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ORIGINAL PAPER

Teacher Perceptions of Preschool Parent Engagement: Causal Effects of a Connection-Focused Intervention

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Abstract

Background Strong connections between children's teachers and their parents fosters their learning and development in early childhood and throughout their schooling. Developing strong connections in preschool may ease the transition to elementary school for children.

Objective The goal of this study is to examine the initial implementation of the Kindergarten Transition Practices intervention, its impacts on parental engagement, and how these impacts varied by family race/ethnicity, maternal education, and children's behavior problems.

Method Children (N = 391) were randomly assigned to one of three groups: KTP-Classroom, where they received a classroom-level intervention; KTP-Plus, where they received both the classroom intervention and an additional home visiting component; or the business-as-usual control group. Transition Coordinators worked with both teachers and parents throughout the intervention to build connections between parents and their children's teachers and schools.

Results Results showed that the classroom intervention (KTP-Classroom) led to significantly higher levels of teacher-reported parent involvement and that, for Hispanic families, the classroom plus home visiting intervention (KTP-Plus) led to more positive teacher perceptions of parent involvement, parent-teacher relationships, and parent values.

Conclusions These findings suggest that connection-focused models may be one way to enhance parental engagement during preschool.

Keywords Teacher perceptions · Parent engagement · Connections · Home visiting

Introduction

Parent engagement has long been an emphasis within educational systems in the U.S. For example, Head Start has consistently emphasized the engagement of families since its inception in the 1960s. Current policies, such as the Every Student Succeeds Act, also

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emphasize the need to build positive connections between parents and their children's school experiences (Council of Chief State School Officers, 2017). This emphasis on parent engagement is grounded in a large literature that has shown that this engagement has benefits for young children's development (e.g., Galindo & Sheldon, 2012; Izzo et al., 1999). Engaging parents in preschool may be of critical importance, as early parent engagement often leads to higher levels of engagement in later years (Hayakawa et al., 2013). However, fostering parent engagement during the preschool years can be difficult, as parents and teachers alike have numerous responsibilities that may prevent them from being able to maintain engagement on a regular basis.

One model for enhancing parent engagement during preschool is the connection-focused model developed by Pianta and Kraft-Sayre (2003), which proposes that building connections is the key to helping children successfully transition to kindergarten. Using their work as a guide, we developed the Kindergarten Transition Practices intervention (KTP), a program that focuses on building connections among children, parents, teachers, schools, and the larger community during preschool through the transition to kindergarten. In this paper, we report findings from a randomized controlled trial of the effects of KTP on teachers' perceptions of parents' connections to their child's preschool in the spring prior to the transition to kindergarten among a sample of low-income, diverse families. Furthermore, we examine whether these impacts vary across family and child characteristics. Understanding intervention impacts on teacher perceptions is critical as numerous studies have shown these perceptions shape children's learning and development (e.g., Hayakawa et al., 2013; Thompson et al., 2017). Thus, this work provides evidence on a new model for strengthening teacher-parent relationships during formative years of children's schooling.

Parent Engagement During Preschool

Parent engagement in children's schooling broadly refers to parents' interactions with their children's learning environments (e.g., preschools) and their engagement with their children's learning at home (Goodall, 2013). Although some research focuses on parent involvement, we focus on parent engagement as it more accurately encapsulates the idea that dynamic interactions facilitate and shape parental participation, and recognizes that parental engagement is not solely determined by parents (Barton et al., 2004). For example, parent involvement is often used to refer to parent-initiated activities, such as attending an open house or calling a teacher. Parent engagement refers to a broader, bi-directional set of interactions that may include teachers' outreach to parents and schools' efforts to make all parents feel welcome in their classrooms, in addition to parent-initiated activities. A plethora of research highlights the importance of parent involvement and engagement to children's success in school. Although much of this research focuses on elementary or secondary school (c.f., Castro et al., 2015), numerous studies have linked parental involvement and engagement to children's academic success and social development during the preschool years (Arnold et al., 2008; Graue et al., 2004; Powell et al., 2010). Parental engagement is a multi-faceted construct that includes parents' engagement with their child's education in and outside of the school setting and communication and relationships between parents and school personnel (Barton et al., 2004).

Despite the importance of parental engagement, school-based aspects of engagement, as compared to home-based involvement, are challenging to change (DeLoatche et al., 2015). This is likely due in part to the myriad of barriers that families, particularly low-income and

minoritized families, face when trying to engage in their child's schooling (Lamb-Parker et al., 2001). For example, in their comprehensive model, Hornby and Lafaele (2011) identified family factors, child factors, parent-teacher factors, and societal factors as categories of the many barriers to involvement in schooling that families face. These categories encompass practical concerns, such as having inflexible work schedules and transportation challenges, and relational concerns, such as misalignment between parents' and teachers' goals (Hornby & Lafaele, 2011). Families from minoritized groups may face additional barriers, including language-related challenges (Hornby & Lafaele, 2011) and conflicting norms about the meaning of contacting teachers (Auerbach, 2007). Additionally, teachers may perceive them as being less engaged in their children's schooling, which in turn, reduces their ability to form meaningful relationships with their children's teacher (Quicho & Dauod, 2006). Although it is unreasonable to think that any intervention could remove all barriers, there have been randomized control trials that have focused on reducing some of these barriers with the goal of increasing parental engagement during preschool. For example, The Incredible Years Teacher Classroom Management training program targets teachers and includes content focused on bias(es) and attitudes regarding parent involvement, and has demonstrated change in teacher perceptions of parental involvement (Herman & Reinke, 2017; Thompson et al., 2017). In another example, Sheridan and colleagues (2012) examined a family-school-partnership model in which parents and teachers collaborated to develop educational plans for children with behavioral difficulties. Their results showed that not only did their model lead to more positive parent-teacher relationships, but that these improvements also translated into improved adaptive and social skills for children (Sheridan et al., 2012).

