimation of the models using all data available (Enders & Bandalos, 2001). Bias-corrected bootstrapping procedures were utilized to test the indirect effects, as they have been determined to be an effective method to examine indirect effects without assuming data normality and are effective at reducing Type 1 error (Williams & MacKinnon, 2008). Confidence intervals were generated by the bootstrapping procedure to evaluate the significance of the indirect effects, with confidence intervals that do not contain zero indicating a statistically significant indirect effect (Williams & MacKinnon, 2008).

Four indices of model fit were used to evaluate the fit of each model, including the chi-square test of model fit, the Root Mean Squared Error Approximation (RMSEA), the Comparative Fit Index (CFI), and the Standardized Root Mean Square Residual (SRMR). A non-significant chi-square statistic indicates a good fitting model. An RMSEA value less than .05 also indicates a good fit, while a RMSEA value between .05 and .08 indicates adequate fit. A CFI value greater than .90 is an indicator of good fit, indicating that the proposed model is a 90% or greater improvement in fit over the independence model, which assumes no relation between model variables. Finally, an SRMR value less than .08 is indicative of good model fit.

There is some evidence to support determining ideal sample size based on the number of parameters estimated in SEM models, with 10 to 20 participants per parameter recommended (Jackson, 2003). Since all three models tested included 14 parameters, this

method would suggest a sample between 140 and 280. The current sample size of 176 is considered to be low to adequate to detect true effects.

CHAPTER III

RESULTS

Descriptive Results

The results indicated that overall, this sample of parents reported mild depressive symptoms (M = 6.76; SD = 5.82). Specifically, 44.3% of parents endorsed no significant depressive symptoms, 26.1% of parents endorsed mild depressive symptoms, 14.2% of parents endorsed moderate depressive symptoms, and 12.5% of parents endorsed severe depressive symptoms. Additionally, parents in the study sample reported relatively high levels of parent self-efficacy in the educational domain (M = 24.97; SD = 4.30). Based on parents' report of child behavior problems, children in the study sample exhibited low to moderate levels of aggressive and hyperactive behaviors (M = 4.16; SD = 2.38). Additionally, based on teachers' report, children demonstrated average levels of social competence overall in both the Fall (M = 46.78; SD = 10.82) and the Spring (M = 48.73; SD = 10.50), with average social competence increasing by about 2 points across the school year. Skew and kurtosis were within normal limits for all study variables, and therefore no transformations were necessary.

Parents demonstrated low levels of attendance during the TCC intervention (M = 1.95; SD = 2.02), with 17.6% of parents attending 0 sessions, 42.6% of parents attending 1 session, 14.8% of parents attending 2 sessions, and 24.9% of parents attending 3 or

more sessions. Parent attendance ranged from 0 to 9 sessions attended in the study sample, with 1 session being the modal attendance rate. At the end of the TCC intervention, parents reported relatively high levels of usage of TCC activities and materials each month (M = 3.01; SD = .84). Specifically, 4% of parents reported using materials and activities less that once per month, 21% of parents reported using TCC materials and activities 1-2 times per month, 40.9% of parents reported using TCC materials and activities 1 time per week, and 30.1% of parents reported using TCC activities and materials 3 or more times per week. At the end of the TCC intervention, parents reported high levels of satisfaction with TCC activities and materials for both themselves and their child (M = 7.40; SD = 1.06). Means, standard deviations, skewness, and kurtosis for all study variables are presented in Table 3.

Table 3

Descriptive Statistics for All Study Variables

Variable	*N*	*M*	*SD*	Sample Range	Questionnaire Response Range	Skewness (SE)	Kurtosis (SE)
TCC Attendance	176	1.95	2.02	0-9	0-9	1.270 (.263)	1.018 (.520)
TCC Usage	169	3.01	.84	1-4	1-4	-.570 (.263)	-.362 (.520)
TCC Satisfaction	170	7.40	1.06	3-8	2-8	-2.171 (.263)	3.997 (.520)
Child Social Competence Fall	169	46.78	10.82	10-70	10-73	.045 (.263)	-.303 (.520)
Child Social Competence Spring	168	48.73	10.50	10-73	10-73	-.936 (.263)	4.265 (.520)
Parental Depression	171	6.76	5.82	0-28	0-36	.970 (.263)	.630 (.520)
Parent Self-Efficacy	173	24.97	4.30	11-30	5-30	-.937 (.263)	.514 (.520)
Child Behavior Problems	96	4.16	2.38	0-11	0-14	.654 (.263)	-.011 (.520)

Preliminary Analyses

Some bivariate correlations between study variables were in the expected direction. Scatterplots of statically significant correlations were evaluated in order to assess for the influence of extreme outliers on findings. Overall, scatterplots did not suggest the presence of significant outliers, however, two correlations that may have been influenced by outliers are highlighted below. See Figure 5, Figure 6, Figure 7, Figure 8, Figure 9, and Figure 10 in Appendix B for the scatterplots of significant correlations. Correlations are presented in Table 4.

Child social competence in the Fall was significantly and positively associated with child social competence in the Spring, and child behavior problems was

significantly and negatively associated with child social competence in both the Fall and Spring. However, given evidence of a potentially influential outlier impacting the correlation between child behavior problems and child social competence in the Spring, it should be interpreted with caution. When the outlier was removed, the magnitude of the correlation decreased and the correlation was no longer significant ($r = .20$, $p = .057$). There were no other significant relations between child social competence, indicators of parent engagement, or other study variables. Additionally, parent self-efficacy was significantly and negatively associated with parental depression.

Contrary to hypotheses, there were no significant associations between indicators of parent engagement, including between TCC attendance and TCC Usage, TCC attendance and TCC satisfaction, and between TCC usage and TCC satisfaction. While the relationship between TCC usage and TCC satisfaction was approaching significance, these results indicate that there were no relationships between parents' attendance, usage of TCC strategies at home, and their satisfaction with the TCC intervention in the study sample. Due to this, three models were run to examine the relations between each parent engagement indicator separately with parent and child characteristics as well as child end-of-year social competence following the intervention.

Some child and parent characteristics were associated with indicators of parent engagement. Parent self-efficacy was significantly and positively associated with TCC satisfaction. Given evidence of a potentially influential outlier impacting this finding, it should be interpreted with caution. However, when the outlier was removed, while the magnitude of the correlation was reduced, a significant and positive association remained

(r = .17, p = .031). Additionally, child behavior problems were significantly and negatively associated with TCC attendance. Contrary to hypotheses, no other child or parent characteristics were associated with indicators of parent engagement, although the relationships between parent self-efficacy and TCC usage and between child behavior problems and TCC satisfaction were approaching significance.

Beyond Center 1 having more veteran teachers compared to Centers 2 and 3, teacher demographics overall suggest that centers were comparable. Also see post hoc analyses below, which further evaluated for potential differences across centers.

Table 4

Pearson Correlations for All Study Variables

Variables	1	2	3	4	5	6	7	8
1. TCC Attendance	1.00							
2. TCC Usage	-.02	1.00						
3. TCC Satisfaction	.09	.13†	1.00					
4. Child Social Competence Fall	.10	.00	.03	1.00				
5. Child Social Competence Spring	-.02	-.12	-.01	.61**	1.00			
6. Parental Depression	-.12	-.04	-.04	.09	.11	1.00		
7. Parent Self-Efficacy	.04	.14†	.23**	-.01	.01	-.28**	1.00	
8. Child Behavior Problems	-.27**	.10	-.18†	-.23*	-.24*	.11	.01	1.00

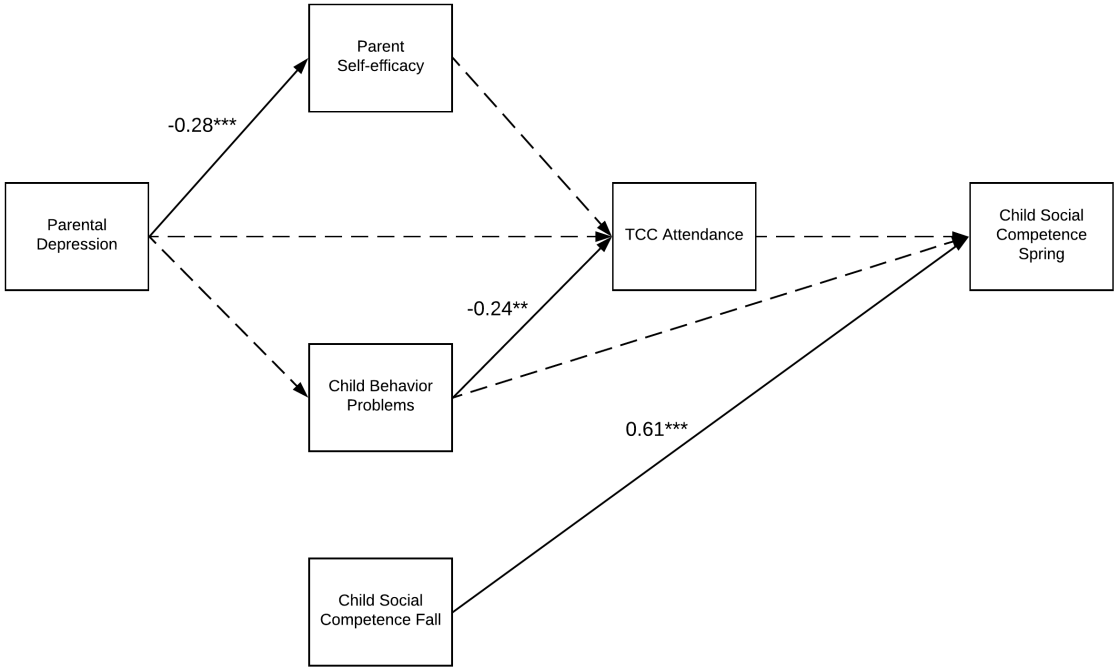
*Note. †p<.10, *p<.05, **p<.01*

Model 1: Direct and Indirect Effects with TCC Attendance as Indicator of Parent Engagement

The path analysis model (Model 1; see Figure 2) provided a good fit to the data (χ^2 (6) = 8.19, p = .224; CFI = .98; RMSEA = .05; SRMR = .07). As hypothesized, for model 1 greater parental depressive symptoms predicted lower parent self-efficacy in the educational domain (β = -0.28, p =.000). Additionally, greater child social competence in the Fall predicted greater child social competence in the Spring (β = 0.61, p =.000). Contrary to hypotheses, greater child behavior problems predicted lower TCC attendance (β = -0.24, p =.005). With regards to nonsignificant paths, and contrary to study hypotheses, parental depression (β = -0.09, p =.156) and parent self-efficacy (β = 0.01, p =.908) did not predict TCC attendance. Additionally, parental depression did not predict child behavior problems (β = 0.09, p =.335). Finally, child behavior problems (β = -0.11, p =.186) and TCC attendance (β = -0.10, p =.141) did not predict child social competence in the Spring. See Table 5 for standardized as well as unstandardized direct effects for model 1.

