5-13-2022

Building BRIDGES: A Brief School Readiness Intervention Designed to Guide Families Transitioning from Early Head Start to Head Start

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BUILDING BRIDGES: A BRIEF SCHOOL READINESS INTERVENTION DESIGNED TO GUIDE FAMILIES TRANSITIONING FROM EARLY HEAD START TO HEAD START

A dissertation submitted in partial fulfillment of

the requirements for the degree of

DOCTOR OF PHILOSOPHY

In

PSYCHOLOGY

by

Katherine Andrea Zambrana

2022

To: Dean Michael R. Heithaus
College of Arts, Sciences and Education

This dissertation, written by Katherine Andrea Zambrana, and entitled Building Bridges: A Brief School Readiness Intervention Designed to Guide Families Transitioning from Early Head Start to Head Start, having been approved in respect to style and intellectual content, is referred to you for judgment.

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Florida International University, 2022

DEDICATION

Para mis padres quienes movieron cielo y tierra para que yo siempre pudiera soñar.

Con mucho amor y cariño.

ACKNOWLEDGMENTS

First, I would like to thank my parents, for the countless sacrifices they made to ensure my happiness and health. It is their unwavering support that allowed me to believe in myself and dream of the things that seemed unattainable. ¡Este logro es gracias a ustedes y para ustedes! To my partner, thank you for selflessly loving and supporting me every single day throughout this roller coaster of a journey. Aunque dices que soy tu "luna" la realidad es que tu eres mi luna, mi luz, entre toda la oscuridad. Next, I would like to especially thank my faculty advisor, Dr. Katie Hart. There aren't enough words to express how thankful I am for your continued support and guidance. I will always cherish the many memories that we have been able to create together. Further, I would like to acknowledge the invaluable contributions and support of my dissertation committee members, Dr. Paulo Graziano, Dr. Laura Dinehart, and Dr. Daniel Bagner. To my lab sisters, thank you for the endless laughter, words of encouragement, and more importantly for your genuine friendship. I would like to thank my incredible community partners, Dr. Maria Riestra, Dr. Sabrina Tassy-Lewis, and Ms. Angela Miller for their thoughtful feedback and support. Most importantly, thank you to the families that participated in this study in the midst of a global pandemic, who shared their time, struggles, and wisdom with me. I am honored to have known you and to have learned from you. Lastly, this work would not have been possible without the support of the Department of Health and Human Services, Administration for Children and Families Head Start Graduate Student Research Grant and the Florida International University's Center for Children and Families (CCF) Seed Fund Grant.

ABSTRACT OF THE DISSERTATION

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By

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The transition into the early school years is a salient developmental milestone, which lays the groundwork for later school success. Parent involvement in children's development and early learning experiences has been widely examined and identified as a strong predictor of children's school readiness. Therefore, promoting positive parent involvement during the early school years and during developmental transitions is key to children's later school success. Recognizing the importance of early school success, several programs have been developed to support children and families in the transition to kindergarten. Yet, as early as preschool, a number of children display significant behavioral and academic difficulties, placing them at risk for later school failure. Specifically, young children living in poverty, are at an increased risk for behavioral and academic problems. Given that children's school readiness skills, especially academic achievement, remain relatively stable after the first years of school underscores the importance of intervening earlier, before problems arise. Thus, enhancing parents' skills and supports in promoting school readiness in young

children during earlier key transitions to school may bolster later school readiness. With the outbreak of COVID-19, increases in financial insecurity, psychological distress, and disruptions to typical school have been widely observed. Although COVID-19 has pervasive impact, families of ethnic minority backgrounds and of low-income have been particularly vulnerable during this crisis. Moreover, the shift to virtual schooling further increased the demands placed on parents, further highlighting the need to support families in preparation for their transition back to schools, in an effort to prevent further difficulties related to children's school readiness and social-emotional well-being. Using a randomized design (n=30; 15 families per condition) with structured observations and assessments (pre-and post-intervention and 3-month follow-up), this study aimed to: (1) Adapt a school readiness parenting program for families transitioning from Early Head Start (EHS) to HS; (2) Investigate the acceptability and feasibility of the program delivered via telehealth; and (3) Evaluate the initial efficacy of the program in improving positive parental involvement, home learning, and children's social-emotional outcomes. Results from the randomized trial and implications for future development and dissemination will be discussed.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

FIGURES PAGE

CHAPTER 1. INTRODUCTION

1.1 Promoting school readiness is key to later success

The transition into the early school years marks a salient developmental milestone in which new expectations, relationships, and competencies are shaped, serving as the foundation for later school success (Alexander & Entwisle, 1988; Entwisle, Alexander, & Olson, 2005; McClelland, Acock, & Morrison, 2006; Sabol & Pianta, 2012;). These early experiences are vital in the development of the necessary school readiness skills that have been shown to positively impact later school outcomes such as being able to develop positive social relationships, follow instructions, effectively communicate their emotions (Bowman, Donovan, & Burns, 2001; Shonkoff & Phillips, 2000), and support a successful transition to school (Pianta & Kraft-Sayre, 2003). Theoretically, the concept of school readiness implies that by the time children enter school, they have achieved an adequate level of development in order for the child to respond to the demands of schooling (Lemelin, Boivin, Forget-Dubois et al., 2007; Hair, Halle, Terry-Humen, Lavelle, & Calkins, 2006). School readiness is comprised of several domains including, language, behavior, academic achievement, social-emotional development, and self-regulation (Kagan, Moore, & Bredekamp, 1995; Bierman, Nix, Greenberg, Blair, & Domitrovich, 2008). In addition to the conceptualization of school readiness as multidimensional, it is not only dependent on the skills that children bring with them in the learning experience, but is greatly influenced by the contexts in which the acquisition of these skills and learning occurs (i.e., home, school, and community environments). As such, the focus of research, practice, and policy has concentrated on understanding school readiness across contexts to better support

children's early learning experiences. Since children begin learning prior to school entry, there has been consistent interest in examining the role of parents and how their involvement may influence children's school readiness outcomes.

1.2 Fostering early parental involvement is important to promote school readiness

The importance of parental involvement for children's learning, academic success, and social-emotional development has been well established (Fan & Chen, 2001; Hoover-Dempsey, Green, Walker, & Sandler, 2007; Jeynes, 2010). Parental involvement is a multidimensional construct ranging from parents' attitudes and beliefs, to more active parental participation and practice in various learning activities at home or school. The first five years of a child's life has been shown to be especially sensitive to parent's involvement as related to the development of early cognitive, social-emotional, and regulatory skills (Klebanov & Travis, 2015; Shonkoff & Phillips, 2000). Center-based child care programs have also demonstrated to have positive impacts on young children's cognitive and social emotional development (Peisner-Feinberg et al., 2001). Despite a growing percentage of infants and toddlers enrolled in center-based child care programs in the U.S. (Cui & Natzke, 2021), parents continue to play a critical role in fostering their children's early learning and school readiness within the home setting, that may further enhance the benefits of participating in high quality center-based programs. Indeed, parent involvement in transition planning has also been linked to positive child outcomes (Geenen, Powers, & Lopez-Vasquez, 2001; Rimm-Kaufman & Pianta, 1999; Stormshak, Kaminski, & Goodman, 2002).

The emphasis on understanding and increasing parental involvement stems from well-established research demonstrating the relationship between parental involvement and

multiple domains of school readiness (Grolnick & Slowiaczek, 1994; Hill & Craft, 2003). For instance, when reviewing the role of parental involvement on children's literacy skills, studies have shown that children whose parents engage more frequently in reading to them are more proficient readers in the long-term and perform better overall in school (Dieterich, Assel, Swank, Smith, and Landry, 2006; Moss & Fawcett, 1995; Snow, Burns, & Griffin, 1998). Research has also shown that parental involvement impacts children's achievement and behavior, through parent's own acquisition of skills and information and when having a collaborative relationship with teachers (Hill & Taylor, 2004; Lareau, 1996). Aside from academic success, positive parent-child interactions have also widely been shown to predict children's initial and long-term academic success (Gregory & Rimm-Kaufman, 2008; Morrison, Rimm-Kaufman, & Pianta, 2003; Pianta & Harbers, 1996; NICHD, 2002), as well as reductions in children's behavioral problems (Campbell, 2002). Furthermore, previous research has shown that higher levels of parental warmth and responsiveness are also associated with lower levels of children's behavior problems (Caspi et al., 2004), as well as improved self-regulation skills (Graziano, Keane, & Calkins, 2010), and executive function in young children (Merz, Landry, Johnson, & Williams, 2016). Therefore, it is imperative to support parent involvement early on in order to boost children's school readiness in an effort to prevent later academic or behavioral difficulties.

1.3 Promoting school readiness in at-risk populations is a public health priority

Children from low-income backgrounds often exhibit significant delays across various domains of school readiness (Raver, Jones, Li-Grining, Zhai, Bub, & Pressler, 2011). These delays are apparent at kindergarten entry, initiating an achievement gap that continues to widen over time and contribute to long-term disparities in educational attainment,

employment, and earnings (Ryan, Fauth, & Brooks-Gunn, 2006). Unfortunately, once children fall behind, they often stay behind (Reardon, 2011). School readiness delays are evident in the cognitive skills that underlie emergent literacy, such as vocabulary, phonological awareness, and print knowledge (Lonigan, 2006), and also in the social competencies and self-regulation skills needed for school success (McClelland, Acock, & Morrison, 2006). Prior to school entry, children living in poverty are at a disadvantage when compared to their more economically advantaged peers in early language, literacy, and mathematics skills, as well as learning-related skills (Benner & Crosnoe, 2011; Gershoff, Aber, Raver, & Lennon, 2007; Hair, Halle, Terry-Humen, Lavelle, & Calkins, 2006; Rouse, Brooks-Gunn, & McLanahan, 2005). Similarly, during these early years, behavior problems are the most commonly reported concern (Eberhardt-Wright, 2002; Keenan & Wakschlag, 2000), with rates of behavior problems as high as 30% in young children from economically disadvantaged and underrepresented minority families (Qi & Kaiser, 2003), with only 2% of such families receiving the appropriate services (Kaiser et al., 2002). The presence of behavior problems as early as two years of age, has been linked to more severe school-age conduct problems (Shaw, Gilliom, Ingoldsby, & Nagin, 2003), greater increases in later internalizing problems (Gilliom & Shaw, 2004), and a number of later impairments in academic functioning (Van Lier, Vitaro, Barker, Brendgen, Tremblay, & Bolvin, 2012). Left untreated, behavioral problems present in preschool persist and remain stable as children enter kindergarten and elementary school (Angold & Egger, 2007), notably resulting in academic failure (Massetti et al., 2008), poor social emotional skills (Ros & Graziano, 2017), and higher rates of substance use, antisocial behavior, and

more serious mental health problems well into adolescence (Biederman et al., 2006; Shaw & Giliam, 2017).

Children from low-income backgrounds face a host of other risk factors that further impact their behavior and school success (Miedel & Reynolds, 1999). Research suggests that the daily stressors associated with living in poverty have a negative impact on children's academic and social-emotional readiness (Bradley & Corwyn, 2002, Cutting & Dunn, 1999; McDermott & Spencer, 1997; Xue, Leventhal, Brooks-Gunn, & Earls, 2005). There are also a number of parental factors, including parental stress and harsh parenting, that have been shown to be more common in families living in poverty, and increase the stability of early externalizing problems (Campbell, Shaw, & Gilliom, 2002). However, positive parenting has been shown to mitigate the influence of risk on children's outcomes (Whittaker et al., 2011), specifically for low-income children (Krishnakumar & Black, 2002; Linver, Brooks-Gunn, & Kohen, 2002). Furthermore, improvements in the quality of parenting children receive can contribute to reducing child problems and can enhance positive development (Kumpfer & Alvarado, 2003; O'Connor & Scott, 2006). Accordingly, for children from low-income backgrounds, promoting parent involvement may be uniquely important and serve as a buffer against the host of risk factors these families may experience.

1.4 Early intervention works

High-quality early intervention and education programs have demonstrated tremendous public cost-savings, with the highest per child benefits coming from programs that focus on low-income children (Heckman, Grunewald, & Reynolds, 2006). Estimates suggest that 47% of children under the age of three live in poverty in the U.S., highlighting a great

national need in identifying opportunities for early intervention, to diminish the effects of poverty (Addy, Engelhart, & Skinner, 2013). In an effort to promote school readiness and in response to the educational and health disparities of children growing up in poverty, Head Start (HS) was established in 1965 (Administration for Children and Families [ACF], 2010). HS is the largest federally funded early childhood program in the U.S., estimated to serve roughly 1 million low-income children and families annually (Administration for Children and Families [ACF], 2014). HS was designed as a two-generation program, focusing on providing early education for children and also incorporating parent participation throughout programming to help the family succeed in and out of the classroom (Zigler & Muenchow, 1992). Given the significance of parental involvement, It has widely been the focus of HS to include parents in all aspects of the program (Hill & Taylor, 2004), and is also stated in its Code of Federal Regulations, making it a requirement that services be specifically provided to parents in order "to enhance their parenting skills, knowledge, and understanding of the educational and developmental needs and activities of their children" (45 CFR Chapter XIII 1304.40 (e) (3), as cited in ACF, 2009, pp. 130–131).

However, as the knowledge base of the effectiveness of early intervention grew, it became evident that earlier intervention, prior to preschool entry, for children living in poverty might further increase children's school readiness and overall family well-being, with even greater cost-savings for society. Therefore, Early Head Start (EHS) was developed in 1995 to extend support to families of toddlers aged three and younger. Similarly, a core component of EHS, is in fostering parental involvement, while also promoting their involvement in children's early learning and development (U.S. DHHS,

Performance Standards, 1304.50 and 1304.52, 2015). Although EHS has produced significant gains for children across a range of outcomes at the end of the program, the stability of positive effects tend to lessen during kindergarten and are no longer evident by fifth grade (Vogel et al., 2010). Similarly, in HS, results from the HS Impact Study found no sustained effects of HS in kindergarten and only one effect in first grade (ACF, 2010). However, little is known about the sustained effect of EHS to the transition to preschool, which may further extend our understanding on the additional efforts needed to further strengthen and sustain the impact of EHS and HS for participating children and families. Regarding the impact on parents, EHS has demonstrated some favorable outcomes relating to increases in emotional support, and reductions in negative parenting behaviors (Love at al., 2005). Moreover, qualitative research in EHS has provided useful insight into parent's perspective on the value of having the necessary skills to prepare their child for school entry (McAllister et al., 2005). More importantly, parents also recognized that the preparation for school should also encompass "parental readiness" to enhance supports for parents themselves, since many report the transition to school as challenging and emotional (McAllister et al., 2005). Thus, the importance of identifying ways to support parent's during these early formative years to promote school readiness, and as children and families prepare for key developmental transitions, may be important to further promote the sustained impact of EHS.