Similar to these interventions, we focus on teacher perceptions of parental engagement (Thompson et al., 2017). Teacher reports are of key interest as prior research indicates that teacher, but not parent, perceptions mediate intervention effects on children's behaviors (Sheridan et al., 2012) and have shown the strongest correlations to children's achievement (Reynolds, 1992). This is likely due in part to the fact that in addition to changing actual parent behaviors, interventions that focus on improving engagement and connections may reduce teacher biases and improve their attitudes surrounding parent involvement, which in turn has been shown to improve children's school success (McCoach et al., 2010; Thompson et al., 2017). For example, when teachers hold more positive views of parents, they may be more likely to reach out to parents when a child is struggling, which may facilitate children's learning and development (Iruka et al., 2011).

A Connection-Focused Approach to Increasing Parent Engagement

In light of this prior evidence, we posit that promoting a broad set of mechanisms to foster connections between families and schools can improve teachers' perceptions of parents' engagement, and ultimately, children's success in preschool and beyond. Thus, the Kindergarten Transition Practices intervention (KTP) involves implementing an array of practices throughout preschool designed to build connections and strengthen relationships among those most involved with children's schooling, including parents and teachers. KTP is guided by the notion that strengthening these connections will increase communication among key constituents across contexts and strengthen crucial relationships among school, family, and child. In particular, we focus on building connections between families who face economic disadvantage and their children's schools, as they are more likely to face

structural barriers that may pose challenges to creating strong connections. Although these families have connections and social capital within their community, this may not translate to the context that is typical of many school systems. By focusing on connections, we aim to strengthen the school-related social capital of parents and foster stronger communication between schools and parents.

The primary connection targeted by this intervention is that between families and schools, in part because of the large body of literature that highlights these relations are key to children's success. Additionally, research has suggested that these connections may be most beneficial for students from minoritized families (Behnke et al., 2004; LeFevre & Shaw, 2012). In addition to the literature referenced above, a number of studies focused on the kindergarten year also support the importance of connection building. For instance, kindergarteners' academic growth is accelerated when their parents have more contact with their teachers during the fall of kindergarten (Schulting et al., 2005). Other correlational work has shown that children have higher academic and social skills in kindergarten when their teacher perceives their parents as having positive attitudes towards schooling (Rimm-Kaufman et al., 2003). Taken together, this work shows that family-school connections can have positive effects on children's early academic trajectories and is thus, a key pathway through which we anticipate KTP impacting children and families.

KTP-Classroom: Changing the Preschool Environment

In light of this evidence, researchers and practitioners alike have sought to identify practices that teachers and parents can use to build successful relationships among those involved in children's early schooling. Most notably, Rimm-Kaufman and Pianta (2000) laid out a comprehensive framework, the Ecological and Dynamic Model of Transition, which focused on creating connections across the contexts children experience in the preschool and kindergarten years as a way of supporting children during their early experiences, and especially, across the transition to kindergarten. They conceptualize this process as involving bidirectional connections among teachers, other school personnel, families, peers, neighborhoods, and, of course, the transitioning child (see Table 1). Their model posits that children's transition to kindergarten is dependent upon the presence of positive, sustained connections across contexts and people while the child is in preschool and through the transition to kindergarten. Children who have strong bidirectional connections may experience a more positive transition for a number reasons, including (1) increased alignment of expectations across the home and school environments, (2) faster attention to problems as they occur due to increased parent-school communication and family engagement at school, and (3) more positive interactions between children themselves and the adults and peers around them.

To achieve these improved connections, KTP relies on practices that are manualized in Pianta and Kraft-Sayre's (2003) guide, *Successful Kindergarten Transition,* and which are designed to increase the quality of the connections that young children directly experience and the quality of the connections among key individuals around them. When designing KTP, we created two conditions, KTP-Classroom, in which research staff work with preschool teachers to foster connections with and across parents and children, and KTP+, which includes the classroom intervention but also adds a home visiting component.