Figure 2

Model 1 of Standardized Significant Direct Effects



Note. †p<0.10, * p<.05, ** p<.01, *** p <.001

Table 5

Model Estimates for Model 1 (Standard Errors in Parentheses; N = 176)

Parameter Estimate	Unstandardized	Standardized	*p*
Parental Depression→Parent Self-Efficacy	-0.21 (.06)	-0.28	.000
Parental Depression→Child Behavior Problems	0.03 (.04)	0.09	.335
Parental Depression→TCC Attendance	-0.03 (.02)	-0.09	.156
Parent Self-Efficacy→TCC Attendance	0.01 (.04)	0.01	.908
Child Behavior Problems→TCC Attendance	-0.20 (.08)	-0.24	.005
Child Behavior Problems→Child Soc. Comp. Spring	-0.48 (.36)	-0.11	.186
TCC Attendance→Child Soc. Comp. Spring	-0.53 (.36)	-0.10	.141
Child Soc. Comp. Fall→Child Soc. Comp. Spring	0.59 (.07)	0.61	.000
Residuals for Parent Self-Efficacy	16.94 (2.08)	.92	.000
Residuals for Child Behavior Problems	5.47 (.81)	.99	.000
Residuals for TCC Attendance	3.78 (.57)	.93	.000
Residuals for Child Soc. Comp. Spring	66.76 (9.11)	.62	.000

Note. χ^2 (6) = 8.19, p = .224; CFI = .98; RMSEA = .05; SRMR = .07. Soc. = Social, Comp. = Competence.

Contrary to study hypotheses, there were no significant indirect effects for model 1. See Table 6, Table 7, Table 8, and Table 9 for the bootstrapped estimates for the specific indirect effects of parental depression, parent self-efficacy, and child behavior problems on child social competence in the Spring and the bootstrapped estimates for the specific indirect effects of parental depression on TCC attendance.

Table 6

Standardized Indirect Effects of Parental Depression on Child Social Competence through TCC Attendance, Child Behavior Problems, Parent Self-Efficacy and TCC Attendance, and Child Behavior Problems and TCC Attendance for Model 1

			95% Confidence Interval	
Mediator	Estimate	SE	Lower	Upper
TCC Attendance	0.010	0.010	-0.003	0.041
Child Behavior Problems	-0.009	0.013	-0.044	0.007
Parent Self-Efficacy and TCC Attendance	0.000	0.003	-0.004	0.010
Child Behavior Problems and TCC Attendance	0.002	0.003	-0.001	0.013

Note. Based on 1,000 bootstrap samples.

Table 7

Standardized Indirect Effects of Parent Self-Efficacy on Child Social Competence through TCC Attendance for Model 1

			95% Confidence Interval	
Mediator	Estimate	SE	Lower	Upper
TCC Attendance	-0.001	0.011	-0.031	0.016

Note. Based on 1,000 bootstrap samples.

Table 8

Standardized Indirect Effects of Child Behavior Problems on Child Social Competence through TCC Attendance for Model 1

			95% Confidence Interval	
Mediator	Estimate	SE	Lower	Upper
TCC Attendance	0.024	0.019	-0.004	0.075

Note. Based on 1,000 bootstrap samples.

Table 9

Standardized Indirect Effects of Parental Depression on TCC Attendance through Parent Self-Efficacy and Child Behavior Problems for Model 1

			95% Confidence Interval	
Mediator	Estimate	SE	Lower	Upper
Parent Self-Efficacy	-0.003	0.026	-0.059	0.044
Child Behavior Problems	-0.020	0.023	-0.077	0.018

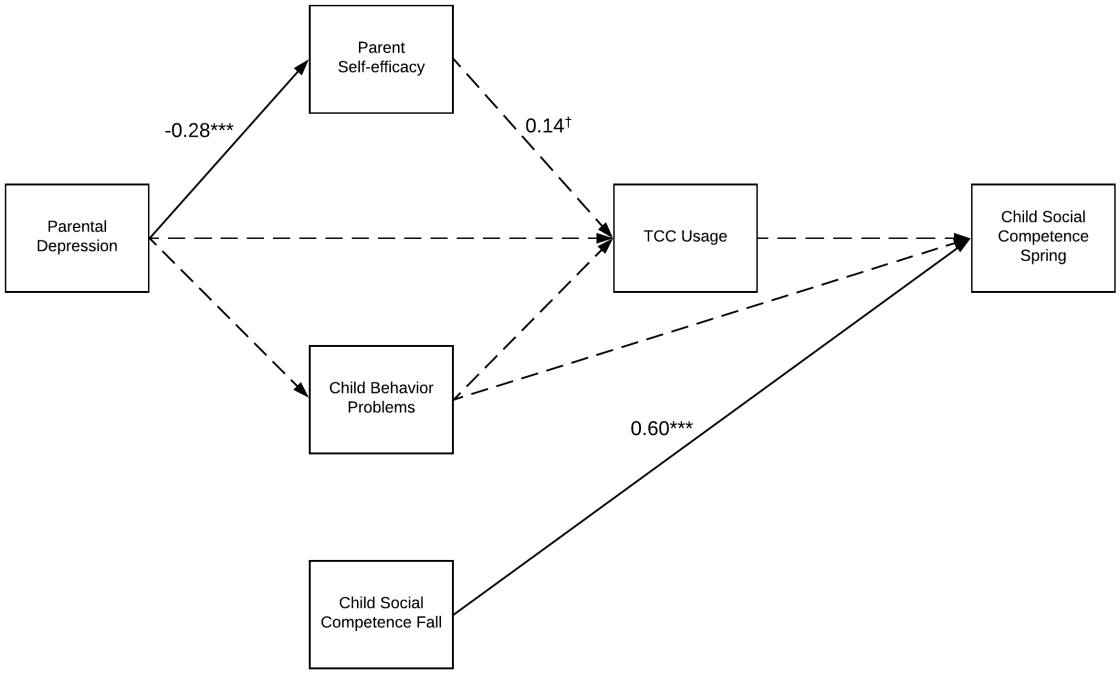
Note. Based on 1,000 bootstrap samples.

Model 2: Direct and Indirect Effects with TCC Usage as Indicator of Parent Engagement

The path analysis model (Model 2; see Figure 3) provided a good fit to the data (χ^2 (6) = 7.32, p = .293; CFI = .99; RMSEA = .04; SRMR = .07). Similar to model 1, and as hypothesized, for model 2 greater parental depressive symptoms predicted lower parent self-efficacy in the educational domain (β = -0.28, p =.000). Additionally, greater child social competence in the Fall predicted greater child social competence in the Spring (β = 0.60, p =.000). With regards to nonsignificant paths, and contrary to study hypotheses, parental depression (β = -0.01, p =.904), parent self-efficacy (β = 0.14, p =.091), and child behavior problems (β = 0.09, p =.304) did not predict TCC usage (e.g., parents' frequency of usage of TCC materials and activities at home). Additionally, parental depression did not predict child behavior problems (β = 0.09, p =.329). Finally, child behavior problems (β = -0.08, p =.307) and TCC usage (β = -0.11, p =.100) did not predict child social competence in the Spring. See Table 10 for standardized as well as unstandardized direct effects for model 2.

Figure 3

Model 2 of Standardized Significant Direct Effects



Note. †p<0.10, * p<.05, ** p<.01, *** p <.001

Table 10

Model Estimates for Model 2 (Standard Errors in Parentheses; N = 176)

Parameter Estimate	Unstandardized	Standardized	*P*
Parental Depression→Parent Self-Efficacy	-0.21 (.06)	-0.28	.000
Parental Depression→Child Behavior Problems	0.03 (.04)	0.09	.329
Parental Depression→TCC Usage	-0.00 (.01)	-0.01	.904
Parent Self-Efficacy→TCC Usage	0.03 (.02)	0.14	.091
Child Behavior Problems→TCC Usage	0.03 (.03)	0.09	.304
Child Behavior Problems→Child Soc. Comp. Spring	-0.36 (.35)	-0.08	.307
TCC Usage→Child Soc. Comp. Spring	-1.34 (.82)	-0.11	.100
Child Soc. Comp. Fall→Child Soc. Comp. Spring	0.58 (.07)	0.60	.000
Residuals for Parent Self-Efficacy	16.94 (2.08)	.92	.000
Residuals for Child Behavior Problems	5.52 (.82)	.99	.000
Residuals for TCC Usage	0.68 (.07)	.97	.000
Residuals for Child Soc. Comp. Spring	66.36 (9.04)	.62	.000

Note. χ^2 (6) = 7.32, p = .293; CFI = .99; RMSEA = .04; SRMR = .07. Soc. = Social, Comp. = Competence.