1.5 Parenting programs are effective in promoting aspects of school readiness

The role of parental involvement has been widely studied in the context of children's academic and social-emotional outcomes. Study findings consistently demonstrate the strong positive impact that parents have on their children's early learning and development

(Epstein 2001; Hill & Craft 2003; McWayne et al. 2004). Fostering early positive parenting practices and involvement has previously been linked to children's successful transition to school. Specifically, positive parent-child interactions have been shown to promote children's early acquisition of academic skills (Committee on Early Childhood Pedagogy, 2000), as well as their long-term academic success (Gregory & Rimm-Kaufman, 2008; Morrison et al., 2003; NICHD, 2002). As such, there have been a number of intervention programs aimed to promote positive parenting skills and interactions across universal (i.e., targets the entire general population and is not directed at a specific risk group), selective (i.e., targets a subset of the general population that are considered to be at higher-than-average risk), and indicated levels of intervention (i.e., designed to target those at high-risk that are exhibiting problem behaviors). While there have been a number of programs implemented in HS across these levels of intervention intended to promote early school readiness or to prevent behavior problems (e.g., Sanders et al., 2000; Querido & Eyberg, 2001; Webster-Stratton et al., 1998), few of these programs have focused on key developmental transitions, at a time when supporting families may help increase opportunities for a successful start to school.

Acknowledging the widely documented relationship between parenting factors and children's school readiness (Chazan et al., 2009), several interventions have been designed to improve school readiness, parent involvement and parenting skills. Parent training is one of the most widely studied interventions for reducing childhood behavior problems, increasing positive parenting behaviors, and reducing harsh parenting practices (Comer et al., 2013; Eyberg, Nelson, & Boggs, 2008; Pelham & Fabiano, 2008). Programs such as the Triple P-Positive Parenting Program (Sanders et al., 2000), The Incredible Years

(Webster-Stratton & Reid, 2010), and Parent-Child Interaction Therapy (PCIT; Zisser & Eyberg, 2010) are among the most widely studied reatments and have been shown to be effective in targeting multiple aspects of parenting including fostering more positive parent-child interactions (Eyberg et al. 2008), improving parental self-efficacy (Clarke et al. 2015), reducing parenting stress (Schuhmann et al. 1998; Thomas and Zimmer-Gembeck 2011), and improving parental discipline practices (Thomas and Zimmer-Gembeck 2007). Many studies have shown that parent training effects can be maintained over an extended period of time (Brotman et al., 2013; Gross et al. 2003; Irvine et al. 1999; Webster-Stratton, 1998). As a result, parent training has been increasingly and successfully used under universal, selective, and targeted frameworks in preventing or reducing behavior problems among children from low-income families (Brotman et al., 2013; Conduct Problems Prevention Group 1999; Gottfredson et al. 2006; Webster-Stratton & Reid, 2010). However, these programs do not typically address the academic impairment among children at-risk for behavioral problems or in supporting parental involvement in children's learning activities. Some programs that do target academic impairment have not been empirically examined (e.g., The Incredible Years; Webster-Stratton, Reid & Hammond, 2004) or have focused on older children (ages seven and older) (e.g., The Challenging Horizons Program; Evans et al., 2006).

There are also additional factors important to consider when trying to identify potential enhancements to parenting programs. First, a number of early intervention programs have targeted low-income families, predominantly African American and Hispanic/Latino families, primarily due to the fact that these ethnic minority groups are disproportionately represented among those living in poverty (Corcoran & Adams 1997).

Yet, many of the empirically-supported interventions used to help low-income and racially/ethnically minoritized families were originally developed and evaluated on middle-income and non-Hispanic White samples (Coard et al. 2004; Forehand & Kotchick 1996; Gorman & Balter 1997). In addition, the majority of parent training programs often last several months (Reyno and McGrath 2006), which can indirectly lead to poorer attendance and higher attrition (Werba et al., 2006; Lanier et al. 2011). Specifically, families of low-income and minoritized backgrounds have lower participation rates (Gross, Julion, & Fogg, 2001), and have poorer treatment outcomes (Reyno, & McGrath, 2006). Hence, earlier intervention, before problems arise, would likely require less intensive, shorter interventions (Bakermans-Kranenburg, Van Ijzendoorn, & Juffer, 2003), which could help increase families' participation and accessibility to services. Additionally, few of these interventions have focused on key developmental periods to intervene which may also help increase family participation and further promote children's school readiness. Over the past several years, there have been some intervention programs developed to foster early school readiness skills for children and families transitioning to kindergarten (Graziano et al., 2018; Hart et al., 2016; Pears et al., 2013, 2015). These programs have demonstrated positive impacts across parent outcomes including, parental involvement, and positive parenting strategies, as well as reductions in parenting stress and inconsistent discipline strategies (Graziano et al., 2018; Pears et al., 2013, 2015). Positive impacts have also been demonstrated on child outcomes, including reductions in reported behavior problems and student-teacher conflicts (Hart et al., 2016). As such, the success that these programs have had in supporting families' transition to kindergarten may provide a framework to extend to support earlier transitions.

1.6 The School Readiness Parenting Program (SRPP): A promising framework to extend to families preparing to transition to preschool

A promising model that may address this gap in programming is the School Readiness Parenting Program (SRPP; Graziano, Ros, Hart, & Slavec, 2018). The SRPP is an eight-week program that aims to prepare parents of preschool children with externalizing behavior problems (EBPs) in the transition to kindergarten. SRPP combines traditional behavior management strategies (e.g., improving the parent-child relationship, use of positive parenting strategies, and use of consistent discipline strategies), while also targeting parental involvement across multiple domains of school readiness, including academic involvement (e.g., early literacy and numeracy), social-emotional development, adaptive functioning (e.g., sleep hygiene), and home-school communication. Moreover, parents contribute to the didactic discussion via a Community Parent Education Program (COPE; Cunningham, 1998) style, by allowing parents to actively contribute to and guide the group discussion. This unique approach encourages parents to collectively problem-solve and determine solutions with one another instead of strictly receiving information provided by the therapist. The SRPP was designed to be delivered in a large group format (12 to 18 parents), with sessions lasting between 1.5 to 2 hours. To help maximize family involvement and skill development, live coaching using a Parent-Child Interaction Therapy (PCIT) Group-Based model (Zisser & Eyberg, 2010) is provided throughout the program, which has been associated with a large effect on improvements of parenting skills and in child behavior (Kaminski et al., 2008). Work evaluating the SRPP has shown comparable effects to Parent-Child Interaction Therapy (Graziano, Ros, Hart, & Slavec, 2018) as part

of the Summer Treatment Program for Pre-Kindergarteners (STP-Pre-K; Graziano & Hart, 2016), and as a stand-alone parent training program (Graziano & Hart, 2016). Unlike the majority of parent training programs, the SRPP was developed and evaluated in a predominantly Hispanic/Latino sample.

Recent improvements in the understanding of the underlying behavioral and neurobiological mechanisms central to school success (Blair & Diamond, 2008, Pears et al., 2013) may permit the development of more precise, short-term school readiness interventions that have long-term effects. Hart and colleagues (2019), compared a 4-week to an 8-week summer program for preschoolers with EBPs transitioning to kindergarten, and found comparable effects across multiple school readiness domains (Hart, Maharaj, & Graziano, 2019). This is important to further investigate among at-risk low-income children, such as the families typically served through EHS/HS, because the most vulnerable children might not be able to take full advantage of long-term interventions. While the SRPP has been shown to be effective across a number of parent and child outcomes, it is possible that a briefer intervention model (4-weeks) of service may help facilitate families' participation in treatment, to help promote school readiness in the transition to preschool.

1.7 Evaluating the current context: Supporting families during a global pandemic

During March of 2020, the world collectively witnessed the outbreak of the coronavirus disease (COVID-19) in the U.S., leading to heightened fear, confusion, and sickness amid widespread stay-at-home orders. In response to the global outbreak, the implementation of various safety measures, mainly requiring families to quarantine were issued to help control the transmission of the disease (Sintema, 2020). However, as stay-at-home orders persisted

due to continued increases in transmission and deaths as a result of the disease, increases in financial insecurity, psychological and emotional distress, and closures of school were widely documented. While the COVID-19 pandemic has certainly had a ubiquitous impact, recent work has demonstrated that children and families of racially and ethnically minoritized backgrounds have been disproportionately impacted. Specifically in the U.S., Latinos have been shown to be the leading minoritized group in confirmed cases and in death as a result of COVID-19 (Center for Disease Control and Prevention, 2020; Hernandez- Valant et al., 2020), including Latino children (Leeb et al., 2020). Further, in response to the disruptions to in person schooling, schools and parents alike had to abruptly transition to remote learning, with minimal existing guidance, infrastructure, or resources. The majority of parents were placed in an unprecedented role of having the primary responsibility of providing childcare or direct school instruction with minimal guidance and social supports that were previously available through their schools, teachers, and extended family and friends.

As a result, the broader stressors that parents were faced with due to COVID-19 (e.g., financial insecurities, health concerns for family, social isolation), combined with the increase in schooling demands, may have intensified parenting-related stress (Gerard, Lanier, & Wong, 2020; Lee, Ward, Chang, & Downing, 2021). This is markedly important, given the well-established link between parenting stress and child problem behavior (Mackler et al., 2015; Stone et al., 2016), and children's social-emotional functioning (Mistry et al., 2002). Moreover, parenting stress has also been shown to have a pervasive negative impact on parent's well-being and practices, including increases in harsh parenting, maternal depression, and home-based involvement (Can & Ginsburg-Block,

2016; Farmer & Lee, 2011; Huang, Costeines, & Kaufman, 2014; Spinelli, Lionetti, Setti, & Fasolo, 2021). However, little is still known about the rates or changes of parenting related stress during the COVID-19 pandemic, specifically during the time of remote learning and quarantine.

1.8 Leveraging telehealth to improve access to care

As a result of the COVID-19 pandemic and in a very short amount of time, not only did the educational system transform but the health care system was also seen forced to do the same in the U.S., in order to continue to meet the needs of children and families. The most prominent change has been the expansion of telehealth. While the rise in telehealth has been increasing over the past couple of decades, there was a striking increase following the onset of the COVID-19 pandemic. Given the psychological impacts due to the pandemic, telehealth offered an opportunity to potentially extend the reach and accessibility for mental healthcare. Yet, concerns persisted surrounding who would not likely be able to access care via telehealth, given previous work highlighting several potential barriers (e.g., limited internet access or adequate electronic devices) that families of lower-income background faced with respect to engaging in teleconferencing (Cole, Pickard, & Stredler-Brown, 2019). Conversely, there have also been several noted barriers to families engaging in office-based care for mental health concerns, including challenges with transportation and stigma-related concerns (Martinez & Perle, 2019; Aguirre Velasco et al., 2020)). In line with the concerns surrounding potential barriers to care, previous literature on the use of telehealth has also provided significant insight on the many benefits of using telehealth interventions. In particular, many behavioral parent training (BPT) interventions have been delivered via telehealth prior to the pandemic with success. In a

recent meta-analysis, findings revealed that overall BPT interventions delivered via telehealth had significant positive impacts on parent's perceived self-efficacy, practices, and knowledge (Corralejo & Rodriguez, 2018), as well as high parent satisfaction (Bastastini et al., 2021). Further, several clinical trials focusing on internet-delivered treatments for childhood anxiety, early conduct problems, and autism spectrum disorder have demonstrated comparable outcomes to clinic-based care (Bastastini et al., 2021; Comer et al., 2017; Fernandez et al., 2021; Vismara et al., 2018) and one study reported fewer perceived barriers to care when compared to the traditional clinic-based care (Comer et al., 2017). Interestingly, previous work has also suggested that internet-delivered PCIT (iPCIT) versus traditional clinic-based PCIT had significantly higher rates of treatment responders, which possibly highlights the added benefit of using internet-based interventions that allow the opportunity to treat children and their families in their natural home environment (Comer et al., 2017; Comer & Timmons, 2019).

1.9 Theoretical Framework

The current study draws from three separate but related theoretical frameworks. First, Bronfenbrenner's ecological model of development (1977) that posits that, "the family is the principal context in which human development takes place" (Bronfenbrenner,1986, p.723) and is most influential during the first few years of life. Within this context, proximal processes, or reciprocal interactions (Bronfenbrenner & Ceci, 1994), serve to facilitate or hinder development (Eamon, 2001). The application of the bioecological theory permits researchers to focus not only on child outcomes related to individual and environmental factors, but also on the process through which children experience these factors, which consequently influences their development. Secondly, this proposed study

also builds on social interaction learning theory (Patterson, Reid, & Dishion, 1992) that describes the role of parents and parent-child relationships thought to affect children's social and emotional development (Baumrind, 1966). Lastly, as outlined by Rimm-Kaufman and Pianta's (2000) Ecological and Dynamic Model of Transition, the transition to kindergarten considers the contexts and relationships that interact with each other, such as with family, teachers, peers, and their community and continue to develop over time and influence the child's adjustment to school. Further the connection between these contexts (e.g., parents and school) can further support the child and family during the transition. Together, these theories emphasize the importance of considering the dynamic interplay between key relationships and developmental contexts that underlie the development of children's school readiness skills and family preparation for supporting important developmental transitions. The integration of these theories guided the design of this study.

1.10 Study Purpose

Given the extensive literature documenting the importance of fostering early parental involvement as it relates to children's school readiness, specifically for children from low-income and ethnically diverse backgrounds (Jeynes, 2015), a number of universal, selected, and indicated parenting interventions have been developed. While some interventions have been developed to support children transitioning to kindergarten, the high rates of behavioral and academic problems seen as early as in preschool entry underscores the importance of supporting families earlier to enhance school readiness. The proposed study, focused on gaining an understanding of the school readiness and parenting skills that key

HS administrators and parents deemed most valuable, to then guide the development of the School Readiness Parenting Program- Brief school Readiness Intervention Designed to Guide HS families in transition to preschool (SRPP-BRIDGE) to support families as they transition out of EHS (aim 1). While parent intervention programs have shown evidence for improving parent-child interactions and in reducing behavior problems in young children, many have faced low participation levels given the lengthy time commitment of the interventions or the goals of the program not being in agreement with parent's needs or values. The present study also sought to understand the acceptability and feasibility of the implementation of the SRPP-BRIDGE via telehealth delivery (aim 2). Lastly, the ultimate goal of the current study was to evaluate the promise and initial efficacy of the SRPP-BRIDGE in improving parental involvement and practices, and children's social-emotional well-being in the transition from EHS to HS (aim 3).