In KTP-Classrooms, a number of practices are implemented that are explicitly designed to increase communication and collaboration between preschools and parents. For example,

Table 1 Connection Areas and Associated Kindergarten Transition Practices

As presented in Pianta and Kraft-Sayre (2003)	As examined in this study	Practices that can be used to develop connections
Family-School Connections	Parent-School Connections	1. Assess family needs
		2. Encourage family participation in the classroom and at school events
		3. Conduct family meetings about transition issues
		4. Coordinate sharing of information about individual children among the family, preschool teacher, and kindergarten teacher
		5. Conduct parent orientation, after preschool and kindergarten start
	Teacher-Parent Connections	1. Contact families during the first few days of preschool and kindergarten
		2. Maintain periodic contact with the family
		3. Conduct regular family meetings at schools
		4. Create newsletters and resource materials
Child-School Connections	Child-Teacher Connections	1. Establish a connection between the preschool child and kindergarten teacher
		2. Create a connection between the child and the kindergarten using specific school functions
		3. Have children practice kindergarten rituals in preschool
		4. Incorporate preschool activities into the kindergarten year
		5. Encourage the preschool teachers to stay in touch with former students
		6. Encourage kindergarten support staff to visit preschool children
Child-Peer Connections	Child-Peer Connections	1. Establish peer connections within the preschool class
		2. Establish peer connections outside of school
		3. Establish connections with peers who will be in kindergarten
		4. Establish preschool peer connections with kindergarten peers
		5.Coordinate group-based peer connections

Table 1 (continued)

As presented in Pianta and Kraft-Sayre (2003)	As examined in this study	Practices that can be used to develop connections
Community Connections	Parent-Community Connections	1. Build useful policies related to transition
		2. Foster inter-school collaboration about programs and classroom practices
		3. Identify and communicate curriculum and community expectations for children
		4. Create inter-school connections about a specific child
		5. Establish policy coordination through inter-agency connections
		6. Establish inter-agency connections
		7. Connect the family to community resources
—	Child-Parent Connections	1. Provide home learning materials (i.e. books and activity kits) for families
		2. Support families in their use of home learning materials
		3. Encourage family participation in home learning activities
		4. Provide families information on the developmental level of children
		5. Establish strong connections within families

The first subject listed in each connection is the primary subject of the connection

preschool teachers host a number of events throughout the year for parents and children, send home newsletters to parents monthly, and hold meetings to discuss the upcoming transition to kindergarten with parents. Teachers are supported in the design and implementation of these activities by an assigned "transition coordinator." We hypothesize that helping teachers provide these opportunities for connection-building will nurture positive teacher-parent relationships and positive teacher perceptions of parents.

KTP + : Building Connections Through Home Visiting

Although the classroom portion of KTP is designed to increase parents' engagement at their child's preschool, it may not be intense enough to build strong family-school connections, given its focus on the classroom and school-based activities. Thus, we developed KTP + , in which parents and children have access to all of the KTP-Classroom activities and the additional opportunity to participate in nine home visits: 5 during the preschool year, 2 during the summer before the transition to kindergarten, and 2 in the fall of kindergarten. Home visiting approaches, most notably the Informed Parent Program of Head Start REDI (Bierman et al., 2015), have been shown to positively impact children's adjustment to kindergarten. The Parent Program home visits focused on increasing parent support for learning and positive parenting regarding children's behavior. In contrast, KTP + has less of a 'skills focus' and instead relies on ecologically-informed practices to build relationships and connections in an effort to create strong, long-lasting influences on children and parents' schooling experiences.

Home visits are conducted by the same transition coordinators who also work with classroom teachers throughout the intervention. Each family in KTP + works with one transition coordinator throughout the intervention in order to foster trust and meaningful relationships between parents and transition coordinators. Each home visit focuses on a particular hypothesized connection (e.g., parent-teacher, parent-school) and aims to empower parents to engage in their children's schooling, through building connections with their child's teacher and school. Because of the intensity of KTP + , we hypothesize that parents assigned to this condition will be more engaged in children's schooling than those in the KTP-Classroom condition.

Heterogeneity in the Impacts of KTP on Home-School Connections

The overarching design of KTP is to improve connections during preschool and the transition to kindergarten for families who face economic disadvantage, as they are more likely to face significant barriers to building connections (Lamb-Parker et al., 2001). However, some families and children may experience more challenges than others. Thus, we examined whether or not there was heterogeneity in KTP impacts across families that may face different barriers to family-school connections. First, given the historical and continued institutional racism in our society and the fact that school personnel are largely White, minoritized parents may have a harder time building effective connections to their children's schools. For example, Nzinga-Johnson and colleagues (2008) found that African American and Latino families were less involved in their kindergartener's schooling, but that this was largely due to lower quality relationships between parents and teachers (Nzinga-Johnson et al., 2008). Minority immigrant parents of young children face

additional barriers, including feeling less welcome at their child's school and language barriers (Turney & Kao, 2009). Furthermore, inaccurate societal stereotypes about the involvement and participation of Latino parents in their child's schooling may lead teachers to interact with parents in ways that actually hinder their involvement and connection-forming behaviors (Quiocho & Daoud, 2006). Additionally, recent work has implicated mismatches in the racial and ethnic backgrounds between teachers and parents as a factor that limits parental involvement in Head Start programs (Markowitz et al., 2020).