Contrary to study hypotheses, there were no significant indirect effects for model 2. See Table 11, Table 12, Table 13, and Table 14 for the bootstrapped estimates for the specific indirect effects of parental depression, parent self-efficacy, and child behavior problems on child social competence in the Spring and the bootstrapped estimates for the specific indirect effects of parental depression on TCC usage.

Table 11

Standardized Indirect Effects of Parental Depression on Child Social Competence through TCC Usage, Child Behavior Problems, Parent Self-Efficacy and TCC Usage, and Child Behavior Problems and TCC Usage for Model 2

			95% Confidence Interval	
Mediator	Estimate	SE	Lower	Upper
TCC Usage	0.001	0.011	-0.016	0.032
Child Behavior Problems	-0.007	0.011	-0.041	0.007
Parent Self-Efficacy and TCC Usage	0.004	0.004	0.000	0.020
Child Behavior Problems and TCC Usage	-0.001	0.002	-0.011	0.000

Note. Based on 1,000 bootstrap samples.

Table 12

Standardized Indirect Effects of Parent Self-Efficacy on Child Social Competence through TCC Usage for Model 2

			95% Confidence Interval	
Mediator	Estimate	SE	Lower	Upper
TCC Usage	-0.015	0.014	-0.054	0.002

Note. Based on 1,000 bootstrap samples.

Table 13

Standardized Indirect Effects of Child Behavior Problems on Child Social Competence through TCC Usage for Model 2

			95% Confidence Interval	
Mediator	Estimate	SE	Lower	Upper
TCC Usage	-0.010	0.014	-0.051	0.006

Note. Based on 1,000 bootstrap samples.

Table 14

Standardized Indirect Effects of Parental Depression on TCC Usage through Parent Self-Efficacy and Child Behavior Problems for Model 2

			95% Confidence Interval	
Mediator	Estimate	SE	Lower	Upper
Parent Self-Efficacy	-0.038	0.028	-0.110	0.002
Child Behavior Problems	0.008	0.014	-0.007	0.051

Note. Based on 1,000 bootstrap samples.

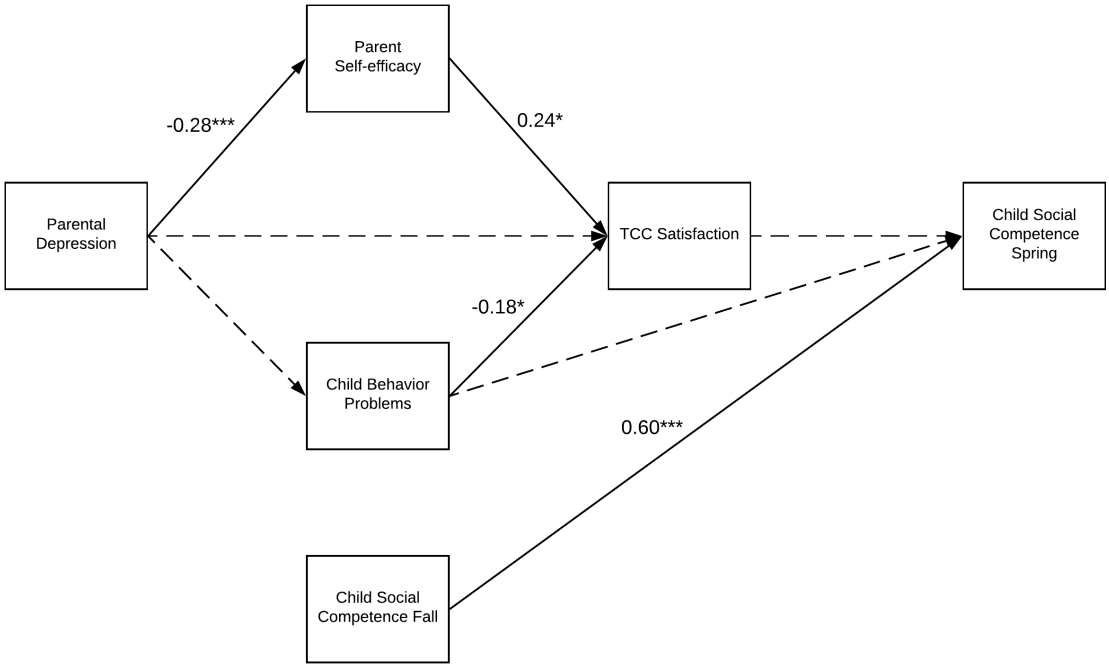
Model 3: Direct and Indirect Effects with TCC Satisfaction as Indicator of Parent Engagement

The path analysis model (Model 3; see Figure 4) provided a good fit to the data (χ^2 (6) = 8.62, p = .196; CFI = .97; RMSEA = .05; SRMR = .07). Similar to models 1

and 2, and as hypothesized, for model 3 greater parental depressive symptoms predicted lower parent self-efficacy in the educational domain (β = -0.28, p =.000). Additionally, greater child social competence in the Fall predicted greater child social competence in the Spring (β = 0.60, p =.000). Additionally, and contrary to study hypotheses, greater parent self-efficacy (β = 0.24, p =.017) and lower child behavior problems (β = -0.18, p =.032) predicted higher levels of TCC satisfaction (e.g., parents' report of their and their child's satisfaction with TCC materials and activities). With regards to nonsignificant paths, and contrary to study hypotheses, parental depression (β = 0.04, p =.680) did not predict TCC satisfaction. Additionally, parental depression did not predict child behavior problems (β = 0.10, p =.250). Finally, child behavior problems (β = -0.09, p =.260) and TCC satisfaction (β = -0.05, p =.394) did not predict child social competence in the Spring. See Table 15 for standardized as well as unstandardized direct effects for model 3.

Figure 4

Model 3 of Standardized Significant Direct and Indirect Effects



Note. †p<0.10, * p<.05, ** p<.01, *** p <.001

Table 15

Model Estimates for Model 3 (Standard Errors in Parentheses; N = 176)

Parameter Estimate	Unstandardized	Standardized	*p*
Parental Depression→Parent Self-Efficacy	-0.21 (.06)	-0.28	.000
Parental Depression→Child Behavior Problems	0.04 (.04)	0.10	.250
Parental Depression→TCC Satisfaction	0.01 (.02)	0.04	.680
Parent Self-Efficacy→TCC Satisfaction	0.06 (.03)	0.24	.017
Child Behavior Problems→TCC Satisfaction	-0.08 (.04)	-0.18	.032
Child Behavior Problems→Child Soc. Comp. Spring	-0.41 (.37)	-0.09	.260
TCC Satisfaction→Child Soc. Comp. Spring	-0.51 (.62)	-0.05	.394
Child Soc. Comp. Fall→Child Soc. Comp. Spring	0.58 (.07)	0.60	.000
Residuals for Parent Self-Efficacy	16.96 (2.09)	.92	.000
Residuals for Child Behavior Problems	5.50 (.82)	.99	.000
Residuals for TCC Satisfaction	1.02 (.20)	.91	.000
Residuals for Child Soc. Comp. Spring	67.52 (9.09)	.63	.000

Note. χ^2 (6) = 8.62, p = .196; CFI = .97; RMSEA = .05; SRMR = .07. Soc. = Social, Comp. = Competence.

Partially consistent with study hypotheses, there was a statistically significant indirect effect of parental depression on TCC satisfaction through parent self-efficacy (β = -0.066, p =.065, 95% CI [-0.164, -0.013]) for Model 3. However, contrary to hypotheses, no other indirect effects were significant for Model 3. See Table 16, Table 17, Table 18, and Table 19 for the bootstrapped estimates for the specific indirect effects of parental depression, parent self-efficacy, and child behavior problems on child social competence in the Spring and the bootstrapped estimates for the specific indirect effects of parental depression on TCC satisfaction.

Table 16

Standardized Indirect Effects of Parental Depression on Child Social Competence through TCC Satisfaction, Child Behavior Problems, Parent Self-Efficacy and TCC Satisfaction, and Child Behavior Problems and TCC Satisfaction for Model 3

			95% Confidence Interval	
Mediator	Estimate	SE	Lower	Upper
TCC Satisfaction	-0.002	0.007	-0.023	0.006
Child Behavior Problems	-0.009	0.013	-0.046	0.008
Parent Self-Efficacy and TCC Satisfaction	0.003	0.004	-0.003	0.015
Child Behavior Problems and TCC Satisfaction	0.001	0.002	-0.001	0.010

Note. Based on 1,000 bootstrap samples.

Table 17

Standardized Indirect Effects of Parent Self-Efficacy on Child Social Competence through TCC Satisfaction for Model 3

			95% Confidence Interval	
Mediator	Estimate	SE	Lower	Upper
TCC Satisfaction	-0.012	0.014	-0.046	0.012

Note. Based on 1,000 bootstrap samples.

Table 18

Standardized Indirect Effects of Child Behavior Problems on Child Social Competence through TCC Satisfaction for Model 3

			95% Confidence Interval	
Mediator	Estimate	SE	Lower	Upper
TCC Satisfaction	0.009	0.014	-0.009	0.050

Note. Based on 1,000 bootstrap samples.

Table 19

Standardized Indirect Effects of Parental Depression on TCC Satisfaction through Parent Self-Efficacy and Child Behavior Problems for Model 3

			95% Confidence Interval	
Mediator	Estimate	SE	Lower	Upper
Parent Self-Efficacy	-0.066	0.036	-0.164	-0.013
Child Behavior Problems	-0.018	0.020	-0.076	0.008

Note. Based on 1,000 bootstrap samples.

Post Hoc Analyses

Considering the nested nature of the data in the current study, with children nested within classrooms within centers, parent engagement patterns by center were explored. See Table 20 for parents' frequency of attendance and average levels of reported usage of and satisfaction with TCC materials and activities by center. Parents patterns of engagement appear to be comparable across centers. Additionally, one-way ANOVAs were run to further explore potential differences in study variables across centers. Analyses showed one significant difference by center for child social competence in the Fall, which was included in models as a control variable on child social competence in the Spring. Specifically, there was a significant mean difference in children's Fall social competence by center, $F(2, 166) = 3.71$, $p = .027$ (Center 1 M = 50.21; Center 2 M = 46.35; Center 3 M = 44.80), with post hoc tests indicating that children's Fall social competence was significantly higher in center 1 compared to center 3. No other significant mean differences were found across study variables by center. Overall, these findings suggest that center does not need to be included as a control variable across models.