1.11 Hypotheses

Aim 1: Determine which SRPP topics EHS families and HS administrators deem most relevant to promoting school readiness as families prepare to transition to preschool. The information collected from a series of planned meetings with consultants and HS administrators, and a structured meeting with HS Parent Policy Council members was used to evaluate this aim and subsequently inform the adaptation of the SRPP, resulting in the SRPP-BRIDGE. While this objective was exploratory, previous qualitative research in HS specifically, has indicated that aside from having more support around academic subjects, parents consistently reported the importance of learning ways to support their children's social and emotional skills to better prepare them for kindergarten (McAllister et al., 2005). Therefore, we expected that topics related to early literacy, numeracy, and

social-emotional skills would be highly desirable to include in the program. In addition, we hypothesized strengthening the parent-child relationship through enhancing positive parenting skills would also be of interest, as compared to topics on specific behavior management strategies (e.g., time-out), given the ages of the children targeted in the study and since study criteria was not limited to children exhibiting problem behaviors.

Aim 2: Evaluate the acceptability and feasibility of the SRPP-BRIDGE. With regard to treatment fidelity, we anticipated high treatment fidelity given the study teams extensive experience in delivering the SRPP and other manualized parenting intervention programs (e.g., PCIT). With respect to the study team's extensive experience in employing similar parenting interventions for families from low-income backgrounds during transition periods with high levels of attendance, we anticipate that attendance in SRPP-BRIDGE will be high. However, given the novelty of the program, any reasons for non-attendance were collected in order to understand barriers to intervention. Data was also collected to explore intervention adherence via weekly homework (e.g., home-based practice of skills) to parents participating in the SRPP-BRIDGE to explore intervention adherence. Further, we anticipated high ratings of satisfaction from families because of our collaborative effort to develop a program that aligns with the values and needs of EHS families guided by the perspectives of key stakeholders in HS.

Aim 3: Evaluate the initial efficacy of SRPP-BRIDGE in improving parenting strategies, parent involvement related to home-based learning activities (e.g., literacy and math), and subsequently improving children's social-emotional functioning. We hypothesized that families who participated in the SRPP-BRIDGE would display greater parental self-efficacy, parental involvement, positive parenting skills, as well as decreased

parental stress compared to parents in the ACG at post and follow-up intervention. Further, we hypothesized that children whose parents participated in the SRPP-BRIDGE would exhibit fewer externalizing problems behaviors, fewer internalizing behaviors, and increased adaptive functioning skills as compared to children in the ACG at post and follow-up intervention.

CHAPTER 2. METHOD FOR PROGRAM DEVELOPMENT & INTERVENTION ADAPTATION

Participants

A total of 15 (100% female) members of Head Start's parent policy council members, and 4 HS administrators (100% female) volunteered to participate in a 45-minute structured meeting during one of their scheduled council meetings. Of the 15 parent members, 11 reported having a child enrolled in EHS at the time of the meeting. The remaining 4 parent members reported having a child enrolled in HS.

Procedures

In Fall 2019, several meetings were completed with HS administrators and study consultants to review program content, study procedures, recruitment efforts, and study materials. Once preliminary program content and materials were developed, the study team met with HS parent policy council members to collaboratively review the information and make appropriate changes, as deemed necessary. During this 45-minute structured meeting, HS parent policy council members reviewed and discussed their thoughts on the adapted SRPP program content. HS parent policy council members' participation in this meeting was voluntary and was held at a time most convenient for interested members. During the meeting, a topic area (e.g., positive parenting skills) would be presented, followed by a brief overview of the proposed session outline. Then, decisions regarding what program content to include were decided by group consensus using the five-fingered process (1 = I love it, 2 = I like it, 3 = I have questions, 4 = I don't like it but will be ok if it gets approved, 5 = I hate it; Nicolaidis et al., 2011). Following questions, members were encouraged to express their approval for a decision by a vote of 1, 2, or 4 fingers. Similarly,

participants were prompted to vote on various program features (e.g., live coaching), which was also decided by group consensus using the aforementioned five-fingered process. Findings from this meeting were then integrated into the program adaptation, resulting in the SRPP-BRIDGE.

Voting Results

The voting results from the meeting with the HS parent policy council revealed that early literacy (93% voted "love it") was highest rated topic to include in the SRPP-BRIDGE, followed by positive parenting skills, math, and social-emotional skills as the second highest rated topics (87% voted "love it"). Building home-school connections (e.g., parent-teacher and teacher-child relationships, home routines) and sleep hygiene were also favorably rated (73-80% voted "love it"). Lastly, the toilet training and feeding were the lowest rated topics with only 60% of parents voting "love it". Therefore, there was a greater emphasis placed on topics that were rated the highest (i.e., literacy, positive parenting, math, social-emotional skills), including a more thorough overview of the topics, as well as direct coaching opportunities were provided for families in the SRPP-BRIDGE group. The topics of sleep hygiene, toileting, and feeding were all consolidated into one session, broadly emphasizing the importance of establishing home-based routines and learning opportunities that would likely extend to their transition to school. Results also indicated that 87% of parents believed receiving live coaching on the use of their skills was "very important".

When evaluating potential barriers to parents' participation in the program, results revealed that transportation and distance from their home to the location of the program were the most rated reasons for not participating (67%), followed by the language of

instruction (e.g., limited to the English language) as the second highest rated barrier to participating (53%). In an effort to address the reported barriers to participation, the study team offered all study materials and conducted study sessions across both groups in English and Spanish. Given reported concerns relating to access to transportation or distance to the site, the decision was made to offer the program via a teleconferencing platform to families in an effort to facilitate their participation. However, it is important to note that voting results were obtained prior to the onset of the COVID-19 pandemic. To better understand any barriers to engage in sessions via the Zoom platform, information regarding technological concerns were collected during the recruitment phase, as well as following each session when families did not attend a session to further help elucidate any additional barriers presented when delivering an intervention program via telehealth.

During the Spring of 2020, the research team finalized the program manuals (in English and Spanish), parent handouts, and adapted the program structure to be delivered via telehealth. During the Summer of 2020, the research team gathered program materials including, a variety of toys, books (in English and Spanish), parent binders (with parent handouts included), and the Centers for Disease Control and Prevention's developmental tracker (booklet) to be delivered to families' homes prior to the start of the intervention.

Intervention Description and Content Adaptation

The current SRPP-BRIDGE intervention was adapted from the School Readiness Parenting Program (SRPP; Graziano, Hart, & Slavec, 2014), which is a behavioral parent training program for parents of pre-kindergarteners with externalizing behavior problems. The SRPP combines both the Community Parent Education Program (COPE) and Parent-Child Interaction Therapy (PCIT) intervention models by utilizing a large group format to

deliver didactic information on various skills followed by in-session coaching in subgroups. Parents participate in 8 weekly SRPP sessions each lasting 1.5 – 2 hours. The first half of each SRPP session focuses on traditional behavior management strategies highlighted in PCIT (e.g., improving the caregiver-child relationship, positive reinforcement, compliance training). The second half of the session is focused on various school readiness topics including promoting social-emotional functioning, and how to improve children's academic skills, including literacy skills through Dialogic Reading.

The adaptation of SRPP-BRIDGE in the current study focused on shortening the duration of the intervention program to weekly 90-minute sessions for 4 weeks, focusing on the CDI phase of PCIT (with no requirement of mastery), and changing the school readiness program content to be developmentally-appropriate for toddlers. The first half of each of the sessions focused on introducing a topic (e.g., improving the parent-child relationship, social emotional skills, dialogic reading, establishing home-based routines). The second half of sessions was dedicated to parents practicing strategies related to the topic area and receiving feedback. See Table 1 for more information on the topics covered in the program.

Parents that were initially randomized to the SRPP-BRIDGE, participated in the program for 4 weeks. The 4-week SRPP-BRIDGE delivery followed the SRPP model of intervention delivery (i.e., group-based PCIT with COPE-style of problem-solving, and live coaching of skills) adapted to be delivered via a telehealth model. As part of SRPP-BRIDGE, families were assigned weekly homework to assess for parents' use of skills in the home and any reported barriers to their practice of skills. ACG families were invited to attend a one-time, 1-hour session via telehealth, that covered abbreviated content from

SRPP-BRIDGE, but did not include live coaching in suggested strategies or any weekly follow-up on the implementation of strategies. Reminders were sent via email or text (depending of parents' preferred method of contact) 1 day prior to their scheduled session to help maximize attendance across both groups, however make-up sessions were not provided. Sessions were delivered in parents' preferred language (i.e., English or Spanish) by an advanced doctoral student who was trained in PCIT and SRPP. Sessions were provided across all weekdays, during the morning, afternoon, and evenings to offer flexibility surrounding families' schedules.

Telehealth Adaptation

A second phase of intervention adaptations were required when stay at home orders were issued due to the COVID-19 pandemic. As such, the SRPP-BRIDGE program was further adapted to be delivered via a telehealth videoconferencing format, using the HIPPA-compliant Zoom platform. Following guidelines outlined by Peskin and colleagues (2020), prior to the start of the program parents were provided with a detailed overview of what the virtual sessions would typically look like. For example, parents were notified that most of the time during sessions would be primarily parent-focused and that at various point throughout their children would be asked to join so that they could practice using the newly learned skills. Parents were also informed that it was acceptable to have their children present during the entirety of sessions if there were any concerns relating to childcare. In addition, the research team discussed with participating parents any concerns relating to their home environment (e.g., increased distractions, other children or family members), potential technological concerns during session in advance of their first session to help determine the most appropriate place in the home for sessions and review contact

information and preferred method in case disconnected during sessions. Further, as reviewed during the consent process for the program, families were reminded that each session would be recorded for training and fidelity purposes.

When setting up the videoconferencing group appointments via Zoom, the video "on" feature for the host and participants was preselected, as well as "enable waiting room" to allow families to join prior to the therapist. While in the waiting room, parents were messaged, letting them know that the session would be starting shortly (typically within 5-10 minutes) to allow sufficient time for all parents to join and if necessary troubleshoot any technological issues, if not all families were already present.

At the start of every session, families where provided an overview of the session format, which included an overview of the materials that would be needed (e.g. toys or books for in-vivo practices), discussed when during the session their child would need to be present to participate in their coaching practice. Prior to every session, reminder texts or emails (dependent on indicated parental preference) were sent one day in advance of the session to help maximize parental attendance. To help minimize any distractions or background noises during the session, the clinician would routinely ensure that all participants where muted while the clinician presented materials or during coaching. Families were made aware of this at that start of each session and encouraged to unmute themselves whenever they wanted to make a comment or ask a clarifying question. Moreover, parents were prompted to select the order in which they preferred to go in for when conducting their practices in an effort to provide them with sufficient time to be prepared for when it was their turn. To help transition during the session to the coaching part, 5-10 minutes were provided to allow families to get the necessary materials, prepare

their children to transition (if not present), and relocate to their preferred areas in their home, if necessary. During the coaching portion of the session, parents not actively being coached were asked to turn off their videos to help minimize distractions for the parent and child. Parents were reminded to turn their videos back on when providing feedback to the other parent.

CHAPTER 3: METHOD FOR PILOT CONTROLLED TRIAL

Participants

The study sample was comprised of thirty parent-child dyads living in the Southeastern United States with a large Hispanic/Latino population. Parent participants were predominantly biological mothers (97%) and identified as Hispanic/Latino (93%). Child participants were 63% male, that were in the process of transitioning (83%) or had recently transitioned (17%) to a Head Start preschool. Families in our study were predominantly of lower income background with 53.6% reporting an annual household income <$19,000, with at least a two person household size. Families were eligible to participate in the study if: a) children were between 32 and 40 months of age; b) were currently enrolled in an Early Head Start or in a Head Start program; c) were able to attend weekly 90-minute virtual workshops over the course of 4-weeks or the single 1-hour session; d) parents were fluent in either English or Spanish. Figure 1 displays the various study phases including recruitment, dropout, and assessments completed at baseline, post-intervention, and 3-month follow-up. See Table 2 for the family demography of the current sample.

Recruitment

Institutional Review Board approval for all study activities were obtained prior to the start of the study. Prior to school closures because of the COVID-19 pandemic, several meetings were held with local Head Start administrators to assist in the identification of EHS centers with larger number of children transitioning out of EHS to prioritize recruitment efforts at each of the sites. Specifically, key personnel at 8 identified EHS centers were contacted and individual on-site meetings were scheduled to introduce the

project activities and timeline, as well as to identify potential eligible families at their center. Recruitment efforts at sites included presenting at parent meetings, distributing flyers at pick-up and drop-off, distributing flyers to teachers or key personnel, as well as the distribution of flyers through email blasts to families from site administrators.

Recruitment efforts were temporarily discontinued during stay-at-home orders and resumed in August 2020. All subsequent recruitment activities were conducted virtually between the months of August 2020 and January 2021. Given the virtual platform, recruitment efforts were extended to an additional 47 EHS centers across a large urban southeastern city. Virtual recruitment activities included attending staff meetings to present the study to family support specialists and social workers, distributing study flyers through emails blasts sent by local HS administrators to families and site directors, calling local EHS and HS centers, and presenting at virtual parent meetings. Parents that indicated interest in the study were provided the option to directly call the study team or provided verbal consent for site directors to share their contact information with the study team. During initial phone meetings with parents, the first author described the study details and determined study eligibility. All participating parents enrolled in the study signed an informed consent document prior to completing any study procedures.

Assessment procedures

For the pre-intervention assessment, eligible families completed parent and child surveys that were sent via the REDCap database to parent's email or completed over the phone with a research staff member. Within one week of completing surveys, families were scheduled to complete a 25-30 minute virtual parent-child structured parenting observation. Once baseline data collection was completed, parent participants were

randomized to participate in one of the two intervention conditions: (a) SRPP-BRIDGE, or (b) a one-hour group informational meeting (active-comparison group; ACG). All study documents completed by parents were provided in their preferred language (i.e., Spanish or English) and were made electronically available using the REDCap platform (Harris et al., 2009). Across both groups, families provided their preferred days of the week and times to meet, as well as their preferred language of instruction to inform appropriate grouping. Families were compensated a $20 gift card for the completion of baseline activities.