Within-group gradients of socioeconomic status may also play a role. Families of low socioeconomic status may also face additional barriers to building connections, including logistical barriers, such as non-standard work hours, and more psychological barriers, such as lack of trust in teachers (Goddard et al., 2001). In fact, prior research has shown that parents with lower levels of education have less parent-teacher contact, are less involved in school, and have lower quality parent-teacher relationships when their children are in kindergarten and first grade (Kohl et al., 2000). Furthermore, teachers are more likely to report stronger relationships with parents of high income (Iruka et al., 2011). Although our sample was largely from low-socioeconomic status backgrounds, variability within this population may influence the effectiveness of the intervention.

Lastly, families of children with behavior problems may be more likely to experience barriers to building family-school connections. Children's behavior problems may cause tension in discussions and relationships between parents, teachers, and other school administrators (Sheridan et al., 2012); these tensions may lead to lower quality connections. In light of this prior evidence, we examine whether the effects of KTP vary by race/ethnicity, maternal education, and children's behavioral problems.

Method

Research Design and Overview

The present study reports findings from the first of two intended cohorts of 4-to-5-year-old children and their families participating in a 15-month kindergarten-transition intervention; the intervention spans the transition extending from pre-kindergarten through the winter of kindergarten. These initial analyses were conducted formatively using data from the preschool year to examine the extent to which the intervention is exerting effects on mechanisms crucial to the overarching theory of change. All study protocols were approved by the Ohio State University Institutional Review Board.

Participants

Classrooms. This study involved preschool classrooms in two large urban areas actively pursuing preschool expansion via various initiatives, with a particular focus in both areas to enroll children from traditionally underserved groups, including families experiencing poverty and financial hardship. A total of 52 classrooms in 29 programs were enrolled. Participating programs included two large urban public-school districts, a tri-county Head Start network, and a private child-care center in Ohio. About one-half (51%) of classrooms were full-day, full-week programs; 31% were full-day programs offering 4-day weeks; 13% were half-day programs offering 4-day weeks; and

4% were mixed enrollment with children attending different times and days in accordance with the needs of caregivers. The average class size was 13 children.

Teachers. The majority of teachers were female (98%) and had a 4-year college degree (87%). They averaged 16 years of teaching experience, with a range from 1 to 37 years. In terms of race/ethnicity, the teachers were predominantly White (84%), with 11% self-reporting as African American, 2% as Hispanic, and 4% as Other or Multi-Racial.

Children and Parents. Children within the participating classrooms were eligible to participate if: (1) the child was intended to matriculate to kindergarten in the forthcoming year; (2) the child was at least 4 years of age by August 1 of the preschool year; and (3) the caregivers provided informed consent. To identify the eligible sample, 'backpack mail' was sent home with all children in classrooms where teacher consent had been obtained. Consents were sent home three times during a three-week window to afford caregivers multiple opportunities to review study information and consent to their child's participation. Of all consents collected, children meeting the aforementioned eligibility criteria were identified as participants. Classrooms were required to contain at least two participating children in order to maintain study involvement. Those classrooms that did not meet the target of at least two participating children were invited to participate in future cohorts.

In total, 391 children across the 52 classrooms comprised the participants in this study; 55% were boys, 15% were receiving special-education services, and 11% were identified as English Language Learners. The children averaged 55 months of age (range 4–71 months) and were diverse in terms of race/ethnicity (44% African American, 30% White, 11% Hispanic, and 15% Other or Multiracial). The median annual household income reported was between $20,000 and $30,000. More specifically, 31% of caregivers reported an annual household income of less than $10,000; 47% of 10,000 to $40,000; and only 21% had annual household incomes exceeding $40,000. Ninety-six percent of households were reported to speak English as a primary language, with 3.6% also reporting a second primary language (1.8% were English–Spanish bilingual). Meanwhile, three percent of the households only spoke Spanish at home (Table 2).

Randomization. Prior to the start of the school year, and after teachers provided informed consent, each classroom was randomly assigned to one of two conditions: KTP or BAU (business-as-usual). Random assignment was stratified by district to ensure uniformity in assignment procedures. Random assignment initially occurred at the classroom level, with 26 classrooms assigned to KTP ($n = 191$ children) and 26 assigned to BAU ($n = 200$ children). Within the KTP classrooms, participants were then randomly assigned to receive only the KTP classroom-based interaction activities (KTP-Classroom; $n = 72$) or to also receive the supplemental home-visiting activities (KTP+; $n = 119$). Teachers were blinded to which condition children were assigned. After accounting for attrition and missing data in key variables, 22 classrooms were in KTP condition (52 children in KTP-Classroom and 82 in KTP+) and 23 classrooms were in BAU ($n = 144$ children). Table 2 summarizes the characteristics of teachers, classrooms, and children comprising the analytical sample by condition.