Table 20

Parent Engagement in TCC by Center

Variable	Center 1 (N = 47)	Center 2 (N = 55)	Center 3 (N = 71)
TCC Attendance	M = 2.13, SD = 2.01	M = 2.24, SD = 2.34	M = 1.65, SD = 1.76
0 Sessions	17%	16.4%	18.3%
1 Session	36.2%	36.4%	52.1%
2 Sessions	12.8%	21.8%	9.9%
3+ Sessions	34%	25.4%	19.7%
TCC Usage	M = 3.00, SD = .84	M = 3.17, SD = .80	M = 2.90, SD = .88
TCC Satisfaction	M = 7.48, SD = 1.02	M = 7.46, SD = 1.16	M = 7.29, SD = 1.02

Note. Center is unknown for 3 cases.

CHAPTER IV

DISCUSSION

While preventive interventions that target parenting as a mechanism of change within early childhood settings have been found to be efficacious in buffering against the impacts of poverty-related stressors on child and parent outcomes of interest for traditionally underserved families (Begle et al., 2012; Bierman et al., 2015; Breitenstein et al., 2012; Brotman et al., 2005; Dawson-McClure et al., 2015; Dumas et al., 2011; Marti et al., 2018; Mendez, 2010; Webster-Stratton et al., 2001), significant difficulties with parent engagement have been documented that limit the impacts of these interventions (Garvey et al., 2006; Mendez, 2010). Despite empirical evidence of low parent participation in these preventive interventions, relatively few studies have specifically evaluated parents' intervention engagement as well as how it impacts intervention outcomes (Mauricio et al., 2018). In order to address this gap and to increase the translational impact of existing evidenced-based preventive interventions, this study aimed to more closely evaluate parents' engagement in The Companion Curriculum (TCC), a parenting and home-school connection intervention delivered within Head Start. This study is one of a few to employ a theoretically-grounded conceptualization of parent engagement in preventive parent-focused interventions, that includes both behavioral and attitudinal indicators, as they relate to one another as well as to child and parent characteristics and child intervention outcomes (Schoenfelder et al., 2013).

Parent Engagement in Preventive Interventions in Early Childhood Settings

The current study contributed to the parent engagement literature by positing and testing a multidimensional model of parent engagement that encompassed parents' behavioral (e.g., observed attendance or dosage, parents' use of intervention strategies with their child at home) and attitudinal (e.g., parents' level of satisfaction with the intervention) engagement in the TCC intervention. This multidimensional conceptualization and measurement of parent engagement was informed by previous research and theory on parents' participation in both clinical and preventive interventions that focus on parenting as a primary mechanism of change and was intended to capture a wider range of relevant parent behaviors and attitudes that may have implications for child intervention outcomes. Previous studies evaluating multidimensional models of parent engagement have tended to focus exclusively on behavioral indicators of engagement (e.g., attendance, homework completion, participation during sessions) (Baydar et al., 2003; Coatsworth et al., 2017; Reid et al., 2001), and have often omitted attitudinal factors. Additionally, when attitudinal components of engagement have been evaluated, their associations with behavioral indicators of engagement have not been examined (Gross et al., 2003; Dumas et al., 2011; Reid et al., 2001).

Contrary to study hypotheses, which conceptualized behavioral and attitudinal indicators of engagement as related to one another, there were no relationships found between parents' attendance, their usage of strategies at home, and their satisfaction with the TCC program. These null findings add to a fairly limited number of studies evaluating the relations among different indicators of parent engagement in preventive

interventions focusing on parenting as a mechanism of change. For example, Brotman and colleagues (2011) similarly found no association between parents' attendance and their average satisfaction across sessions in the ParentCorps program. In regards to associations between behavioral indicators of parent engagement, Eisner and Meidert (2011) found that attendance predicated technique utilization several months after participating in the Triple P parenting program.

One potential explanation for the lack of association between parent engagement indicators in the current study is that there were multiple ways for parents to "engage" in the TCC program. For families who did not attend TCC sessions, a kit including psychoeducational handouts as well as TCC activity instructions and materials was sent home with children the next day. This means that a parent could potentially practice TCC strategies and evaluate their satisfaction with them without attending any TCC sessions in person. Another potential explanation is the timing of parent engagement measures in the current study. Specifically, parents were asked to report on their satisfaction with and frequency of using TCC activities and materials at the end of school year, following the intervention. It is possible that parents' estimation of their TCC usage and satisfaction following the intervention did not approximate their actual behavioral or attitudinal engagement during the intervention, which has been suggested by previous researchers evaluating the relation between parents' engagement during a preventive intervention and their reported satisfaction following the intervention (Schoenfelder et al., 2013).

Staudt (2007) proposed a conceptual framework of parent engagement that informed the current study. Specifically, she posited the presence of both attitudinal and

behavioral components of parent engagement that are both important contributors to intervention outcomes. Additionally, she posited that while attitudinal engagement (e.g., perception of treatment as relevant and acceptable) often preceded behavioral engagement (e.g., attending sessions, completing homework between sessions), these two components of engagement were not always related (e.g., when a parent is mandated to participate in a program or agrees to participate for reasons beyond perceived need). While the current study did not find any association between attitudinal and behavior engagement in the TCC program, some study findings are relevant to Staudt's conceptual framework of parent engagement. Specifically, parent and child predictors of engagement were differentially related to behavioral versus attitudinal indicators of engagement, with child behavior problems predicting both TCC attendance and satisfaction and parent self-efficacy predicting TCC satisfaction only. These results suggest that behavioral and attitudinal indicators of engagement may be best thought of as two separate constructs, and that it may be meaningful to include and evaluate them both in studies of parent interventions.

Parental Depression, Parent Self-Efficacy, Child Behavior Problems and Parent Engagement

A second aim of this study was to better understand predictors of parent engagement in the TCC program, and there were mixed findings involving parent factors and child behavior problems. Partially consistent with study hypotheses, which proposed that depression may impact parent engagement in both direct and indirect ways, parental depression was found to only be related to parent engagement indirectly. Overall, this is

consistent with previous research examining the direct impacts of parental depression on parents' program engagement. While some studies examining parental depression and parent engagement among children attending Head Start have found that parental depression is related to less program engagement, as measured by attendance, homework completion, and quality of participation, the effect was considered to be small (Baydar et al., 2003; LaForett & Mendez, 2010). Additionally, other studies have failed to find a direct relationship between parental depression and parents' engagement in preventive interventions in early childhood settings (Garvey, 2006; Gross et al., 2001).

Additionally, and consistent with study hypotheses, the current study found that higher parental depressive symptoms predicted lower parent self-efficacy in the educational domain across models. This finding is consistent with previous research involving predominantly White mothers of young children that has also found that higher parental depressive symptoms are related to lower parent self-efficacy (Beeber et al., 2017; Fox & Gelfand, 1994; Teti & Gelfand, 1991; Webster-Stratton & Hammond, 1988). The current study extends this previous research to a sample of socioeconomically disadvantaged African American mothers. Additionally, this finding supports the theory that higher depressive symptoms and low mood predispose individuals, including parents, to lower perceived feelings of control and competency (Bandura, 1989). In the current study, this finding indicates that parents experiencing more impairing depressive symptoms perceived themselves to be less efficacious at guiding their child's learning and development.

One important contribution of the current study is the finding that parental depression indirectly impacted parent engagement, as measured by satisfaction with the TCC program, through impacts on parent self-efficacy in the educational domain. Specifically, this finding can be interpreted as suggesting that parents with higher levels of depressive symptoms generally had lower parent self-efficacy in the educational domain, which was related to lower levels of satisfaction with the TCC program following the intervention. This finding identifies one mediating process through which parental depression can impact parents' engagement in preventive interventions and may help explain the inconsistent findings related to direct effects of parental depression on parents' program engagement. Additionally, this finding adds to more limited research involving mothers of young children highlighting the role of parent self-efficacy as a mediator between parental emotional functioning and parent outcomes that have implications for their child's development. For example, Teti and Gelfand (1991) found that parent self-efficacy mediated the relationship between maternal depressive symptoms and maternal demonstrated warmth and sensitivity as measured through behaviorally coded mother-child interactions. They found that only mothers with depressive symptoms and low efficacy showed lower levels of demonstrated warmth and sensitivity with their young children. This finding as well as the current study finding suggest that in the context of higher parental depressive symptoms, low parent self-efficacy represents additive risk for poorer parent outcomes that could impact children's development.

Contrary to study hypotheses, the current study did not find that parental depressive symptoms predicted child behavior problems across models. This is inconsistent with previous studies that have found evidence for the negative impacts of maternal depression on a range of child developmental outcomes (e.g., language and global delays, increased expression of negative affect, increased tantrums and noncompliance) in typically-developing samples of young children (Turney, 2012). Additionally, Beeber et al. (2017) found that, for mothers involved in early intervention, increased report of child behavior problems predicted the severity of mothers' depressive symptoms. Previous studies have also found evidence to suggest that parental depressive symptoms impact child outcomes indirectly through impaired parenting behaviors (Lovejoy et al., 2000). It is possible that parental depressive symptoms would be related indirectly to child behavior problems through their parenting behaviors in the current study, however, since measures of parenting behavior were not included in the study's design, this cannot be evaluated.