Participating families were scheduled to begin the intervention up to 4 weeks after completing intake assessments, across both groups. For all participating families (SRPP-BRIDGE and ACG), the post-intervention assessment was completed 5 weeks from the start of the intervention. Post-intervention assessments included completing the parent and child surveys, and parent-child observations from Time 1. In addition, families were asked to complete a brief intervention satisfaction survey. Families were compensated a $40 gift card for the completion of post-intervention activities.

For the 3-month follow up assessment (roughly 12 weeks from the completion of the intervention), all families were contacted again to complete parent and child surveys, and parent-child observations from Time 1 and Time 2. Families were compensated a $70 gift card for the completion of follow-up activities. Please see Figure 1 that presents the flow of participants through all study phases.

book reading activity. Parent codes measure whether a parent statement is talk related to

Measures

Measures of Feasibility and Acceptability

Intervention Satisfaction. The *Therapy Attitude Inventory* (TAI; Eyberg, 1993) is a

10-item parent-report measure was used to assess parents' satisfaction with intervention. The TAI was administered at post-intervention to assess parents' overall satisfaction with the program. In addition, items were added to assess the likelihood that parents would recommend the program to other parents, as well as which intervention topic(s) they found the most helpful.

Intervention Fidelity. All sessions were videorecorded, and fifty percent of the videos from each intervention condition were randomly selected and checked for fidelity using the treatment manual checklists. Intervention fidelity was conducted by a licensed psychologist and an advanced doctoral-level graduate student trained to code sessions. Intervention fidelity involved coding the frequency, duration, and inclusion of all program content for each session. A checklist of the intervention procedures including: session content overview, collection and assigning of homework, coaching parents practice with children, reviewing parent practice was completed and scored. Additionally, content topics (e.g., positive parenting strategies, dialogic reading), effective engagement of parents during the session, and providing support and reinforcement of parents was also assessed. Specifically, when rating the lead therapist's effectiveness in providing social reinforcement and keeping families engaged throughout the session, coders rated on a 1- to 7-point scale (1=superior, 7=inadequate). The fidelity forms used in this study were originally developed for the SRPP and were modified to fit the abbreviated content of the SRPP-BRIDGE. Fidelity at and above 80% was considered acceptable.

Intervention Attendance. Attendance across intervention conditions was documented at the beginning of each scheduled session. Parents were also asked to endorse

the reason(s) for being unable to attend a scheduled session, across intervention conditions. Responses included, “I had no or poor internet connect”, “Last minute changes to my work schedule”, “I was no longer interested in attending the session”, “I did not have access to an electronic device”, or “other”. Parents in the SRPP-BRIDGE group were considered to have met intervention threshold if they attended at least three of the four sessions. Attendance rates at or above 80% was considered to be evident of high treatment attendance.

Intervention Adherence. Parents assigned to SRPP-BRIDGE were asked to complete weekly homework logs that listed the number of days out of the week that they practiced recommended strategies (e.g., special time, dialogic reading) at home with their child. In addition, homework logs also assessed for any barriers in families’ implementation of skills at home. Homework logs were collected on a weekly basis via email or text.

Parent Measures

Demographic Questionnaire. We collected demographic information as part of study enrollment. The demographic questionnaire included information on parent’s age, sex, race, ethnicity, native, child disability status, language, preferred language, most language(s) spoken to child, current employment, highest level of education, marital status, household size, annual income, and goals for the program. Similarly, information was collected on children’s age, sex, race, ethnicity, language(s), and any documented disabilities.

Parental Self-efficacy. The Toddler Care Questionnaire (TCQ; Gross, Conrad, Fogg & Wothke, 1994; Gross & Rocissano, 1988) measures parent’s self-efficacy and

asked parents to rate their confidence on a range of tasks relevant to raising a toddler (e.g., setting effective limits on children's behavior, toilet training). The TCQ is a 38-item Likert-type scale for rating parent's self-efficacy in managing a range of tasks and situation relevant to raising young children. The TCQ has demonstrated strong psychometric properties with significant correlations with improvements in parenting behavior (Gross, Fogg, & Tucker, 1995), among families living in low-income communities (Gross et al., 2003). A total sum of scores was used for analysis, with a Cronbach's alpha of .68.

Parenting Stress. The *Parenting Stress Index- Short form* (PSI-SF; Abidin, 1995) includes 36-items rated on a 1 (strongly disagree) to 5 (strongly agree). The measure is comprised of three subscales including: parent distress, parent-child dysfunctional interaction, and stress related to the child's behavior. Total scale scores can also be used as a proxy for overall parenting stress, where higher scores indicate increased parenting stress. The PSI-SF have previously been shown to have strong psychometric properties (Abidin, 1995), specifically among low-income parents of toddlers and preschoolers (Whiteside-Mansell et al., 2007). Cronbach's alpha for the total scale in the current sample was .88.

Home Learning Environment. The Home Literacy Environment Questionnaire (HLEQ; Lonigan & Farver, 2002) is a 13-item questionnaire that measures the frequency that parents and their children engage in home-based literacy activities on a weekly basis. Items are rated on a 7-point scale from *never* to *almost every day.* The measure includes three subscales: Parents' Literacy Involvement, Parents' Literacy Habits, and Children's Literacy Interest. Individual item scores are averaged and calculated for each subscale. For the purposes of this study, an adapted version of this questionnaire was used that included the removal of one of the items ("About how many times per month do you go to the library

with your child?") because previous work demonstrated improved model fit (Cheatham-Johnson, Hart, Waguespack, & Nichols-Lopez, 2017). In addition, the adapted version of this questionnaire included 6 additional items that assessed for the frequency of home learning activities relating to early numeracy (e.g., "How many times a week do you teach your child how to count?", "How many times a week do you show your child numbers around him/her?"). Therefore, a fourth subscale was created focusing on Parents' Math Involvement. In the current sample, all four subscales yielded good reliabilities ranging from Cronbach's alpha levels of .74 to .81, consistent with previous research (Farver, Xu, Lonigan, & Eppe, 2013).

Parenting practices. The *Dyadic Parent-Child Coding System–Fourth Edition* (DPICS-IV; Eyberg et al., 2014) is a widely used behavioral coding system that assesses observed parent-child social interactions. It provides an observational measure of parent and child behaviors during three 5-minute play situations: child-led play, parent-led play, and clean-up. Parent codes include use of behavior descriptions (statements describing the child's current actions); reflections (statements with the same meaning as a preceding child verbalization); praises (statements expressing positive evaluation of the child); criticisms (statements expressing disapproval to the child); questions; and commands. To examine changes in parent-child interactions, a composite score of the categories of "Do Skills" (behavior descriptions, reflections, & praises) and "Don't Skills" (questions, commands, & criticisms) mirroring the behaviors parents will learn to use/not to use during child-led play. A team of undergraduate students were trained on the DPICS to 80% on criterion tapes. Coders were kept blind to study conditions and time point. Reliability coding was

completed on 20% of observations. Reliability for *do* and *don't skills* were good, kappas ranged from 89. to .92.

Dialogic reading. The Dialogic Reading Coding System (DRCS; Poznanski, Hart, & Graziano, 2015) was used to assess the quality of reading between a parent and their child during a brief shared reading activity. The DRCS provides an observational measure of each parent and child utterances during a 5-minute the text (text talk), text reading, a prompt, an evaluation of a child's response to a prompt, an expansion of a child's response to a prompt, or a positive parenting skills (do skill) as outlined in the DPICS. Additionally, each parent prompt was coded as either appropriate (parents waited approximately 1-3 seconds for the child to respond) or inappropriate. Parent's evaluations to children's responses to prompts were also coded as appropriate and inappropriate. Appropriate parent evaluations included statements that were provided in a positive or neutral tone. Inappropriate parent evaluations comprised of critical or corrective feedback that was delivered in a negative tone. The DRCS also assigned codes for instances in which there was a lack of evaluation or no opportunities for evaluation of the child responses by the parent. To examine changes in dialogic reading (DR) skills, a composite score of the categories of "Do Skills" (text talk, appropriate prompts, appropriate evaluations, and expansions) and "Don't Skills" (text reading, inappropriate prompts, inappropriate evaluations, no evaluations) were created. Lastly, a sum of scores was also created for child utterances that were text related or unrelated. A team of undergraduate students were trained on the DRCS to 80% on criterion tapes. Coders were kept blind to study conditions and time point. Reliability coding was completed on 20% of observations. Reliability for *DR do* and *don't skills* were good, kappas ranged from .81 to .82.

Child Measure

Social and emotional functioning. The Behavior Assessment System for Children, Third edition (BASC-3; Kamphaus & Reynolds, 2015), is a comprehensive assessment of children's social-emotional, adaptive, and problem behaviors across the home and school settings. The BASC-3 is comprised of 139 items relating to hyperactivity, aggression, conduct problems, anxiety somatization, attention problems, atypicality, withdrawal, adaptability, social skills, leadership, functional communication, and activities of daily living. From the raw scores from these items, several composite scales were calculated related to externalizing problems (α=.85), internalizing problems (α=.67), and adaptive skills (α=.81). T-scores for composite scales were used for the current study analyses.

Data Analysis

All analyses were conducted using the Statistical Package for the Social Sciences (SPSS), version 20.0 (SPSS 20.0). Preliminary data analyses examined the extent to which demographic variables including: child age, child sex, disability status, income, parent education, marital status, and employment were related to study outcome variables. Preliminary analyses were also conducted to test for baseline differences across intervention groups to confirm successful study randomization. We further examined the distributional characteristics of all dependent variables. For outcomes that were substantially non-normal, we verified our results using robust statistical methods (Wilcox, 2012). Missing data analyses were employed to examine potential patterns of missing data to inform the treatment of missing values (e.g., multiple imputation), under the assumption that the data are missing at random (MAR) (Allison, 2002; Little & Rubin, 1990). To ensure that this assumption was met, we examined all possible auxiliary variables in the

dataset that might either be related to missingness or to our key outcome variables of interest (Collins, Schafer, & Kam, 2001).

All analyses were intent-to-treat as recommended best practice to minimize bias in ascertaining treatment effects (Montori & Guyatt, 2001). In addition to the intent-to-treat analyses, per protocol analyses were also conducted to examine the effect of receiving the intervention as intended (Tripepi et al., 2020). For the purposes of the current study, only the results from the intent-to-treat analyses were reported in detail below. However, findings from the per protocol analyses were reported in Table 11. Descriptive statistics were used to inspect attendance, adherence, and intervention satisfaction measures across intervention groups. Next, to assess intervention effects on primary outcomes (i.e., parent and child) the SRPP-BRIDGE and ACG were compared on each dependent variable. Repeated-measures ANOVAs were conducted with intervention group as the between-subjects variables (SRPP-BRIDGE vs. ACG) and time as the within-subject variable (Baseline vs. Post-assessment vs. Follow-up). All significant main effects were followed with post hoc contrasts, with Bonferroni correction to account for Type 1 error, to determine whether the significant change occurred within or between groups. Effect sizes were calculated for repeated measures ANOVA using Hedge's *g,* where .2 represents a small effect, .5 represents a medium effect, and .8 and greater represents a large effect. As recommended, given that sample size within each group was <20, we reported calculated Hedge's g to examine effect size (Durlak, 2009).

CHAPTER 4. RESULTS

Descriptive Statistics

Descriptive statistics were evaluated to examine associations between demographic and outcomes variables, as presented in Table 2. Of note, 3 children were removed from preliminary analyses that were reported to be monolingual-english speaking, given the low base rate. Therefore, language was analyzed as a dichotomous variable (0- monolingual Spanish and 1- bilingual). Correlational analyses indicated significant associations between children's language and parent's home literacy involvement (r =.40, p < .05) and adaptive functioning (r =.55, p <. 05). Similarly, results indicated significant associations between children's disability status and children's externalizing problems (r = -.38, p < .01), internalizing problems (r = .49, p <.05), and adaptive functioning (r = -.52, p <. 01). Therefore, subsequent analyses controlled for child language and disability status. No other demographic variables were found to be related to any key study variables. Furthermore, correlational analyses revealed that two outcome variables (i.e., home literacy involvement and child's literacy interest) were highly correlated (r =.84, p < .01). Therefore, only the home literacy involvement subscale was included in analyses. With regard to missing data, a total of 5 families did not complete post data collection and a total of 7 families did not complete the 3-month data collection. Little's missing-completely-at-random test indicated that data were missing at random (p = .76). As such, multiple imputation was employed, to accurately estimate the data for the current sample (Cheema, 2014). Correlational analyses included in tables 3-5.

Lastly, we conducted t-tests to compare any baseline, post-assessment, and follow-up differences for families that did not attend a single session (e.g. received no intervention and were initially randomized to the ACG) to families in the ACG that did attend the single session. Results did not reveal any significant differences between the two subgroups (p>.05), therefore, families that did not attend a single session (n = 7) were still included in the ACG group to increase the overall power in detecting significant group differences.

Acceptability & Feasibility

Intervention Fidelity. Fidelity across both groups was 100% per session indicating that the lead therapist delivered the SRPP-BRIDGE with strong fidelity. The lead therapist was also highly rated on their ability to provide social reinforcement and support to participating parents (M=1.00), as well as effectively keeping parents engaged throughout the entirety of the session (M=1.00).

Intervention Attendance. As shown in table 6, 80% of parents in the SRPP-BRIDGE received the complete intervention dose. Specifically, 7 families attended all 4 sessions, 5 families attended 3 sessions, 2 families attended 1-2 sessions prior to dropping from the intervention, and 1 family failed to attend a single session because they dropped prior to the start of the intervention. In the ACG, 53.3% of families (n = 8) attended the single session, while 7 families failed to attend the single session, one of which dropped before the intervention started. Results also indicated 100% of the families that missed a session reported “Last minute changes to my work schedule” as the reason for not attending.

Intervention Adherence. Parents participating in the SRPP-BRIDGE on average reported practicing the strategies or skills covered in session at home for 4.16 (SD = 1.70)

days during the second week, 4.88 (SD = 2.55) days during the third week, and 5.09 (SD = 1.77) days during the fourth week.

Intervention Satisfaction. As shown in Table 7*,* parents across both intervention conditions reported moderate to high rates of overall treatment satisfaction, with the SRPP-BRIDGE group rated more favorably as compared to the ACG. Specifically, parents in the SRPP-BRIDGE group reported higher treatment satisfaction as related to the strategies they learned, their relationship with their child, improving their child's learning and behavior, likelihood to recommend the program, and the degree to which the skills in the program would be accepted by their family and community.