Table 2 *Descriptive statistics of the analytical sample by intervention condition (N = 278)*

	BAU		KTP		Test statistic	*p*
	n	%	*n*	%		
Teacher and classroom characteristics						
Sample size	23		22			
Teacher race and ethnicity:						
White non-Hispanic	13	86.7	14	73.7	3.28	.194
Black/other non-Hispanic	1	6.7	5	26.3		
Hispanic	1	6.7	0	0.0		
Teaching certification: Yes	11	73.3	11	57.9	.875	.350
Teacher's highest degree:						
High School/Associates	0	0.0	3	15.8	2.91	.233
Bachelors	9	60.0	8	42.1		
Graduate	6	40.0	8	42.1		
Program type:						
Full-day, 5-day a week	5	33.3	11	57.9	4.92	.177
Full-day, 4-day a week	6	40.0	7	36.8		
Half-day, 4-day a week	3	20.0	0	0.0		
Mixed enrollment	1	6.7	1	5.3		

	BAU		KTP class		KTP+		Test statistic	*p*
	n	%	*n*	%	*n*	%		
Child and family characteristics								
Sample size	144		52		82			
Gender: Female	65	45.1	25	48.1	36	43.9	.23	.892
Race and ethnicity:								
White non-Hispanic	41	28.5	18	34.6	22	26.8	5.64	.465
Black non-Hispanic	64	44.4	24	46.2	34	41.5		
Other non-Hispanic	25	17.4	3	5.8	15	18.3		
Hispanic	14	9.7	7	13.5	11	13.4		
Home primary language: English	136	95.1	48	92.3	79	96.3	1.10	.579
Maternal education:								
No high school diploma	17	11.8	9	17.3	12	14.6	3.12	.539
High school diploma/GED	97	67.4	29	55.8	48	58.5		
Two-year degree or higher	30	20.8	14	26.9	22	26.8		
Family annual income:								
$10,000 or less	53	36.8	17	32.7	21	25.6	4.44	.617
$10,001–$20,000	26	18.1	7	13.5	17	20.7		

	BAU			KTP			Test statistic	*p*
	M	*SD*	Range	*M*	*SD*	Range		
Teacher and classroom characteristics								
Teacher's years of experience teaching	13.47	10.00	3–32	19.76	12.52	1–37	2.43	.130
Teacher's years of experience teaching pre-K	10.13	8.88	2–25	14.87	11.36	2–36	1.62	.214

Table 2 (continued)

	BAU			KTP			Test statistic	*p*
	M	*SD*	Range	*M*	*SD*	Range		
Class size	12.53	4.09	6–20	11.58	5.86	3–19	.29	.596
Classroom composition:								
Percent of boys	52.30	21.45	0–100	52.95	22.07	14–100	.01	.932
Percent of ELL	17.41	35.54	0–100	10.29	23.75	0–100	.48	.495
Percent of IEP	13.04	17.36	0–55	18.48	27.30	0–100	.45	.507

	BAU			KTP class			KTP +			Test statistic	*p*
	M	*SD*	Range	*M*	*SD*	Range	*M*	*SD*	Range		
Child characteristics											
Age (months)	54.97	3.78	45–65	54.19	3.60	45–60	55.18	3.44	49–61	1.25	.289
Number of people in household	4.27	1.23	2–7	4.65	1.53	2–8	4.78	1.89	2–9 +	1.18	.312
Number of people under age 18 in household	2.62	1.08	1–5	2.85	1.35	1–6	3.04	1.77	1–8	.92	.402
Socio-behavioral skill:											
Task orientation	2.22	.94	.13–4.00	2.32	1.00	.25–4.00	2.43	.98	.63–4.00	2.32	.289
Behavior control	2.28	.93	.00–3.88	2.37	.93	.13–3.75	2.40	.95	.25–4.00	.48	.621
Assertiveness	2.63	.79	.38–4.00	2.65	.77	.63–4.00	2.59	.70	.88–4.00	.10	.906
Peer social skill	2.76	.83	.13–4.00	2.75	.91	.13–4.00	2.81	.82	1.13–4.00	.12	.883
Parental engagement scales (PTIQ)											
Parent involvement	1.33	.58	.00–3.14	1.57	.64	.57–3.57	1.57	.70	.00–3.43	5.10	.007
Parent-teacher relationship	2.66	.94	.00–4.00	2.65	1.02	.00–4.00	2.84	.94	.00–4.00	1.09	.336
Teachers' perception of parent values	2.52	.98	.00–4.00	2.68	1.17	.00–4.00	2.72	1.10	.00–4.00	1.15	.317

In the analytical sample there are 22 KTP classrooms, four of which contained only participants of KTP + condition due to the limited number of consented children (five or fewer) ANOVA (F test) was conducted for continuous variables and χ^2 test for categorical variables Children's socio-behavioral skills were rated by teachers at fall

BAU = business-as-usual. KTP = kindergarten transition practices. PTIQ = Parent-Teacher Involvement Questionnaire (Kohl et al., 2000)

Kindergarten Transition Practices Interventions

In classrooms assigned to the KTP condition, transition coordinators worked with teachers to help them implement a range of connection-focused kindergarten transition practices over the academic year (see Table 3) whereas those in the BAU condition were asked to maintain their typical classroom practices. Study activities in KTP classrooms were facilitated by five transition coordinators (TCs), each of whom was assigned approximately five classrooms. The intervention was designed to build connections regardless of program type (e.g., school-based, private, Head Start) and program length (e.g., full day, half day, full week). As described below, the program had inherent flexibility that allowed program elements to be completed in ways that worked best for programs and families.