The current study found that parent self-efficacy predicted parents' reported satisfaction with the TCC program, however, the valence of the relationship between parent self-efficacy and TCC satisfaction was opposite of what was predicted. While previous studies evaluating the link between parent self-efficacy and parent engagement are sparse and contradictory, some previous research has found evidence that parents with lower self-efficacy show greater engagement in parent-focused interventions as indicated by program attendance (Garvey et al., 2006). Based on this research, it was predicted that parents with lower parent self-efficacy would perceive a greater need for

intervention, and therefore would engage at higher rates and have higher satisfaction with the TCC program. In contrast, the current study found that parents with lower parent self-efficacy actually reported lower satisfaction with the TCC program, following completion of the program. This finding indicates that lower parent self-efficacy can be conceptualized as a barrier to parent engagement in the current study.

Additionally, the current study found that child behavior problems predicted parent engagement in the TCC program as indicated by parents' TCC attendance and satisfaction. However, similar to parent self-efficacy, the valence of the relationship between child behavior problems and the two indicators of parent engagement were the opposite of what was predicted. Multiple studies evaluating parents' engagement in preventive interventions in early childhood settings have found that higher levels of child behavior problems are related to greater parent engagement (Dumas et al., 2007; Garvey et al., 2006; Gross et al., 2009; Heinrichs et al., 2005; Reid et al., 2004). Based on this research, and similar to the hypothesis regarding parent self-efficacy, it was predicted that higher parent-reported child behavior problems would be related to increased parent engagement in the TCC program, due to parents' increased perceived need for intervention. However, in the current study, parents who reported higher levels of child hyperactive and aggressive behaviors were less likely to attend and be satisfied with the TCC program. This suggests that having a child who is exhibiting more problematic behaviors served as a barrier to parent engagement in the TCC program. A previous study evaluating parent engagement in a parent-focused preventive intervention also found that higher levels of child behavior problems were associated with less parent participation in

the intervention (Schoenfelder et al., 2013). Similarly, Nix and colleagues (2018) found that higher social competence (e.g., lower levels of child behavior problems) was associated with greater use of program strategies at home by parents. One potentially important difference between the programs that have found child behavior problems to be a facilitator versus a barrier to parent engagement is the content of the program, with programs more exclusively focused on targeting children's behavioral functioning tending to find higher levels of behavior problems leading to greater parent participation. This suggests that higher child behavior problems may only facilitate parent engagement in preventive parent-focused interventions when addressing child problematic behavior is a more salient component of the intervention.

Taken together, the current study findings suggest that the most vulnerable families may not be effectively engaged by the TCC program and that additional efforts may be needed to identify and engage distressed families. For example, some have suggested using brief screening measures to identify parents most in need of services (Beeber et al., 2017). Additionally, another parent-focused preventive program implemented in Head Start found that teachers were fairly accurate at identifying children who would benefit most from the program as evidence by higher levels of behavior problems in the classroom (Reid et al., 2004). In addition to identifying the most vulnerable families, tailored recruitment and retention strategies may be required in order to get these families engaged and to maintain engagement throughout the intervention. Research suggests that strategies directly impacting parents' decision-making about intervention engagement may be more effective compared to tangible or monetary

incentives (Dumas, Begle et al., 2010; Gennetian et al., 2019). Gennetian and colleagues (2019) experimentally evaluated the impacts of some simple engagement strategies (e.g., personalized program invitations, text message reminders and play-based learning tips, the use of activity trackers) based on cognitive barriers to participation suggested by the field of behavioral economics. They found that parents who received the behavioral economics enhanced curriculum showed higher rates of attendance as well as increased usage of program activities at home.

Parent Engagement and Facilitating the Development of Social Competence among Children in Early Childhood Settings

Social competence is a key indicator of school readiness that is targeted by preventive interventions implemented within early childhood settings, including Head Start (Bierman et al., 2015; Dawson-McClure et al., 2015; Mendez, 2010). Due to this, the third aim of the study involved evaluating how children's social competence, as evidenced by teacher ratings of children's prosocial peer play, was impacted across the school year by child characteristics as well as by parents' engagement in the TCC program. Across models, social competence in the Fall predicted social competence in the Spring. Additionally, children who exhibited more hyperactive and aggressive behaviors as rated by their parents tended to be rated lower in social competence by teachers in both the Fall and Spring. However, contrary to study hypotheses, child behavior problems did not predict social competence in the Spring, when controlling for social competence in the Fall across models. Finally, the current study found no relationships between indicators of parent engagement (e.g., parents' attendance, usage of

strategies at home, and program satisfaction) and children's social competence in the Spring, controlling for children's social competence in the Fall. This indicates that parents' engagement in the TCC program did not contribute to significant improvements in their children's social competence across the school year as rated by teachers. A previous study evaluating the impacts of the TCC program on children's social competence found that children who participated in the TCC program showed significant improvements in their parent-reported social competence in the Spring compared to children in the control condition; however, the impacts of parents' engagement directly on children's social competence was not evaluated (Mendez, 2010). This suggests that parents and teachers may perceive changes in children's social competence differently. Alternatively, it is possible that children's social competence can differ across home and school settings, as the settings place different social demands on young children.

This finding is contrary to previous studies of preventive interventions in early childhood settings that have found direct effects of parents' engagement on child outcomes of interest, including increases in prosocial behaviors and decreases in conduct problems (Reid et al., 2004). However, another preventive intervention focusing on parenting as a mechanism of change, the Family Bereavement Program, also found that parent engagement did not directly predict child outcomes in their program (Schoenfelder et al., 2013). Additionally, there is evidence that child outcomes in the Family Bereavement Program are instead mediated by changes in parenting strategies employed by parents who attend the program (Tien et al., 2006). Again considering preventive interventions implemented in early childhood settings, there is evidence that program

engagement leads to improvements in parenting following the intervention, and that these improvements in parenting are related to observed gains in children's social-emotional and behavioral functioning (Baydar et al., 2003; Reid et al., 2004). Taken together, these studies suggest the possibility of parenting change as a mediator between parent engagement and children's gains in social competence in the TCC program. This could be explored in a future study.

Alternatively, the lack of association between parent engagement in the TCC program and children's social competence following the intervention could be due to the presence of other supports provided by Head Start also intended to increase children's social competence. Head Start is a two-generation early intervention program that is informed by an ecological model of child development and an understanding of the broad range of poverty-related risk factors that impact both families and young children (LaForett & Mendez, 2010). Based on this model, Head Start provides a variety of services to parents and young children that may impact children's development of social competence (e.g., high quality early childhood education, coordinating involvement with early intervention, promoting parents' involvement in children's learning, providing parent programming to improve parents' economic self-sufficiency) (National Center on Parent, Family, and Community Engagement, 2018; Smith & Zaslow, 1995). It is possible that the multiple services provided by Head Start that target social competence either directly or indirectly may make it harder to differentiate the unique impact of parents' engagement in the TCC program on this particular outcome.

Another possible explanation for the lack of relationship between parents' engagement in TCC and children's social competence following the intervention could be the exclusion from the model of some important mechanisms of change targeted by the intervention. Specifically, the TCC program aims to improve children's academic and social-emotional school readiness through increasing parents involvement in their child's learning at home and at school as well as by increasing the home-school connection (Mendez, 2010). Consistent with this proposed model of change, Mendez (2010) found that higher TCC attendance was associated with a stronger parent-teacher relationship and that both TCC attendance and usage explained significant variance in parent-teacher relationship quality. Considering this, it is possible that gains in children's social competence as a result of the intervention were due to the positive impacts of an improved home-school connection, which could increase continuity between the home and school environment in a manner that is supportive of social competence as well as other child developmental outcomes (Mendez & Fogle, 2002).

Limitations of the Present Study and Future Directions

While the current study has some significant strengths, there are limitations that should also be considered. There are a few limitations related to measurement in the current study. The first limitation is related to the timing of measures. Both parents' usage of TCC strategies and their satisfaction with the TCC program materials were collected at the end of the intervention only. As noted previously, parents' estimation of their satisfaction with and usage of TCC materials and strategies at the end of the intervention may not have captured or been related to their true attitudinal or behavioral

engagement during the intervention. This is a limitation that has been noted in previous studies evaluating parents' engagement in preventive interventions, as attitudinal measures are more often collected at the end of the intervention (Schoenfelder et al., 2013). Furthermore, in order to test one key hypothesis proposed within Staudt's (2007) conceptual model of parent engagement, that attitudinal engagement often precedes behavioral engagement, parents' attitudes about the intervention would need to be collected earlier in the study. Future studies should consider measure timing in study design to better assess the potential relationship between behavioral and attitudinal indicators of parent engagement based on current research and theory. Specifically, behavioral and attitudinal indicators of engagement should be collected together at multiple time points across a study, from pre-intervention to post-intervention.

Also related to measure timing, another measurement limitation in the current study is the lack of formative data on indicators of parents' behavioral and attitudinal engagement in the TCC program. Beyond parent attendance at TCC sessions, no other indicator of parent engagement in TCC was collected formatively, which means that parents' engagement was only captured at specific "snapshots" in time. Some researchers have suggested and found that parent engagement is best conceptualized and measured as a dynamic process (Coatsworth et al., 2017), and some studies have included formative assessment of both behavioral (Baydar et al., 2003; Reid et al., 2004) and attitudinal parent engagement (Brotman et al., 2011; Dumas et al., 2011). Future studies should consider adding formative assessment of parents' engagement in order to understand different patterns of engagement as well as their relationship to targeted intervention

outcomes. These formative measures should better capture parents' perceptions of program components (e.g., attitudinal indicators) as well as their level of usage of program strategies (e.g., a behavioral indicator), as these indicators of parent engagement have been understudied and may be particularly influential for both patterns of engagement as well as intervention outcomes.