Initial Efficacy

Parenting self-efficacy. As shown in Tables 8 and 9, results from a repeated-measures ANOVA showed that mean parental self-efficacy scores differed significantly across time points ($F(1,28) = 13.62$, $p = .001$), but not a significant Time x Group interaction effect ($F(1,28) = .302$, $p = .587$). A post hoc pairwise comparison using the Bonferroni correction showed an increase in parental self-efficacy scores between baseline and 3-month follow-up assessment ($p = .003$). No significant changes were noted between baseline and post-assessment or post-assessment and follow-up. Therefore, study results indicated a that parent's parental self-efficacy uniformly improved, regardless intervention group.

Parenting stress. As seen in Tables 8 and 9, results showed there was a significant effect of Time ($F(1,28) = 19.68$, $p < .001$), but no significant interaction effect of Time x Group ($F(1,28) = .02$, $p = .889$). A post hoc pairwise comparison using the Bonferroni correction revealed significant differences in parenting stress scores between baseline and

post-assessment (p = .01), and baseline and 3-month follow-up assessment (p <.001). No significant changes were found between post-assessment and follow-up (p = .072). As such, findings demonstrated that parents reported a decrease in parenting stress over the course of the program, regardless of intervention group.

Home learning environment. As seen in Tables 8 and 9, there was a significant quadratic Time x Group ($F(1,28) = 6.97$, p = .013) interaction effect, indicating that parents in the SRPP-BRIDGE group showed an increase in their involvement in home-based literacy activities from baseline to post-intervention, as compared to parents in the ACG. A large effect size was indicated from baseline to post (see Table 8). There were no significant changes between post-assessment and follow-up (p = .294). With regard to home-based math involvement, similar findings emerged. There was a significant quadratic Time x Group ($F(1,28) = 5.89$, p = .022) interaction effect, indicating that parents in the SRPP-BRIDGE group showed an increase in their involvement in home-based math activities from baseline to post-intervention (p = .01) and from baseline to 3 month follow-up (p = .044), with a moderate effect size (see Table 8). No significant differences were noted from post-intervention to follow-up (p = .112).

Parenting practices. As seen in Figure 2, results from a repeated-measures ANOVA demonstrated that there was a significant quadratic Time x Group ($F(1,28)$ = 13.82, p = .001) interaction effect in parent "do" skills (e.g. behavioral descriptions, reflections, praises), such that parents in the SRPP-BRIDGE group demonstrated a substantial increase in their use of "do" skills as compared to parents in the ACG. A large effect size was indicated (see Table 8). A post hoc pairwise comparison using the Bonferroni correction showed an increase in parent "do" skills for families in the SRPP-

BRIDGE group between baseline and post-intervention ($p < .001$), and baseline and 3-month follow-up ($p = .001$). No statistically significant changes were noted between post-assessment and follow-up ($p = .367$). As seen in Figure 3, when examining parent "don't" skills (e.g., questions, commands, criticisms), results indicated a significant quadratic Time x Group ($F(1,28) = 7.89$, $p = .009$) interaction effect, such that parents in the SRPP-BRIDGE group showed a statistically significant decrease in the use of "don't" skills as compared to parents in the ACG. Post hoc pairwise comparison using the Bonferroni correction showed a decrease in parent "don't" skills for families in the SRPP-BRIDGE group from baseline and post-intervention month follow-up assessment ($p = .001$), and baseline to 3-month follow-up ($p = .004$). No statistically significant changes were noted between post-assessment and follow-up ($p = 1.00$).

Dialogic reading. As seen in Figure 4, results yielded a significant quadratic Time x Group ($F(1,28) = 6.46$, $p = .017$) interaction effect in parent use of DR "do" skills (e.g., text talk, appropriate prompts, appropriate evaluations, and expansions). Results indicated that parents in the SRPP-BRIDGE group demonstrated increased use of DR "do" skills as compared to parents in the ACG. Further post hoc pairwise comparisons using the Bonferroni correction revealed a significant increase from baseline to post-intervention ($p = .020$), but no statistically significant difference between post-intervention and 3-month follow-up ($p = .778$). A moderate effect size was indicated from baseline to post (see Table 8. As seen in Figure 5, with regard to parent use of DR "don't" skills (text reading, inappropriate prompts, inappropriate evaluations, no evaluations), results showed a statistically significant quadratic Time x Group ($F(1,28) = 14.46$, $p = .001$) interaction effect. Results showed that parents in the SRPP-BRIDGE group had a significant decrease

in their use of DR "don't" skills as compared to parents in the ACG. Mean differences were only noted from baseline to post-intervention (p =.025) and baseline to 3-month follow-up (p =.033). A moderate effect size was indicated (see Table 8). Lastly, as seen in Figure 6, child related talk (child on topic utterances) was also evaluated across time and between intervention conditions. Results indicated a significant Time X Group ($F(1,28) = 3.26$, p = .044) interaction effect, such that children whose parents were in the SRPP-BRIDGE group had a significant increase in their text related talk from baseline to post-intervention, as compared to children whose parents were in the ACG, after controlling for child reported disability.

Social-emotional functioning. As seen in Tables 8 and 9, there were no significant main effects of Time or Time x Group interaction effects when evaluating children's externalizing problems, internalizing problems, as well as children's adaptive functioning (ps>.05).

CHAPTER 5. DISCUSSION

This is the first randomized trial to examine the initial efficacy of a brief school readiness group parent program delivered via telehealth. The purpose of the study was to evaluate the acceptability, feasibility, and initial efficacy of the SRPP-BRIDGE program as a brief group-based intervention for parents of young children living in urban poverty, delivered via telehealth, during the transition to HS preschools. In addition, the current study aimed at generating and incorporating feedback from participating families, HS administrators, HS parent policy council members, and expert consultants in order to inform the intervention adaptations made to the existing SRPP, resulting in the SRPP-BRIDGE.

The present study provides promising initial support for the feasibility, acceptability, and efficacy of the SRPP's adaptation (4-session, small-group, in vivo coaching via telehealth) for toddlers in EHS who were transitioning to HS preschools, during a global pandemic. With regard to the acceptability of the program, participating parents reported moderate to high satisfaction, with parents in the SRPP-BRIDGE group reporting higher levels of overall satisfaction, learning many useful skills, and more improvements in their relationship with their children as compared to the parents in the ACG. With regard to the feasibility, the program was delivered with very high fidelity and was positively received by participating families as evident by the high levels of treatment attendance and adherence. In particular, the parents in the SRPP-BRIDGE group had significantly higher levels of attendance, as compared to parents in the ACG. In sum, although high fidelity was achieved across both intervention groups and both groups rated the program favorably, parents in the ACG did not rate the program as positively, did not report as many positive changes in their practices, and did not attend as often, as compared to the SRPP-BRIDGE group. In terms of extending the intervention to be conducted via telehealth, the high rates of attendance and satisfaction, as well as the low endorsement of any internet-related challenges in attending sessions were also evident that this program could successfully be delivered in this format.

When evaluating the initial efficacy of the SRPP-BRIDGE, study findings indicated several positive parent outcomes. First, as hypothesized, parents in the SRPP-BRIDGE group significantly increased in their use of DPICS do skills and decreased in their use of don't skills, as compared to the ACG from baseline to post intervention and intervention effects were maintained at 3 month follow up, both yielded a large effect size.

This finding is consistent with other brief parent intervention programs (e.g., PCIT adaptations) demonstrating the benefits of coaching parents in using positive parenting skills within a shorter time frame (Bagner et al., 2016; Bagner, Rodriguez, Blake, Rosa-Olivares, 2013; Berkovits et al., 2010 Mersky et al., 2018). Our findings extend previous research evaluating brief interventions targeting parenting skills by demonstrating the utility of using a brief group-based coaching model that can successfully be delivered via telehealth.

Second, as hypothesized, parents in the SRPP-BRIDGE group also increased in their use of DR do skills and decreased in their use of DR don't skills, with a moderate effect size from baseline to post intervention, with effects maintaining at 3-month follow-up. Interestingly, although the intervention did not directly target children's language, findings revealed that children whose parents participated in the SRPP-BRIDGE group demonstrated a significant increase in their language use during a shared reading activity with their parents. This is particularly important, as increasing parent's DR skills was directly targeted in the intervention but not children's language use. The goal of DR is that the child eventually becomes the narrator of the story, which may highlight that targeting parent's dialogic reading skills may indirectly impact children's language by way of parental uptake in DR skills. Previous research has demonstrated indirect effects on children's language when targeting positive parenting skills (e.g. praise, reflections, descriptions; Garcia, Bagner, Pruden, & Nichols-Lopez, 2015; Garcia, Rodriguez, Hill, Lorenzo, & Bagner, 2019). However, little is known about the potential incremental benefits of targeting parent dialogic reading skills compared to positive parenting skills as it relates to children's language development. Future research is warranted to further

understand if incorporating DR skills into a brief school readiness intervention further impacts children's language development after accounting for parent's use of positive parenting skills.

Third, with regard to home-based literacy and math involvement, as hypothesized, parents in the SRPP-BRIDGE group significantly outperformed parents in the ACG. Parents in the SRPP-BRIDGE group increased the frequency of their involvement in related learning activities by an average of 2 days by the end of the intervention. With respect to effect sizes, we found a large effect for literacy involvement and a moderate effect for math involvement, from baseline to post intervention and effects were also maintained at 3-month follow-up. These findings highlight that despite navigating a global pandemic, parents in the SRPP-BRIDGE group were able to further provide and engage in a variety of enriching home-based literacy and math activities. It is also important to note that regardless of intervention condition, parents across both groups demonstrated moderate involvement in home-based learning activities throughout the study. This is vital to highlight, as previous research has typically reported that parents of low-income or of racially/ethnically minoritized backgrounds tend to be less involved when compared to non-Hispanic/white parents (Heymann & Earle, 2000; Stacer & Perrucci, 2013).

Contrary to what was hypothesized, findings suggested that regardless of intervention group, parents across both groups reported an increase in parental self-efficacy and similarly a decrease in parenting related stress from baseline to the 3-month follow up time point. With regard to parental self-efficacy, previous work has noted that parental self-efficacy appears to increase over infancy and into the preschool years (Weaver, Shaw, Dishion, & Wilson, 2008), which may explain the overall increase in parental self-efficacy

across both groups. Moreover, when understanding this in context, considering the ongoing global pandemic, with families following widespread stay-at-home orders over the course of the study, it is possible that parents and children may have experienced improvements in adjusting to their new daily routines and roles, thus positively impacting parent's sense of self-efficacy in their ability to manage everyday challenges that come with raising a toddler, as well as their ability to effectively teach their children. Similarly, children's emotional and behavior problems that may have been present at the onset of remote learning may have also uniformly decreased as they became more accustomed to their home-based routines. It is important to note that prior to the start of intervention, parents across both groups reported high parental self-efficacy. It is possible that findings may be highlighting broader positive impacts due to the preexisting and ongoing support afforded to families by their EHS/HS center, given that a central focus of EHS and HS is to support parents, which became even more salient during the stay at home orders due to the global pandemic.

In relation to parenting stress, conceptually, parenting stress is multidimensional since it is thought to involve characteristics of the child, parent, and context (Abidin, 1986). As such, recognizing the ongoing circumstances families were faced with, it is possible that parents experienced broader and more pervasive stressors related to the pandemic, that may have outweighed any specific concerns relating to parent-child conflict or child problem behaviors over the course of time. When reviewing our study sample's parenting stress scores, we also noted that the majority of families had scores within the normative range from the start to the end of the program, and thus having limited variability in scores to assess the potential effects of the intervention across groups or time. In relation to other

selective programs with at-risk populations, decreases in parenting stress have not been widely noted (Breitenstein et al., 2016; McConnel, Breitkreuz, & Savage, 2012). Moreover, previous work has highlighted the association between greater parental self-efficacy and less parenting related stress (Bloomfield & Kendall, 2012; Raikes & Thompson, 2005). Given that in the current sample families reported high levels of self-efficacy beliefs at the start of the program, it is possible that parental self-efficacy may have buffered in part against parenting stress over the course of the study.

In addition, we did not find any group differences relating to children's social-emotional functioning and perhaps for several reasons. First, our study was limited to only assessing children's social-emotional functioning through a single parent-report measure, and thus did not allow for a more comprehensive understanding. Moreover, although this study was employed under a selective framework with an at-risk population, parents generally reported low baseline concerns for externalizing and internalizing behaviors, which offered limited variability among our sample to detect any significant differences between groups and across time. In regards to children's adaptive functioning, findings did not indicate any significant group differences or time effects. Given the high baseline ratings of adaptive skills, there may have been limited opportunity for substantial growth for children and in detecting growth in young children's adaptive skills over the brief course of the program. Lastly, when comparing intent-to-treat and per protocol analyses, the study findings remained unchanged, however, we did note that findings from the per protocol analyses demonstrated larger treatment effects (see Table 11). This may suggest that our intervention effects as reported by the intent-to-treat analyses may be an underrepresentation. Future research with a larger sample is warranted.

Study Limitations & Future Directions

Although the present study demonstrated a number of promising outcomes associated with the SRPP-BRIDGE, the findings from the present study should be interpreted in light of the limitations. First, due to the COVID-19 pandemic, our study design and recruitment were greatly impacted due to widespread stay at home orders and subsequent school closures, resulting in a smaller sample size than originally planned. Due to the small study sample size, it was not possible to evaluate possible moderators and mediators that could help further understand causal relationships, and to identify who may have benefitted most from the SRPP-BRIDGE. With a larger sample, further subgroup analyses could be conducted to understand differences across racial/ethnic groups, as well to further explore the heterogeneity within racial/ethnic groups, which remains understudied. This is particularly important, given that estimates suggest that about 79% of families enrolled in EHS and HS are families of lower income and of minoritized racial/ethnic background (Kopack et al., 2021).

Relatedly, although we extended recruitment services to all EHS sites in the county in order to capture a representative sample of EHS/HS families, our sample was predominantly comprised of Hispanic/Latino families, which limits the generalizability of study findings to other racial/ethnic groups. Previous research has also highlighted the importance of cultural and language match for Latino families specific to their school engagement (Mundt, Gregory, Melzi, & McWayne, 2015). It is possible that given the program being offered in English and Spanish and the cultural match between families and the therapist, may have increased Hispanic/Latino families interest in participating during the recruitment phase. However, we did not directly assess for this in our study, therefore,

future research could further investigate if cultural or language match influences families' engagement during the recruitment process and on. Moreover, with a predominantly Hispanic/Latino study sample, we had the unique opportunity to better understand the practices and beliefs of these families, which still remains largely understudied (La Greca, Silverman, & Lochman, 2009). Given that Hispanic/Latino children and adults were shown to be at greater risk during the COVID-19 pandemic, have previously been shown to underperform academically as compared to Non-Hispanic/White children, and have less involved parents, findings from our study may help to elucidate the many strengths of Hispanic/Latino families. Further, findings from this study lend insight into future efforts in supporting Hispanic/Latino families to enhance the school readiness skills of their young children.