Across both KTP conditions, the TCs were primarily responsible for implementing the intervention and directly worked with teachers and parents. The TCs were employed by the project, but the role was envisioned as one that could be employed by schools and centers in the future. There were 4 TCs who each had an assigned group of classrooms and families that they worked with throughout the year. Of these TCs, all were female, 3 were White, and 1 was African American. Additionally, 1 TC was fluent in Spanish and assigned to the geographic region with the most Spanish-speaking families. We also had a "floating" TC who was not directly assigned to families but could provide assistance when needed and was also fluent in Spanish. TCs were recruited from the areas the project was being implemented and experience with schools and families was a primary piece of hiring criteria. This led to a team that all had a bachelor's degree and former experience working in school settings. Two were former teachers and two had prior experience implementing

Table 3 Number of Classrooms and Students Receiving Kindergarten Transition Intervention Activities

Intervention Piece	No. of classrooms	No. of children
Open House	25	85
Winter Gathering	25	124
Winter Transition Workshop	24	66
Spring Gathering	25	80
Spring Transition Workshop	24	113
Center time Peer Groupings	13	91
Kindergarten Rituals Lessons	25	191
Transition Visits-		
Kindergarten Teacher Preschool Visit	23	175
Kindergarten Student Preschool Visit	23	168
Preschool visit to Kindergarten	22	169
Home Visits		
Home Visit 1 -November	–	95
Home Visit 2 -January	–	82
Home Visit 3- March/April	–	75
Home Visit 4-May	–	67
Home Visit 5- June	–	47

Home visits were only for select students. Originally there were 112 students receiving home visits, due to attrition by the end of the year there were 92 still enrolled

home visits. All TCs undertook extensive project training delivered through six hands-on modules which included training on topics such as using strengths-based approaches, cultural competence, appropriate conduct when visiting homes, mandatory reporting protocols, and supporting teachers.

KTP-Classroom intervention. In KTP classrooms, a broad range of practices were implemented with teachers, with high levels of support from their assigned TC. At the start of the school year, TCs conducted an orientation meeting with each teacher assigned to the intervention condition where they provided information on study aims, reviewed a timeline of intervention activities, and began initial planning. TCs then held monthly meetings with each teacher to collect and review teacher logs of interactions with parents across the month, discuss the challenges and successes associated with recent intervention activities, discuss any supports that the teacher needed from the TC, and plan for upcoming tasks and events. TCs also attended the intervention events and provided other supports the teachers needed, such as helping them modify activities to work for their classroom or coordinating activities at the parent events. The practices implemented by teachers and TCs were aligned to those described in Successful Kindergarten Transition (Pianta & Kraft-Sayre, 2003) and are presented in Table 1. Many practices for this intervention focused on building connections between parents and schools, including multiple gatherings at the school for parents (open house in the fall, winter and spring gatherings) and workshops for parents to help them focus specifically on preparing for the kindergarten transition, and sending home monthly personalized newsletters (Spanish translations were provided to participants upon request). Other activities focused on directly preparing children for the transition to kindergarten. These included exchanges between preschool and kindergarten classrooms and a set of structured whole-group lessons in the spring of the year focused on the kindergarten transition. See Appendix A, Table 6 for more detail. To the extent possible, these activities were developed to align to the practices specified in the manual (Pianta & Kraft-Sayre, 2003), although in some cases we needed to more specifically manualize a given practice. Therefore, specific procedures for activities in the manual were developed by the research team and were then provided to teachers for implementation with the support and guidance of their assigned TC.

In executing the transition practices across the KTP classrooms over the academic year, there was considerable variability across classrooms regarding the extent to which a given practice was feasible or could be implemented as intended. For instance, some preschool classrooms were located quite far from an elementary school, and it was not possible to arrange a visit to kindergarten for the preschool children. Likewise, some preschool classrooms already engaged in some transition practices (e.g., holding an open house) and teachers viewed an additional open house as superfluous. Consequently, throughout the year of implementation, the research team approached these issues as flexibly as possible, for instance, allowing reasonable substitutions and/or modifications to be made to a given practice (e.g., combining a parent transition workshop with another class, or altering content to better suit the needs of families). We adopted this approach based on the manual's emphasis that transition support strategies should be tailored to the individual needs of families and schools (Pianta & Kraft-Sayre, 2003). Also, in some instances it was not possible to implement a given activity in a classroom. For example, when implementing center time groupings, some schools had administrative policies that disallowed instructing children with which peers they must play. As a result, classrooms within these schools did not complete the special groupings intervention activity at center time.

KTP + condition. Children randomized to the KTP + condition received five home visits across the preschool year by the assigned TC. Additional home visits were conducted

after the preschool year, during the summer preceding kindergarten and fall of kindergarten; however, because these occurred after the outcome of interest in this study was measured, we do not discuss these further). On average, visits were 45 min in duration. Visits were scheduled by the family's TC via the parent's preferred method of contact. In addition, TCs made attempts to schedule subsequent visits at the completion of each home visit session. Reminders were sent by TCs prior to each visit in an effort to maintain participant involvement.