The current study is a secondary data analysis from a project aiming to evaluate the initial efficacy of the TCC program. According to the Translation Science to Population Impact framework proposed by Spoth and colleagues (2013), it is recommended to address translational questions, including program engagement, early on and throughout the prevention research cycle. Previous researchers have discussed the benefits of conducting secondary data analyses of program efficacy studies, given that these studies are currently the most numerous in the literature (Mauricio et al., 2018). However, while the indicators of parent engagement used in the current study were initially designed to evaluate different aspects of parent engagement in TCC, these indicators were not necessarily designed to comprehensively assess the constructs of behavioral and attitudinal engagement as described by researchers (Nock & Ferriter, 2005; Staudt, 2007). In particular, the one item in the current study assessing parents' usage of TCC activities and materials at home asked parents to report on the frequency of their use of TCC "ideas" over the past month. Parents reported relatively high levels of usage of program materials and strategies and TCC usage was not generally related to other study variables, which suggests that this item may not be capturing parents' true usage of TCC materials and strategies. Socially desirable response bias may explain

parents' ratings. For this item in particular, parents may have wanted to rate their usage higher since it reflects on their parenting or they may have been motivated to appear as "good" utilizers of the program that was offered to them. To address these potential threats to measure validity, future studies should employ both subjective and objective measures of parents' usage of program strategies. For example, parents could be observed engaging in activities at home with their child during a home observation or parents could keep an activity log of their usage of program activities and materials. Including these objective measures would more fully capture parents' frequency of and fidelity in using program strategies.

Another measurement limitation in the current study relates to the assessment of parent attitudinal engagement in the TCC program. TCC satisfaction was assessed through a survey presented to parents at the end of the invention. The satisfaction survey used in the current study is similar to those included in previous studies and was intended to assess "consumer satisfaction" with certain intervention components. The use of satisfaction surveys has been previously critiqued due to concern for positive response bias (LaForett & Mendez, 2010; Schoenfelder, 2013). Indeed, in the current study, and similar to previous studies using this method to assess satisfaction, parents reported high levels of satisfaction with limited variability among parents' ratings (Brotman et al., 2011; Dumas, Arriaga et al., 2010; Gross et al., 2003; Reid et al., 2004). While an important aspect of the construct of attitudinal parent engagement is assessing parents' perceptions of intervention components, parent-report measures are more subject to reporter bias that could impact their validity. Future studies should consider addressing

this by designing parent-report measures of parents' attitudinal engagement that provide specific prompts that are related to potential behaviors (e.g., "How useful do you think _____ strategy would be for your child?" or "How likely are you to incorporate _____ strategy with your child over the next week?," with response options indicating different likelihoods of implementing the skill as opposed to assessing only parents' "liking" of the strategy) as opposed to more global prompts.

Another limitation related to the assessment of attitudinal engagement in the current study includes the exclusive focus on the acceptability of program materials as the indicator of parents' attitudinal engagement in TCC. While program materials are important for parents' TCC engagement at home as they help guide and facilitate the joint parent-child activities, they only represent parent attitudes about one aspect of the TCC program. Attitudinal engagement as described by Staudt (2007) is conceptualized as including a variety of parent attitudes related to intervention components, such as attitudes towards the intervention providers or group and the perceived acceptability and helpfulness of program strategies. To more comprehensively assess attitudinal engagement in future studies and to contribute to construct validation, researchers should consider measures incorporating questions that more fully capture these other important aspects of attitudinal engagement.

Additionally, there are limitations to consider related to the measurement of parent self-efficacy in the current study. The About Being a Parent Scale (ABPS) differs from other measures previously used in parent-focused prevention studies as it assesses parent self-efficacy in a different domain (e.g., parents' efficacy in guiding their child's

learning compared to managing their behaviors). Additionally, due to the language across items, the scale may also assess parents' beliefs about their role versus the role of their child's teacher in shaping their child's learning and development. At higher reported levels of parent self-efficacy in the educational domain, the ABPS likely assesses similar aspects of parent self-efficacy as the measures more commonly used across previous studies (e.g., higher scores suggest that parents feel more efficacious in their role as an important shaper of their child's development). However, given that the ABPS also assesses aspects of parents' beliefs, in addition to identifying parents with lower perceived efficacy in the education domain, it may also identify parents who do not see themselves in the role of a teacher for their child and may feel that the child's teacher is best suited to fulfill that role. Considering this, an alternative interpretation of study findings is that parents with higher levels of depressive symptoms are more likely to not see themselves as a teacher for their child and that this leads to lower satisfaction when engaging with learning materials and activities with their child. In order to better understand what the ABPS is capturing, future studies should employ the ABPS along with other measures of parent self-efficacy related to managing child behaviors in order to empirically evaluate the extent to which they may overlap.

It is important to note that data in the current study were nested, with children nested within classrooms within centers. With the exception of Center 1 having more veteran teachers compared to Centers 2 and 3, teacher demographics and patterns of engagement appeared comparable across centers. Additionally, post hoc analyses found no significant mean differences across most study variables by center, with the only

significant mean difference found for a control variable (e.g., children's social competence in the Fall). Overall, these findings do not point to significant differences between centers that would impact the interpretation of results in the current study. However, since statistical analyses specifically designed to account for nested data were not used in the current study, this cannot be fully ruled out and is another limitation to consider. Future studies with larger sample sizes evaluating parent engagement across multiple centers and classrooms should utilize statistical analyses, such as hierarchical linear modeling, which better account for the potential statistical dependency of nested data (O'Dwyer & Parker, 2014).

Additionally, given that parent-focused prevention programs are routinely implemented within early childhood education settings, future studies should consider factors at the classroom and center level that may impact parents' engagement decisions. While parent and child characteristics may be important in informing a parent's motivation for or perceived need for a parent-focused intervention, their ultimate decision to participate is likely also impacted by their perception of teachers and the extent to which they feel welcome within their child's center. Setting and provider characteristics were also highlighted across conceptual models of parent engagement, but have not been routinely evaluated across studies. At the classroom level, a potentially relevant teacher factor to explore in relation to parent engagement includes a teacher's ability to communicate and build relationships with parents. Teachers with stronger skills in this area are better equipped to both develop and sustain relationships with parents, which is likely a key factor in engaging parents in activities offered at centers. At the center level,

the school climate likely also impacts parents' engagement in activities offered. For example, a previous study examining school involvement among African American parents of school age children found that parent perceptions of racism at the school level were related to less parent involvement at their child's school (McKay et al., 2003).

The current study sample included predominantly African American parents with children attending Head Start. Since African American parents currently make up about 30% of parents utilizing Head Start services (Head Start Program Facts Fiscal Year 2019, 2020), and there is still a dearth of research specific to ethnic minority families' participation in interventions (Coard et al., 2004; Lau, 2006), this study represents a relevant contribution to the literature. However, future studies should also evaluate patterns of parent engagement across other ethnic groups utilizing Head Start services. Notably, 37% of families participating in Head Start identify as Latino (Head Start Program Facts Fiscal Year 2019, 2020). Indeed, TCC has been adapted for use with Latino and other immigrant populations served by Head Start (Mendez & Westerberg, 2012). While other ethnic groups were present in the current study sample, their numbers were too small to warrant comparisons across ethnic groups.

Related to the goal of better understanding and improving participation among ethnic minority families in prevention services, future studies should better evaluate the cultural acceptability of intervention services in order to evaluate how this may relate to parent engagement in an intervention across different ethnic groups. The cultural acceptability of an intervention refers to the extent to which treatment strategies are consistent with or different from the predominant cultural values and norms within a

particular cultural group (Lau, 2006). While cultural acceptability has been discussed as an important factor impacting the intervention engagement of ethnic minority families, fewer studies have routinely assessed cultural acceptability. Some previous studies that have evaluated cultural acceptability of interventions have conducted focus groups with parents from a specific cultural group in order to understand how they perceive treatment components as well as to identify other relevant group values or processes for consideration in intervention implementation (Coard et al., 2004; Dumas, Arriaga et al., 2010; Dumas et al., 2011). These focus groups have then been used to inform and evaluate selective cultural adaptions to existing interventions consistent with predominant frameworks used in the field of intervention (Barrera & Castro, 2006). Future studies evaluating TCC could use this approach to better understand its cultural acceptability across cultural groups, especially for African American families. For example, previous studies evaluating parent-focused preventive interventions with African American families in particular have found that racial socialization is an important aspect of parenting to discuss in programs (Coard et al., 2004).

Conclusion and Study Implications

The current study evaluated one parent-focused preventive intervention implemented within Head Start aiming to increase parents' school involvement in support of their child's academic and social-emotional school readiness. One important takeaway from the current study is the finding that parents who were the most distressed were the least likely to engage in the TCC program. Specifically, it was found that parents who reported lower parent self-efficacy and higher levels of child behavior problems were less

likely to attend and be satisfied with the TCC program. This finding is contrary to hypotheses as well as previous research on parent-focused preventive interventions implemented within early childhood settings that have generally found that parents reporting the most distress are also the most likely to engage in interventions (Dumas et al., 2007; Garvey et al., 2006; Gross et al., 2009; Heinrichs et al., 2005; Reid et al., 2004). Researchers have interpreted this finding to indicate that distressed parents have a higher perceived need for treatment that leads them to engage at higher rates. However, the current study findings suggest that this interpretation does not apply to the TCC program and potentially to other similar preventive interventions, which more broadly target children's academic and social-emotional school readiness.

From both a cost-effectiveness and long-term intervention outcome perspective, early childhood is a crucial time to intervene to better support socioeconomically disadvantaged children and families (Cannon et al., 2018; Jones et al., 2019; Olds et al., 1998). Additionally, early childhood settings, such as Head Start, are an important avenue through which to increase this support for children, with optimal parent engagement enhancing the outcomes associated with involvement in a high quality early childhood education program (Bierman et al., 2015; Dawson-McClure et al., 2015; Mendez, 2010). The current study suggests that more vulnerable families are the least likely to engage in parent-focused preventive programs targeting school readiness. It is crucial for early childhood settings serving socioeconomically disadvantaged families to improve engagement strategies by first identifying more vulnerable children and families. In addition to addressing structural barriers faced by many socioeconomically

disadvantaged families (e.g., lack of childcare, scheduling conflicts, economic insecurity), programs need to employ more evidence-based motivational strategies for increasing parents' enrollment, attendance, and usage of strategies emphasized in parent-focused prevention programs, such as creating personalized invitations and texting tips for play-based learning activities to parents (Gennetian et al., 2019). The impacts of poverty on families are great and early childhood settings are situated to substantially offset the negative impacts of poverty for children and their families early in life. However, to address this large task, early childhood settings must adapt services and outreach to optimally reach all families.