Our study findings demonstrated changes in parents use of skills and home-based learning practices. However, given our inability to conduct direct academic assessments with children as a result of the COVID-19 pandemic, we were unable to evaluate the benefits of parents incorporating the skill or practices as it directly relates to their children's academic well-being. However, our study findings demonstrated an increase in children's language use when targeting parenting skills, indicating that there may be indirect benefits related to their academic functioning, given the link between language development and academic outcomes in young children (Kastner, May, & Hildman, 2001; Ramsook, Welsh, & Bierman, 2020). In addition to understanding the statistically significant findings, it equally important to understand the relevance of such changes to better establish appropriate recommendations (e.g., minimum number of days parents should engage in a home-based literacy/math activity) to maximize children's early academic and learning

success. Further, our reliance on parent-report and home-based observational data limits our understanding on how children's academic and behavioral functioning may differ within the school context, as rated by their teachers. Therefore, future work might do well to include additional teacher-report measures and in school observational data to more accurately obtain report on intervention-related improvements across various settings.

Lastly, families in the current study were enrolled across various EHS and HS centers, with varying levels of resources (e.g., printed materials, books), frequency of virtual classes, virtual support for parents (e.g., weekly check ins with school staff), and differing timeline for in-person schooling and transitions. As such, due to the present study's small sample size multi-level modeling approaches were unable to be conducted to account for any potential nested school and classroom effects, as well a employing growth curve modeling to further explore individual-specific trajectories across outcome variables. Moreover, given the small group sizes we were also unable to further explore the differences between the three intervention groups that emerged (i.e. 4-week, single session, and no intervention). It is important to note that while our study included an active comparison group that was designed to follow a single workshop framework similar to the type of programming that is widely offered to families in EHS/HS, extending the ecological validty, the intervention dose differed for families in the ACG compared to families in the 4-week intervention group. Despite the difference in intervention dose between both groups, our preliminary analyses did not note any significant mean differences between families in the ACG that did attend the single session compared to families in the ACG that did not attend the single session. As such, this may suggest that a higher dose of intervention may be most beneficial, specifically when direct coaching on skills is provided

to families. However, future research is needed with a larger sample size to further analyze the potential incremental benefits of intervention dose on parent and child outcomes.

Conclusions

Despite the aforementioned limitations, the present study offers support for the promise of a group-based brief school readiness parenting program (SRPP-BRIDGE) to support families transitioning to preschool. The current study found that parents that participated in the SRPP-BRIDGE showed significant improvements in parents' home-based literacy and math involvement, use of positive parenting skills, and use of dialogic reading skills. Moreover, parents in the SRPP-BRIDGE group reported higher levels of satisfaction and had significantly higher rates of attendance. Importantly, this study demonstrated the feasibility of delivering a brief group-based intervention with in vivo coaching via a telehealth model, with positive outcomes and high satisfaction. Future research is needed to further evaluate the SRPP-BRIDGE against traditional group-based interventions to understand the possible benefits and barriers to delivering the intervention via telehealth, and to examine who may benefit most from either delivery format. Additionally, it will be important to incorporate direct child assessments to further understand how changes in parents use of skills and practices may or may not relate to children's language, academic, and behavioral outcomes. SRPP-BRIDGE adds to the growing body of literature surrounding the promising evidence of delivering a brief group-based intervention via telehealth that has the potential to increase access to quality care for families prior to academic and behavioral difficulties becoming entrenched.

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Table 1

Overview of topics included in the SRPP-BRIDGE

	Topics
Session 1	Strengthening the parent-child relationship
Session 2	Promoting positive parenting & children's social- emotional skills
Session 3	Promoting children's language & early academic skills
Session 4	Fostering strong home-school connections

Table 2

Baseline sample characteristics

	Intervention Group				
	SRPP-BRIDGE (n=15)		ACG (n=15)		Significance test
	N	%	N	%	
Child sex					χ^2 (1,N=30)=.26; *p*=.450
Female	7	46.7	4	26.7	
Male	8	53.3	11	73.3	
Child ethnicity					χ^2 (1,N=30)=.14; *p*=.483
Hispanic/Latino	15	100	13	86.7	
Non-Hispanic	-	-	2	13.3	
Child disability					χ^2 (1,N=30)=5.33; *p*=.502
Medical	1	6.7	-	-	
Physical	1	6.7	-	-	
Speech/Language	4	26.6	6	40.0	
Autism/Developmental delay	1	6.7	2	13.3	
None reported	8	53.3	7	46.7	
Child language					χ^2 (1,N=30)=.3.82; *p*=.148
Spanish-only	8	53.3	8	53.3	
English-only	-	-	3	20.0	
English and Spanish	7	46.7	4	26.7	
Parent language					χ^2 (1,N=30)=2.24; *p*=.135
Spanish-only	9	60.0	10	66.67	
English-only	4	26.6	4	26.6	
English and Spanish	2	13.3	1	6.7	
Country of origin					
United States	4	26.6	4	26.6	
Haiti	-	-	1	6.7	
Mexico	1	6.7	-	-	
Cuba	3	20.0	1	6.7	
Central America	6	40.0	4	26.6	
South America	1	6.7	5	33.3	
Marital status					χ^2 (1,N=30)=.95; *p*=.513
Single	5	33.3	5	33.3	
Married	6	40.0	8	53.3	

Separated	2	13.3	1	6.7	
Divorced	2	13.3	1	6.7	
Education level					χ^2 (1,N=30)=.8.74; *p*=.189
No schooling	2	13.3	-	-	
Grade (1-12)	-	-	2	13.3	
HS diploma/ GED	4	26.7	4	26.7	
Some college	1	6.7	4	26.7	
Associate's degree	4	26.7	1	6.7	
Bachelor's degree	4	26.7	3	20.0	
Graduate degree	-	-	1	6.7	
Income					χ^2 (1,N=30)=3.49; *p*=.479
Less than $10,000	3	20.0	3	20.0	
$10,000-$19,999	5	33.3	6	40.0	
$20,000-$29,999	5	33.3	5	33.3	
$30,000-$39,999	2	13.3	-	-	
$50,000-$59,999	-	-	1	6.7	
Employment					χ^2 (1,N=30)=.6.92; *p*=.140
Employed	9	60.0	4	26.6	
Self-employed	-	-	4	26.6	
Unemployed	6	40.0	7	46.7	
	Mean	SD	Mean	SD	
Child age	3.04	.29	2.97	.22	*t(28)=-.65,p=.52*
Parent age	32.63	7.14	34.20	5.22	*t(28)=.52,p=.61*

Note. SRPP-BRIDGE= 4-week intervention; ACG= active comparison group.

Table 3

Correlations of study outcomes at baseline

	1	2	3	4	5	6	7	8	9	10	11
1. PSE	-	-.41*	.23	-.01	-.10	.29	.21	.44*	.04	-.31	.25
2. PS		-	-.39*	-.09	-.14	-.18	-.39*	-.57**	.71**	.75**	-.57**
3. DPICS Do			-	.15	-.03	.41*	.51**	.61**	-.29	-.38*	.53**
4. DPICS Don't				-	.10	.14	.25	.12	-.34	-.10	.17
5. DR Do					-	-.13	.07	.10	-.29	-.30	.11
6. DR Don't						-	-.08	.65**	-.36	-.46*	.57**
7. HBM							-	-.08	-.42*	-.29	.58**
8. HBL								-	.71**	.75**	.57**
9. EXT									-	.65**	-.63**
10. INT										-	-.47**
11. ADP											-

Note. *=p<.05, ** p<.01, ***=p<.001. PSE= parent self-efficacy total score; PS Total= total parenting stress score; DPICS= dyadic parent-child interaction coding system; DR= dialogic reading;HBL=home-based literacy involvement; HBM= home-based math involvement; EXT= externalizing subscale from BASC-3; INT= internalizing subscale from BASC-3; ADP= adaptive subscale from BASC-3.

Table 4

Correlations of study outcomes at post intervention

	1	2	3	4	5	6	7	8	9	10	11
1. PSE	-	.69**	.27	-.22	.44*	.17	.01	.06	.02	-.25	.19
2. PS		-	-.20	-.13	.19	-.27	-.57**	-.51**	.33	.46*	-.49*
3. DPICS Do			-	-.56**	.48*	-.42*	.42	.50*	.12	-.06	.11
4. DPICS Don't				-	-.56**	.37	-.01	-.07	-.28	-.14	.18
5. DR Do					-	-.47*	-.46*	.19	-.03	-.21	.07
6. DR Don't						-	-.46*	-.27	.03	-.10	.27
7. HBM							-	.44*	-.12	-.19	.40*
8. HBL								-	-.12	-.10	-.25
9. EXT									-	-.10	.56**
10. INT										-	-.17
11. ADP											-

Note. *=p<.05, ** p<.01, ***=p<.001. PSE= parent self-efficacy total score; PS Total= total parenting stress score; DPICS= dyadic parent-child interaction coding system; DR= dialogic reading;HBL=home-based literacy involvement; HBM= home-based math involvement; EXT= externalizing subscale from BASC-3; INT= internalizing subscale from BASC-3; ADP= adaptive subscale from BASC-3.

Table 5

Correlations of study outcomes at 3 month follow-up intervention

	1	2	3	4	5	6	7	8	9	10	11
1. PSE	-	-.62**	.42*	-.11	.14	-.31	.48**	.47**	-.09	-.19	.24
2. PS		-	.26	.04	.11	-.07	-.60**	-.72**	.52*	.52*	-.62**
3. DPICS Do			-	-.56**	.66**	-.31	.44*	.39*	-.07	-.11	.09
4. DPICS Don't				-	-.44*	.33	-.27	-.15	-.03	-.03	.04
5. DR Do					-	-.26	.09	-.05	-.05	-.13	-.17
6. DR Don't						-	-.20	.11	.18	.02	-.25
7. HBM							-	.66**	-.35	-.16	.60**
8. HBL								-	-.53**	-.54**	.49*
9. EXT									-	.74**	-.55**
10. INT										-	-.30
11. ADP											-

Note. *=p<.05, ** p<.01, ***=p<.001. PSE= parent self-efficacy total score; PS Total= total parenting stress score; DPICS= dyadic parent-child interaction coding system; DR= dialogic reading;HBL=home-based literacy involvement; HBM= home-based math involvement; EXT= externalizing subscale from BASC-3; INT= internalizing subscale from BASC-3; ADP= adaptive subscale from BASC-3.

Table 6

Percentage of attendance across intervention groups

	SRPP-Bridge (n=15)		ACG (n=15)	
Total # of workshops attended	Number of families	%	Number of families	%
0	1	6.67%	7	46.67%
1	1	6.67%	8	53.33%
2	1	6.67%	-	-
3	5	33.33%	-	-
4	7	46.67%	-	-

Note. SRPP-Bridge= 4-week intervention; ACG= Active comparison group.

Table 7

Program satisfaction by group

Questions	Responses	SRPP-Bridge (%)	ACG (%)
1. Regarding techniques for teaching my child new skills, I feel I have learned:	Very little or a few	-	37.5
	Many or several	100	62.5
2. Regarding the relationship between myself and my child, I feel we get along:	Same as before	-	37.5
	Somewhat better	25.0	12.5
	Much better	75.0	50.0
3. I feel the type of program used to help me improve my child's learning and behavior was:	Adequate	-	12.5
	Good	-	12.5
	Very good	100.0	75.0
4. My general feeling about the program:	Liked it somewhat	-	12.5
	Liked it very much	100.0	87.5
5. My likelihood of recommending the program:	Likely	8.3	25.0
	Very likely	91.7	75.0
6. To what degree have the skills you learned in the program been accepted by the people in your family:	Somewhat	8.3	100.0
	Very	91.7	-
7. To what degree have the skills you learned in the program been accepted by the people in your community:	Neutral	8.3	12.5
	Very	91.7	87.5

Note. SRPP-Bridge= 4-week intervention; ACG= active comparison group.

Table 8

Summary of results across all primary outcomes

Outcomes	Time *F*	Time x Group F	T1-T2 g	T1-T3 g	T2-T3 g
PSE	13.62**	.30	.23	.57*	.37
PS	19.68***	.02	.33	.48	.13
HBL	14.93***	8.01**	1.23***	1.43***	.23
HBM	3.515	12.40**	.75**	.69*	.64
DPICS do skills	20.16***	13.82***	1.89***	1.61**	.27
DPICS don't skills	6.91*	7.89**	1.66**	1.60**	.08
DR do skills	1.69	6.46*	.88**	.61**	.23
DR don't skills	7.74*	14.46***	.88*	.46	.36
Child EXT	2.70	.57	.30	.29	.001
Child INT	2.34	.36	.11	.27	.17
Child ADP	1.96	.33	.13	.33	.22

Note. *=p<.05, ** p<.01, ***=p<.001. g= Hedge's g effect size. PSE= parent self-efficacy total score; PS Total= total parenting stress score; HBL-Literacy=home-based literacy involvement; HBM= home-based math involvement; Child EXT= externalizing subscale from BASC-3; Child INT= internalizing subscale from BASC-3; Child ADP= adaptive subscale from BASC-3.

Table 9

Mean scores of parent-reported outcomes by intervention group and time

Measure	Condition	Pre-intervention		Post-intervention		3-month follow-up	
		M	*SD*	*M*	*SD*	*M*	*SD*
PSE	SRPP-Bridge	109.60	26.59	124.50	18.36	127.60	30.53
	ACG	114.33	29.22	118.92	26.92	129.13	27.70
PS Total	SRPP-Bridge	64.07	23.17	56.92	18.62	56.00	20.47
	ACG	68.53	25.90	65.08	40.06	55.13	20.41
HBL	SRPP-Bridge	2.29	1.88	4.45	1.42	4.80	1.40
	ACG	3.36	1.35	3.95	1.27	4.10	1.01
HBM	SRPP-Bridge	3.39	1.64	4.88	1.52	5.60	1.34
	ACG	4.05	1.84	4.25	1.55	4.87	1.31
Child EXT	SRPP-Bridge	50.40	4.54	48.70	2.69	47.40	3.09
	ACG	54.69	3.97	49.23	2.36	50.39	2.71
Child INT	SRPP-Bridge	42.20	3.06	41.90	3.04	39.20	2.60
	ACG	45.39	2.68	44.08	2.66	43.39	2.28
Child ADP	SRPP-Bridge	58.13	3.92	58.40	3.43	61.73	3.93
	ACG	55.67	3.43	58.53	3.00	60.53	3.44

Note. SRPP-Bridge= 4-week intervention; ACG= active comparison group; PSE= parent self-efficacy total score; PS Total= total parenting stress score; HBL-Literacy=home-based literacy involvement; HBM= home-based math involvement; Child EXT= externalizing subscale from BASC-3; Child INT= internalizing subscale from BASC-3; Child ADP= adaptive subscale from BASC-3.