The first two home visits centered around TCs establishing rapport with caregivers and completing a strength and needs assessment to ultimately "develop a family plan of support" (Pianta & Kraft-Sayre, 2003, p. 42). Each remaining home visit was designed to address a specific connection as overviewed in the Successful Kindergarten Transition manual (See Appendix A, Table 7 for more detail). As manualized in Successful Kindergarten Transition, TCs also used visit sessions to review school involvement opportunities and to encourage parent-school and parent-teacher connections with participants. In addition, each remaining home visit contained a home-learning activity component that included books and resources for fostering kindergarten readiness, related to the connection focus. TCs overviewed suggested activities and provided support to families as needed to ensure comfort with the use of at home learning materials. Similarly to the teacher intervention, the home visits were tailored to meet the needs and requests of the parents, with the ultimate goal of increasing connections.

Fidelity to intervention engagement was measured in two primary ways (see Table 3). First, classroom event completion rates and attendance were recorded by TCs throughout the school year. On average, 23 classrooms completed each event, with a total of 229 events being held over the course of the year. Attendance at parent engagement intervention events averaged four participating children and their families. At classroom-based child-focused intervention activities, such as peer groupings, attendance averaged seven participating children per activity.

Second, TCs recorded families' completion of KTP + home visits. Home visit completion rates across the KTP + condition varied; families completed 3.4 visits on average (range 0–5) and 54% of the sample completed all five visits. As can be seen in Table 3, the transition workshops and gatherings were held in the majority of classrooms; however, the majority of children and families were not in attendance. In addition, it appears that for KTP + children home visit numbers declined over the course of the preschool year. As with many large-scale classroom-based interventions, fidelity did not achieve the gold standard of implementation and there was a high level of variability across classrooms (Bleses et al., 2018). Thus, the present study represents intervention effects achieved in less-than-ideal implementation that potentially mimics how real-world implementation of these activities would look.

Business-as-Usual condition. Teachers in the BAU condition were asked to maintain their typical approach to pre-kindergarten instruction over the academic year. To address potential Hawthorne effects (i.e., participants changing behaviors solely due to awareness of being in a study), BAU teachers completed study activities that paralleled those in the treatment condition, to include receiving incentives, having observations conducted in their classrooms, completing study measures for their students, and completing a monthly electronic log overviewing the activities being conducting with children in their classroom to support the transition. This ensures that changes in teachers' beliefs and behavior are related to the specifics of the intervention (e.g., hosting events with transition coordinators) and not to general enrollment in the study.

Measures

Parent engagement. The primary measure of interest for the current study was parental engagement, measured by Parent-Teacher Involvement Questionnaire (PTIQ, Kohl, Lengua, McMahon, & Conduct Problems Prevention Research Group, 2000). Although we aimed to have information on this from both parents and teachers, we only conducted models on teacher report due to high (55%) missing data on our parent reported measure. In the spring of the school year, teachers responded to 19 items about the amount, type, and quality of parental engagement on a five-point Likert-type scale (0–4). It has been recommended that analysts conceptually or empirically identify subscales of PTIQ for their specific application, as item behavior may vary in different subpopulations ("Parent and Teacher Involvement Measure—Teacher," n.d.). Thus, we used a subset of 15 items (four items removed based on a priori theoretical reasons) and conducted factor analyses to identify three constructs of interest, which taken together, represent parental engagement. Composite scores for each of the three subscales were then created by averaging across the items.

Teacher perceptions of parent involvement. Seven items ($\alpha = 0.73$) examined teachers' perceptions of parents' involvement in the child's schooling, such as whether the teacher and caregiver had exchanged written correspondence and whether the caregiver had visited the school for various reasons, including volunteer activities.

Teacher-parent relationship. Four items ($\alpha = 0.87$) examined the teachers' perceptions of their relationship with the caregiver, such as whether the teacher would feel comfortable reaching out to the caregiver to address a child's problem behaviors, and whether the teacher feels s/he can talk earnestly with the caregiver.

Teachers' perception of parent values. Four items ($\alpha = 0.94$) examined the teachers' perceptions of the caregivers' values relevant to the child's schooling, such as whether the caregiver has goals regarding their child's education that are similar to those of the school, and whether the family values education.

Covariates and Moderators. Several measures were used to serve as moderators in the analyses. Note that all moderators also served as covariates in our primary regression models as well.

Demographic variables. Child and family demographics were assessed using caregiver-report surveys during the fall of the school year. Our demographic moderators are parent reports of children's race/ethnicity (non-Hispanic African American, Hispanic, non-Hispanic White, Other) and parental education (no high school degree, high school degree, any college degree). For race/ethnicity, parents reported on their child's race and then separately on their ethnicity. Because of small sample sizes, we collapsed children who were Asian or Asian American, Native Hawaiian or Pacific Islander, or other races into a singular category. In this paper, we use the term Hispanic as this was the term used in the parent survey. We used income quartiles to capture family income and include this as a covariate, but not a moderator due to limited variability. Families in the lowest quartile reported less than $10,000 in annual income, followed by $10,000–$20,000, $20,001–$40,000, and above $40,000.