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APPENDIX A

MEASURES

Center for Epidemiologic Studies-Depression Scale, Short Version (CES-D)

I am going to read a list of ways you may have felt or behaved. Please tell me how often you have felt way during the past week: *rarely or never, some or a little, occasionally or a moderate amount of time or most or all of the time?* (CIRCLE ONE RESPONSE FOR EACH ITEM.)

(USE REPONSE CARD OR REPEAT RESPONSE CATEGORIES FREQUENTLY.)

		Rarely or Never	Some or a Little	Occasionally or Moderate	Most or All
a.	Bothered by things that usually don't bother you	1	2	3	4
b.	You did not feel like eating; your appetite was poor	1	2	3	4
c.	That you could not shake off the blues, even with help from your family and friends	1	2	3	4
d.	You had trouble keeping your mind on what you were doing	1	2	3	4
e.	Depressed	1	2	3	4
f.	That everything you did was an effort	1	2	3	4
g.	Fearful	1	2	3	4
h.	Your sleep was restless	1	2	3	4
i.	You talked less than usual	1	2	3	4

j.	Lonely	1	2	3	4
k.	Sad	1	2	3	4
l.	You could not get “going”	1	2	3	4

Child Hyperactive and Aggressive Behaviors (items from Child Behavior Checklist)

In general, thinking about (CHILD) now or over the past month, tell me how well the following statements describe (CHILD)'s usual behavior. For each one, tell me if it is very true, somewhat true, or not true.

		Very True	Somewhat True	Not True
a.	Makes friends easily?	1	2	3
b.	Enjoys learning?	1	2	3
c.	**Has temper tantrums or hot temper?**	**1**	**2**	**3**
d.	Can't concentrate or pay attention for long?	1	2	3
e.	**Is very restless, and fidgets a lot?**	**1**	**2**	**3**
f.	Likes to try new things?	1	2	3
g.	Shows imagination in work and play?	1	2	3
h.	Is unhappy, sad, or depressed?	1	2	3
i.	Comforts or helps others?	1	2	3
j.	**Hits and fights with others?**	**1**	**2**	**3**
k.	Worries about things for a long time?	1	2	3
l.	Accepts friends' ideas in sharing and playing?	1	2	3
m.	**Doesn't get along with other kids?**	**1**	**2**	**3**
n.	Wants to hear that he or she is doing okay?	1	2	3
o.	Feels worthless or inferior?	1	2	3
p.	**Has difficulty making changes from one activity to another?**	**1**	**2**	**3**
q.	Is nervous, high-strung, or tense?	1	2	3

r.	**Acts too young for (his/her) age?**	**1**	**2**	**3**
s.	**Is disobedient at home?**	**1**	**2**	**3**

About Being a Parent Scale (ABPS)

Please circle the answer that shows how much you agree or disagree with these statements.

		Strongly Disagree	Disagree	Sort of Disagree	Sort of Agree	Agree	Strongly Agree
1.	Parents are very limited in how much they can teach their children because a child's teacher has a large influence on learning.	1	2	3	4	5	6
2.	When it comes right down to it, a parent can't do much to help their children at school because most of a child's motivation and school performance depends on the teacher and classroom environment	1	2	3	4	5	6
3.	If teachers would do more for their students, parents could do more for their children.	1	2	3	4	5	6
4.	Parents do not have a powerful influence on children's achievement when all factors are considered.	1	2	3	4	5	6
5.	Even a parent with good teaching abilities cannot teach their child as well as a classroom teacher.	1	2	3	4	5	6

TCC Usage

This year at _____ Center , a program called Parent Excellence is being offered to families at the center. We would like to ask you a few brief questions about the program.

1. About how often would you say you work on Parent Excellence ideas each month?

3 or More Times/Week	Once/Week	1-2 Times/Month	Less Than Once a Month
4	3	2	1

TCC Satisfaction

This year at _____ Center, a program called Parent Excellence is being offered to families at the center. We would like to ask you a few brief questions about the program.

1. How satisfied are you regarding the materials used in the Parent Excellence Program?

Very Satisfied	Mostly Satisfied	Somewhat Satisfied	Not Satisfied
4	3	2	1

2. How much does your child enjoy using the materials from the Parent Excellence Program?

Very Much Enjoys	Mostly Enjoys	Somewhat Enjoys	Not at all Enjoys
4	3	2	1

Penn Interactive Peer Play Scale-Teacher Report (PIPPS-Teacher Version)

In the past few months, indicate how much you have observed the following behaviors in this child a during free play by filling in the appropriate circle.

		NEVER	SELDOM	OFTEN	ALWAYS
1.	**Helps other children**	**O**	**O**	**O**	**O**
2.	Starts fights & arguments	O	O	O	O
3.	Is rejected by others	O	O	O	O
4.	Does not take turns	O	O	O	O
5.	Hovers outside play group	O	O	O	O
6.	**Shares toys with other children**	**O**	**O**	**O**	**O**
7.	Withdraws	O	O	O	O
8.	Demands to be in charge	O	O	O	O
9.	Wanders aimlessly	O	O	O	O
10.	Rejects the play ideas of others	O	O	O	O
11.	Is ignored by others	O	O	O	O
12.	Tattles	O	O	O	O
13.	**Helps settle peer conflicts**	**O**	**O**	**O**	**O**
14.	Destroys others' things	O	O	O	O
15.	Disagrees without fighting	O	O	O	O
16.	Refuses to play when invited	O	O	O	O
17.	Needs help to start playing	O	O	O	O
18.	Verbally offends others (name calling)	O	O	O	O

19.	**Directs others' action politely**	**O**	**O**	**O**	**O**
20.	Cries, whines, shows temper	O	O	O	O
21.	**Encourages others to join play**	**O**	**O**	**O**	**O**
22.	Grabs others' things	O	O	O	O
23.	**Comforts others who are hurt or sad**	**O**	**O**	**O**	**O**
24.	Confused in play	O	O	O	O
25.	**Verbalizes stories during play**	**O**	**O**	**O**	**O**
26.	Needs teacher's direction	O	O	O	O
27.	Disrupts the play of others	O	O	O	O
28.	Seems unhappy	O	O	O	O
29.	**Shows positive emotions during play (e.g., smiles, laughs)**	**O**	**O**	**O**	**O**
30.	Is physically aggressive	O	O	O	O
31.	**Shows creativity in making up play stories and activities**	**O**	**O**	**O**	**O**
32.	Disrupts class during transitions from one activity to another	O	O	O	O

APPENDIX B

SCATTERPLOTS

Figure 5

Scatterplot of the Relationship between Child Social Competence in the Fall and Child Social Competence in the Spring

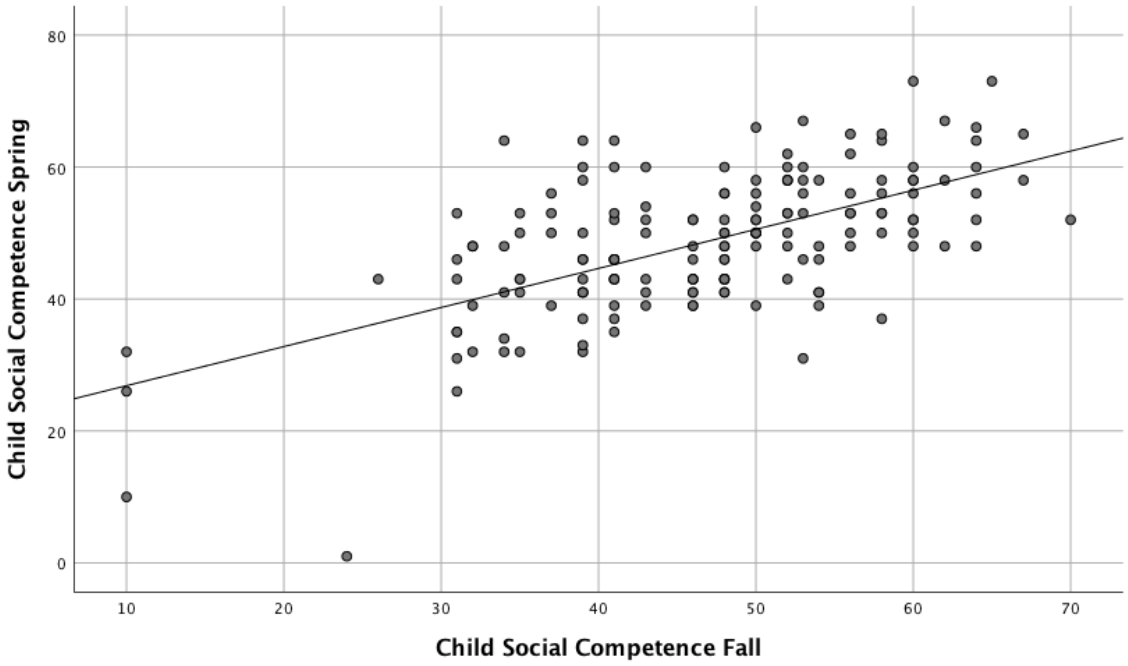

Figure 6

Scatterplot of the Relationship between Parental Depression and Parent Self-Efficacy