Table 10

Mean scores of behaviorally observed outcomes by intervention group and time

Measure	Condition	Baseline	Post-intervention	Follow-up
		M(*SD*)	*M*(*SD*)	*M*(*SD*)
DPICS Do skills	SRPP-Bridge	6.73(5.16)	24.07(11.10)	21.00(10.63)
	ACG	4.80(3.21)	5.60(4.56)	5.31(3.88)
DPICS Don't skills	SRPP-Bridge	30.20(10.00)	13.27(9.23)	14.07(9.05)
	ACG	29.47(13.29)	29.27(13.46)	28.38(9.72)
DR Do Skills	SRPP-Bridge	38.29(17.66)	56.93(21.97)	51.29(22.66)
	ACG	41.93(22.01)	35.36(26.43)	32.21(27.82)
DR Don't skills	SRPP-Bridge	25.86(16.10)	12.43(12.43)	18.00(16.49)
	ACG	23.57(11.57)	24.29(12.97)	21.86(11.69)

Note. DPICS=dyadic parent-child interaction coding system; DR= dialogic reading.

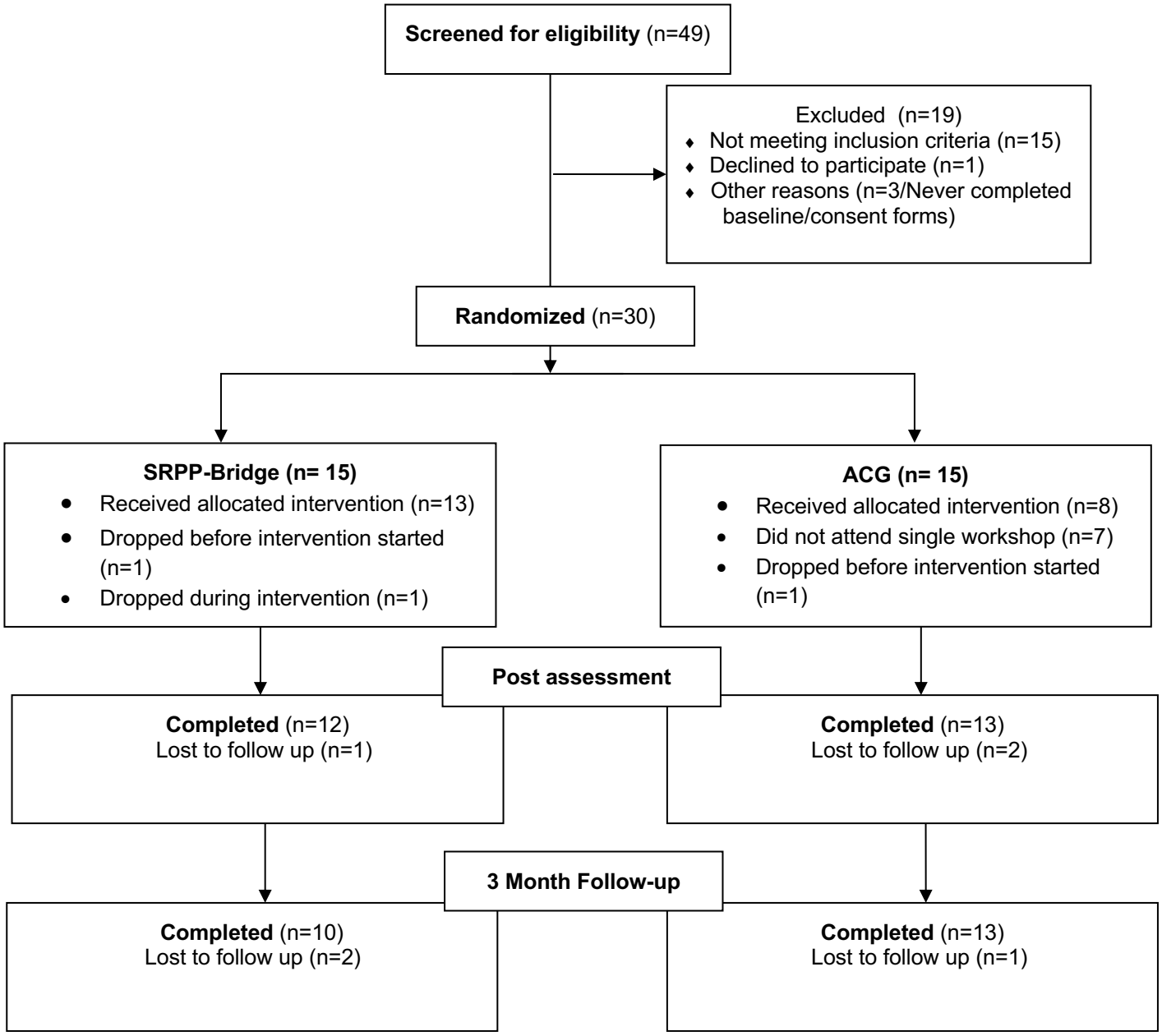
Table 11

Summary of results across all primary outcomes (per protocol analysis)

Outcomes	Time *F*	Time x Group F	T1-T2 g	T1-T3 g	T2-T3 g
PSE	5.16*	.98	.27	.67*	.46
PS	10.49**	1.06	.39	.56*	.16
HBL	14.84***	7.02**	1.67***	1.47***	.36
HBM	9.01*	4.70*	1.13**	1.40***	.40
DPICS do skills	21.75***	24.74***	2.87***	2.28***	.36
DPICS don't skills	10.17***	7.25**	2.36***	2.22***	.14
DR do skills	1.72	6.18**	1.03*	.93*	.28
DR don't skills	5.48**	13.16**	1.46***	.83*	.54
Child EXT	2.11	.36	.32	.31	.001
Child INT	1.29	.44	.11	.27	.17
Child ADP	1.56	.40	.16	.34	.22

Note. *=p<.05, ** p<.01, ***=p<.001. g= Hedge's g effect size. PSE= parent self-efficacy total score; PS Total= total parenting stress score; HBL-Literacy=home-based literacy involvement; HBM= home-based math involvement; Child EXT= externalizing subscale from BASC-3; Child INT= internalizing subscale from BASC-3; Child ADP= adaptive subscale from BASC-3.

Figure 1. CONSORT Flow Diagram of participants across study phases



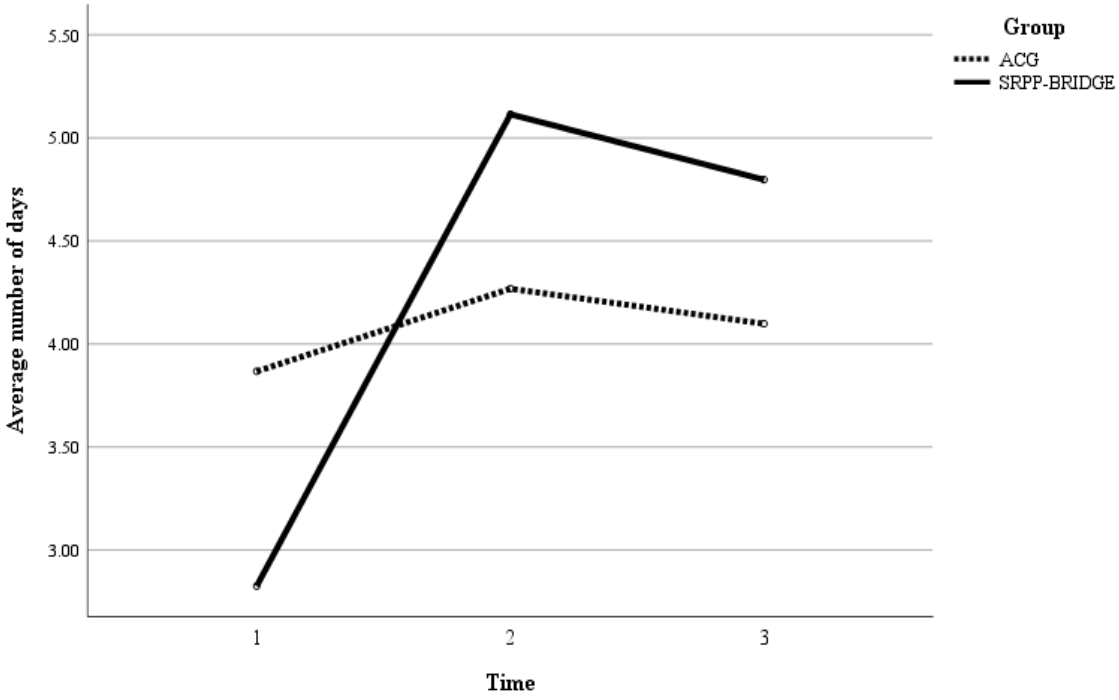


Figure 2. Time x group interaction effect on parent-reported home-based literacy involvement.

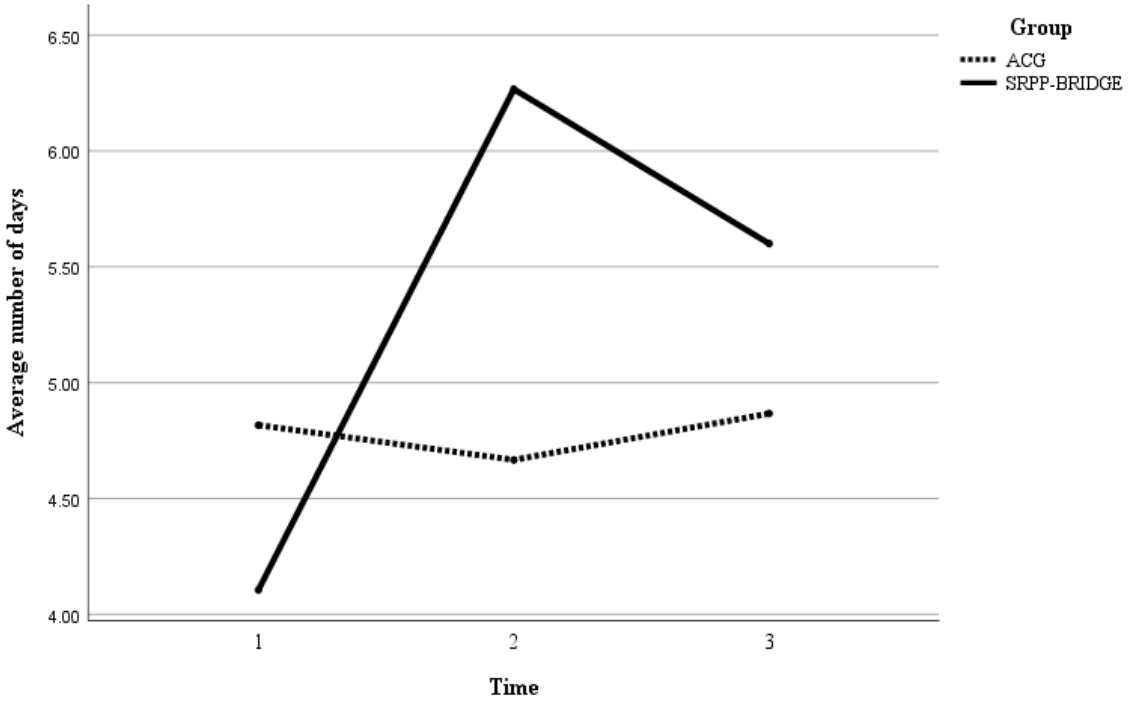


Figure 3. Time x group interaction effect on parent-reported home-based math involvement.

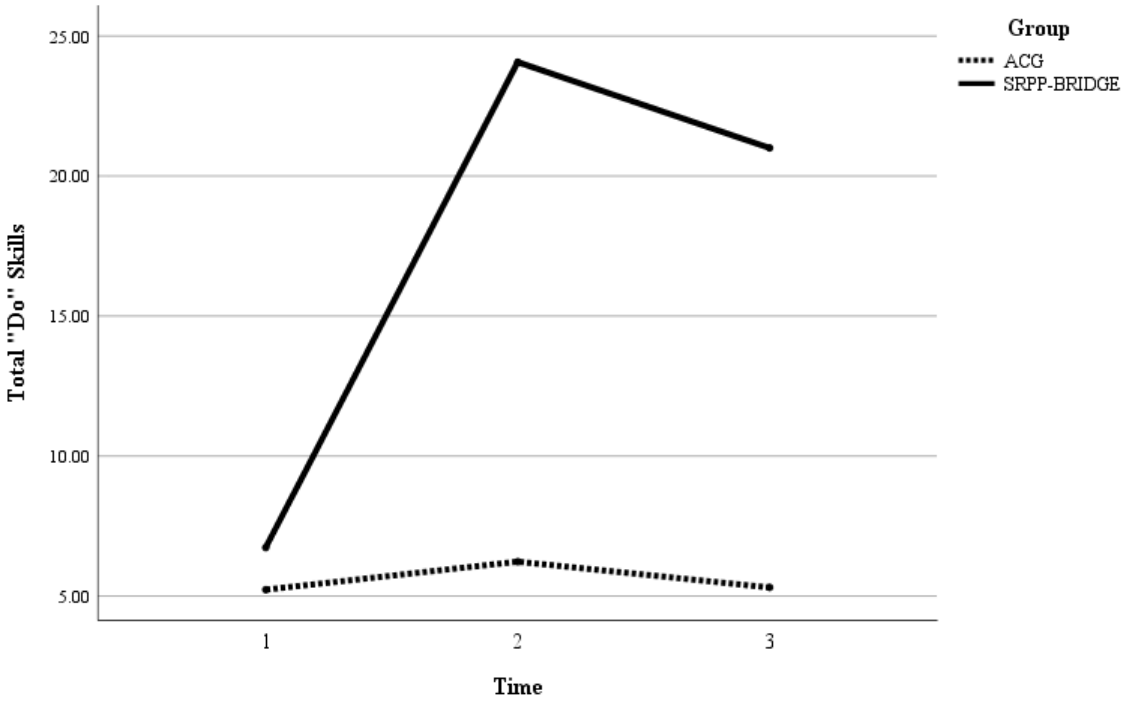


Figure 4. Time x group interaction effect on observed parent “do” skills.

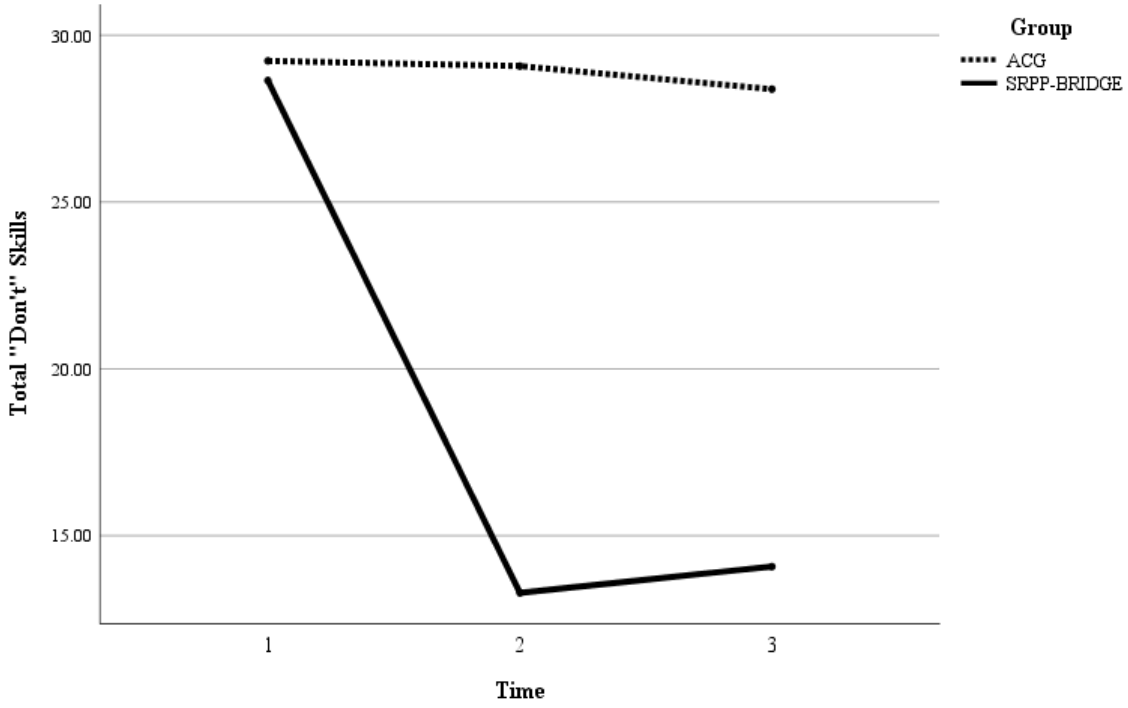


Figure 5. Time x group interaction effect on observed parent “don’t” skills.

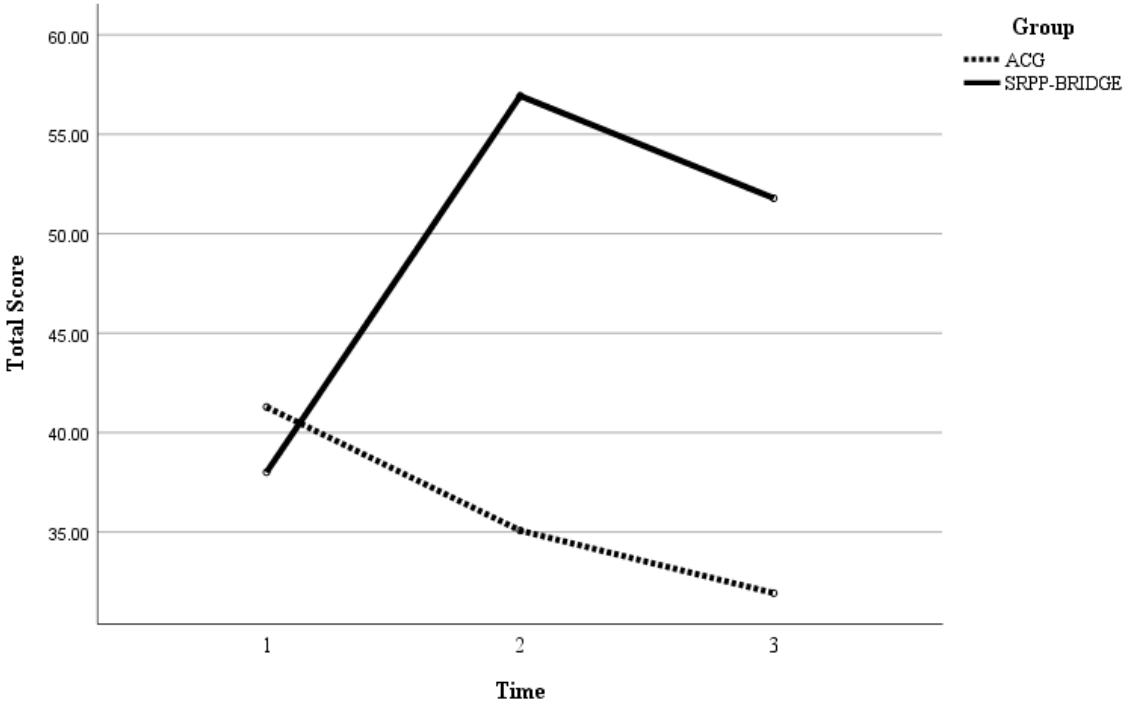


Figure 6. Time x group interaction effect on observed parent dialogic reading "do" skills.

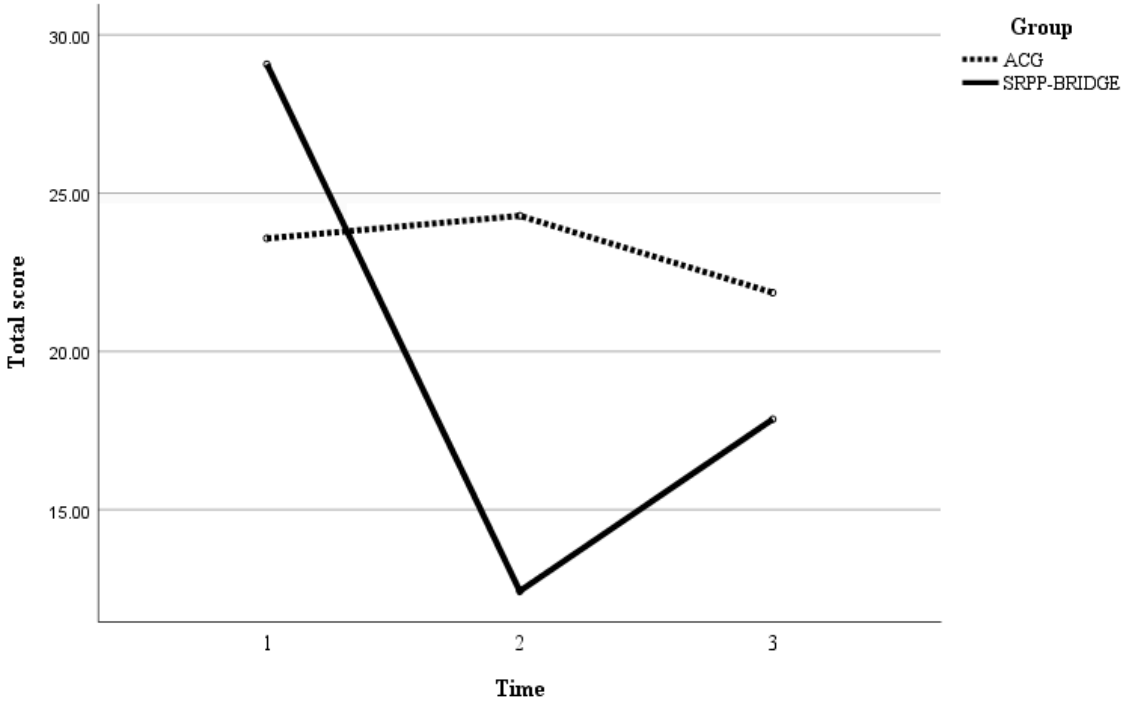


Figure 7. Time x group interaction effect on observed parent dialogic reading "don't" skills.

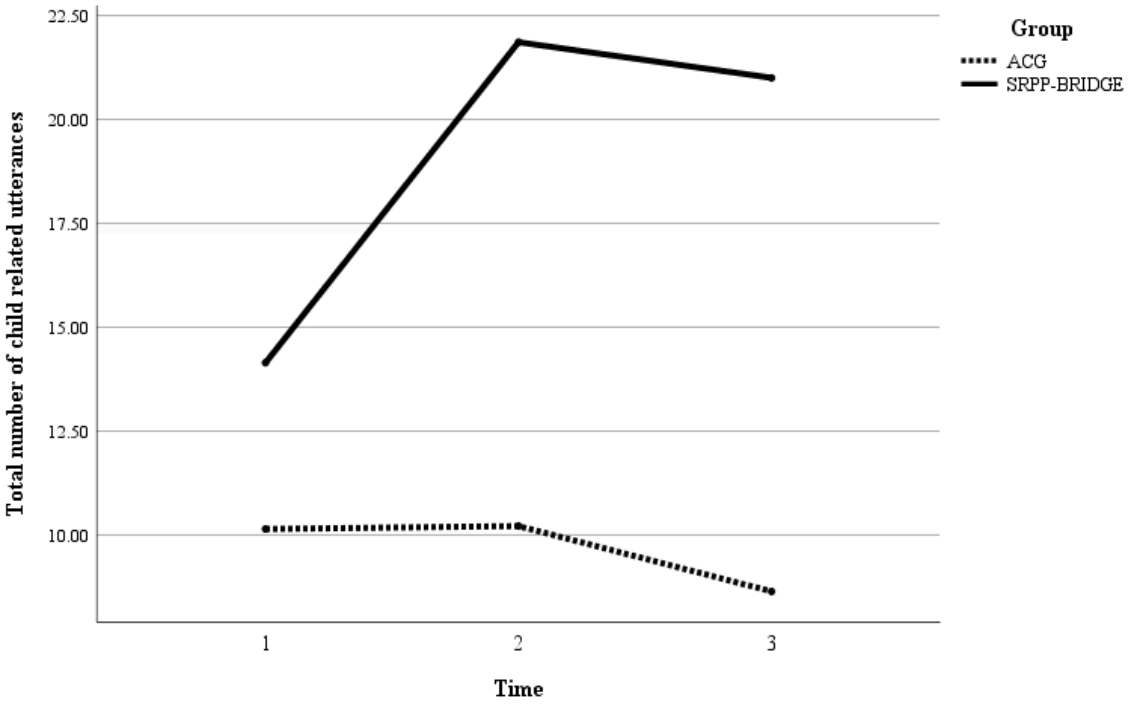


Figure 8. Time x group interaction effect on observed child related utterances.

VITA

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PUBLICATIONS AND SELECTED PRESENTATIONS

Zambrana, K.A. & Hart, K.C. (2022). Riesgo Y Resiliencia: Exploring the role of parenting stress and self-efficacy on young Latino children's well-being and home learning experiences during COVID-19. *Journal of Latinos and Education*.

Zambrana, K.A., Guaragna, I., Gutierrez, A.S., & Hart, K.C. (2021, November). *Building Bridges: Examining the acceptability, feasibility, and initial efficacy of a brief school readiness intervention for children transitioning to preschool during COVID-19*. In K. Hess (chair), Behavioral Interventions to Support Healthy Early Childhood: Home, Classroom, and Zoom-Room. Presented at the annual meeting of the Association for Behavioral and Cognitive Therapies, New Orleans, LA.

Zambrana, K. A., Hart, K. C., Maharaj, A., Cheatham-Johnson, R., & Waguespack, A. (2019). Latino Parent Involvement and Associations with Home Literacy and Oral Reading Fluency. *School Psychology Quarterly.*

Hart, K.C., Poznanski, B., Cheatham-Johnson, R., Zambrana, K.A., Gregg, D., Villodas F., & Villodas, M. (2019, November). *Evaluating the transportability of the STP-PreK to an authentic early childhood education setting for children living in urban poverty.* Presented at the annual meeting of the Association for Behavioral and Cognitive Therapies, Atlanta, GA.

Zambrana, K. A.*,* Hart, K. C., Graziano, P., Gregg, D., & Waguespack, A. (2019, October). *The role of home language in relation to executive function and oral reading fluency in young Latino children.* National Latinx Psychological Association Conference. Miami, Florida.

Zambrana, K. A., Hart, K. C., Gregg, D., Cheatham-Johnson, R., Waguespack, A., & Graziano, P. (2019, March). *Examining executive functioning and early literacy skills for young children at-risk for reading failure.* Poster presented at Society of Research in Child Development. Baltimore, MD.

Poznanski, B., Hart, K.C., Zambrana, K. A., & Graziano, P. (2019, March). *Early predictors of shared-book reading skill attainment for parents of preschool children with behavior problems.* Poster presented at Society of Research in Child Development. Baltimore, MD.

Maldonado, A., Gregg, D., Zambrana, K. A., Hart, K. C., & Waguespack, A. (2018, May). *The effects of a Tier 2 summer reading intervention program on literacy skills development for young children with Autism Spectrum Disorders and Developmental Delays.* Poster presented at American Psychological Association. San Francisco, CA.

Page, J., Constantino, J.N., Zambrana, K. A., M., Martin, E. R., Zhang, Y., Abbacchi, A. Tunc, I., & Messinger, D. S. (2016). Quantitative Autistic Trait Measurements Index Background Genetic Risk for ASD in Hispanic Families. *Molecular Autism*.

Zambrana, K. A., Hart, K. C. (2017, November). *Getting Latino parents involved: Parental perceptions of involvement and their implications for early intervention in literacy.* Poster presented at the Association for Behavioral and Cognitive Therapies. San Diego, CA.

Zambrana, K. A., Bouza, J., Shearer, R., & Gaona, P. (2015, March). *Buffering the effects of poverty on Head Start children: Dimensions of family involvement and Approaches to learning*. Poster presented at the Society of Research in Child Development. Philadelphia, PA.