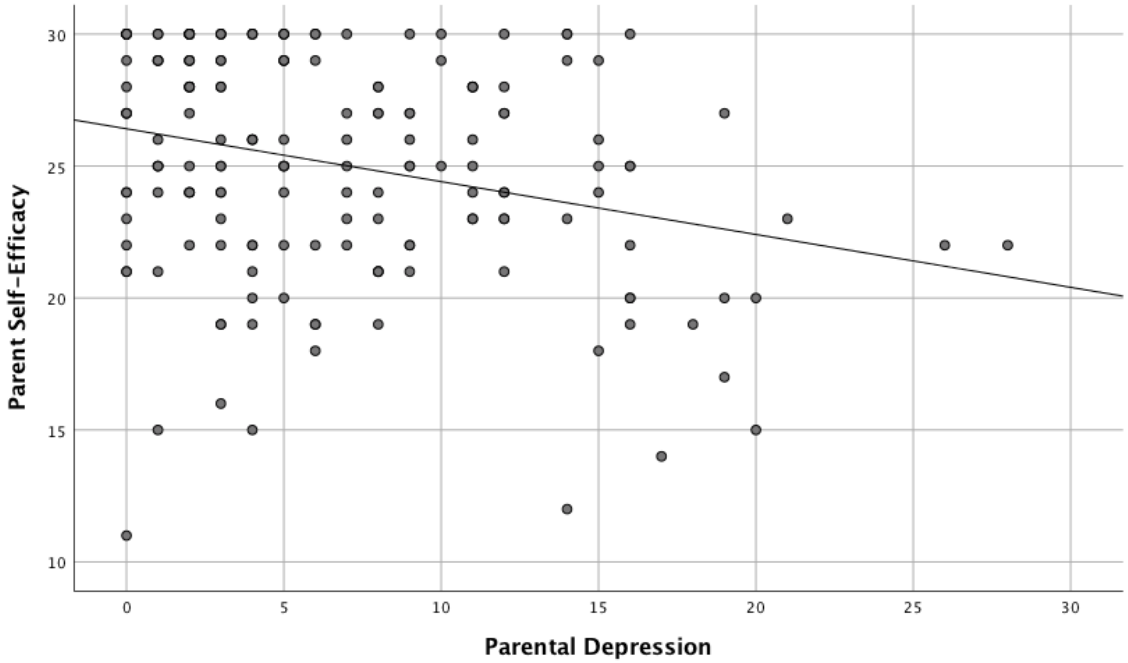

Figure 7

Scatterplot of the Relationship between Parent Self-Efficacy and TCC Satisfaction

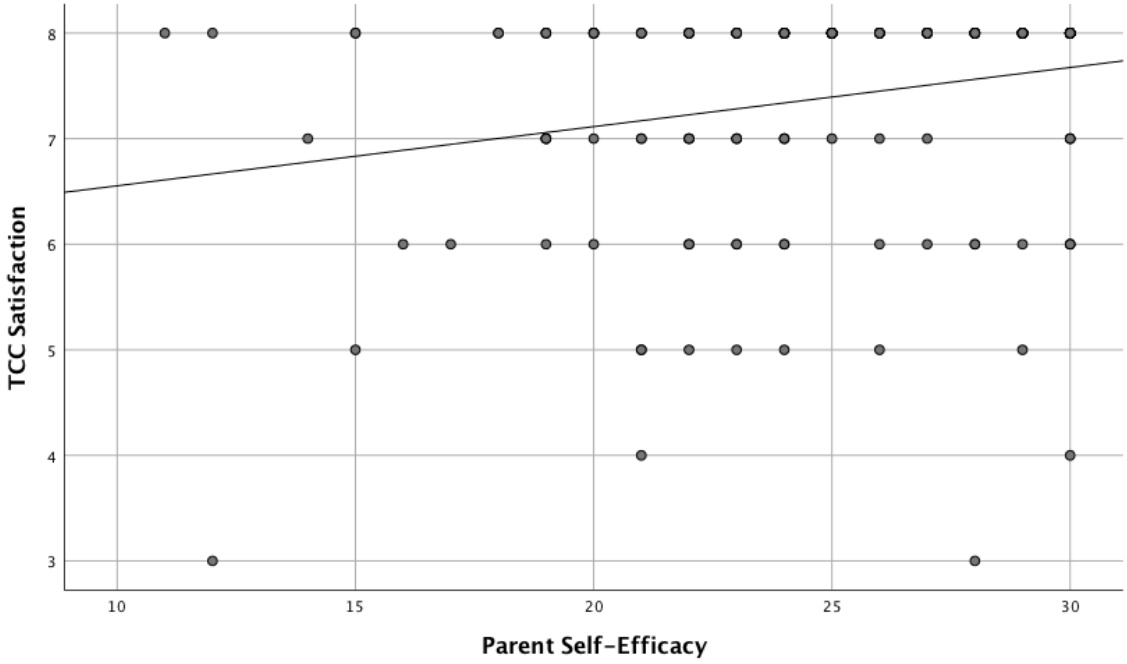

Figure 8

Scatterplot of the Relationship between Child Behavior Problems and TCC Attendance

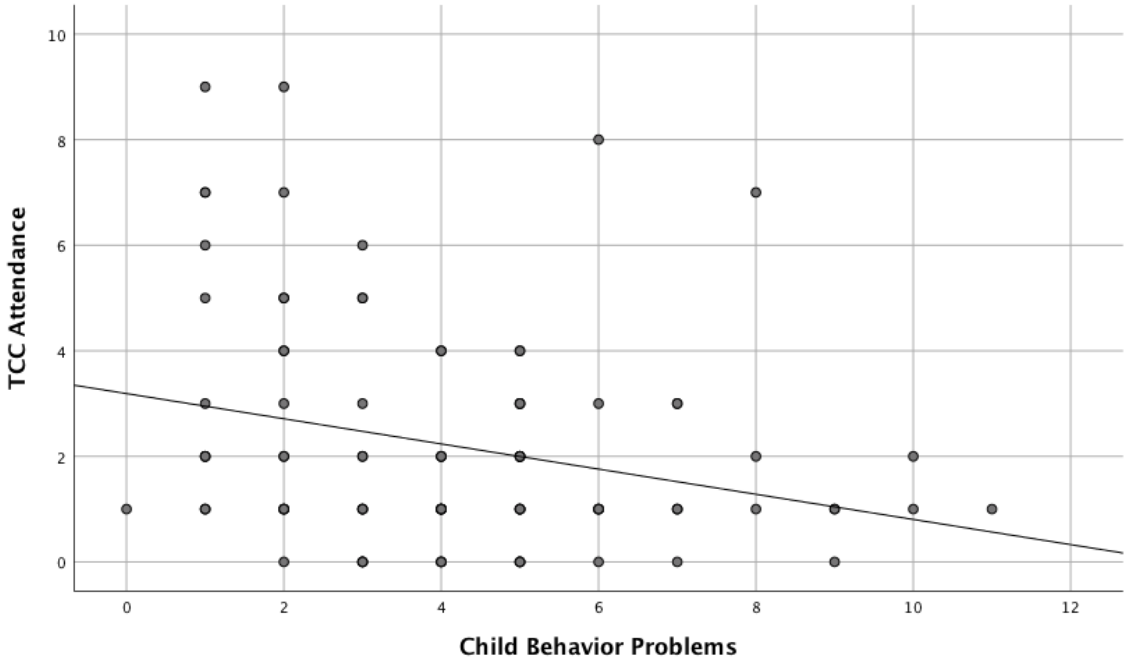

Figure 9

Scatterplot of the Relationship between Child Behavior Problems and Child Social Competence in the Fall

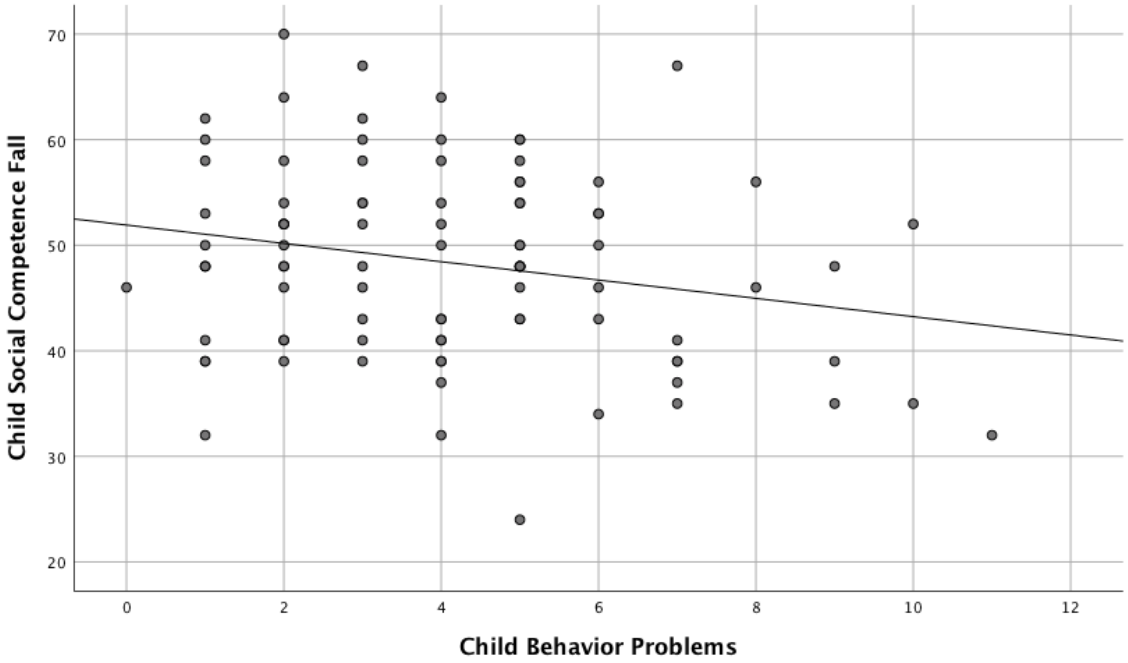

Figure 10

Scatterplot of the Relationship between Child Behavior Problems and Child Social Competence in the Spring