Behavior control. Behavior control is one of the four subscales from the Teacher–Child Rating Scale (T-CRS), a 32-item scale measuring teachers' perceptions of children's social and behavioral skills (Hightower et al., 1986). Comprised of eight items, the Behavior Control subscale was designed to evaluate teachers' perception of the child's ability to refrain from disruptive behaviors and tolerate frustration. Sample items include statements such as

"this child disturbs others while they are working" and "this child accepts imposed limits." During the fall teachers rated each item on a five-point on a five-point Likert type scale from 0 (strongly disagree) to 4 (strongly agree), and ratings were averaged across the items to create a composite score. In the analytical sample the reliability coefficient was 0.90, indicating evidence of good reliability.

Analytical Approach

Prior to conducting the primary analyses, we examined initial equivalence across the study conditions on select variables using Chi square tests (for categorical data) and ANOVA (for continuous data). Variables tested included child and family characteristics collected through parent survey (age, gender, race and ethnicity, home language, mother's highest level of education completed, family income, household size), teacher characteristics (race and ethnicity, certification status, years of experience), classroom features (class size, program type, classroom composition) as well as teachers' ratings of children's socio-behavioral skills in the fall of preschool (task orientation, behavior control, assertiveness, and peer social skills).

Multilevel analyses were conducted to estimate the impacts of KTP intervention, relative to BAU, on teacher-rated parent involvement, parent-teacher relationship, and parent values in the spring of preschool. Level-2 model included a random term of teacher effect to control for the rater bias as well as classroom differences. First, main-effects models were run without covariates (Model 1) and with covariates (Model 2). Covariates included demographic characteristics (race, ethnicity, maternal education) and children's behavior control ratings. Then, models with interaction terms were conducted to test whether the intervention effects of KTP were moderated by (1) race and ethnicity (Model 3); (2) maternal education (Model 4); and (3) children's behavior control (Model 5). Given the small number of level-2 clusters and the non-normal distribution of model residuals, bootstrap method was used to obtain standard error estimates with 1000 samples. Besides statistical significance, effect sizes (Cohen's *d*) were also reported for main effects in accordance with the What Works Clearinghouse recommendations (Institute of Education Services, 2017). Per the rule of thumb (Cohen, 1988), an effect size as measured by *d* is considered small if it is between 0.2 and 0.5, medium if it is between 0.5 and 0.8, and large if it is larger than 0.8.

Missing Data

Out of our original sample of 391 children, 89 children attritted from the study by the end of the first year: 58 withdrew because their teachers dropped out of the study; 22 moved to another school or school district; two withdrew from preschool and stayed home for the remainder of the school year; three withdrew because their parents no longer want them to participant in the study; one moved to another preschool classroom in the same school; one was transferred to kindergarten; and two were removed from preschool due to low attendance. Compared to the participants in the analytical sample ($N=278$), those excluded from the analyses due to attrition ($N=89$) or missing data in key variables ($N=24$) were not significantly different in child-level characteristics, including gender, age, race, ethnicity, home language, family income, maternal education, and disability status. The children in the analytical sample and those in the excluded sample were also comparable in all

socio-behavioral domains rated by their teachers. At the classroom level, attrition was not related to intervention conditions, teachers' race and ethnicity, program type, class size, or classroom composition. However, teachers' level of education, certification status, and years of teaching experience positively predicted probability of retention ($p < 0.05$). Missing data in the analytical sample were handled using multiple imputation (20 imputed datasets) with Blimp 1.0.3 (Keller & Enders, 2017).

Results

Initial Equivalence of Study Conditions

Teacher and classroom characteristics were compared between BAU ($N = 23$) and KTP ($N = 22$) classrooms, while differences in child and family characteristics were tested across children assigned to BAU ($N = 144$), KTP class ($N = 52$) and KTP + ($N = 82$) conditions. Descriptive data and results of statistical tests are presented in Table 2. As shown in the table, no significant differences were detected between BAU and KTP conditions for any of the teacher- or classroom-level variables. Moreover, children in BAU, KTP class or KTP + did not differ significantly in demographics, family background, or teacher-rated socio-behavioral skills prior to the start of the intervention. Therefore, initial equivalence between study conditions was established.

Main Effects of KTP Intervention on Teacher Perceptions of Parent Involvement, Parent-Teacher Relationships and Parent Values

Main effects of the KTP intervention were assessed using multilevel regression models, first without covariates (Model 1) and then with covariates (Model 2). The effects of classroom-level implementation of KTP as well as the child-level intervention of KTP + within the KTP classrooms were evaluated simultaneously, as shown in Table 4. The results were stable whether the analyses were conducted with or without covariates. In the text below, the more conservative estimates yielded by the two sets of analyses are reported.

The intraclass correlation (ICC; generated from the empty/unconditional model), which represents between-classroom variance in outcomes, was high for parent involvement (53.5%) and moderate for parent-teacher relationship (18.1%) and parent values (22.6%). KTP conditions accounted for an extra 7.2% of variation in parent involvement, but only 1.4% and 1% of additional variance in parent-teacher relationship and parent values respectively. Specifically, classrooms assigned to the KTP condition had significantly higher levels of teacher-reported parent involvement compared to BAU classrooms ($b = 0.23$ on a five-point scale, $d = 0.37$, $p = 0.004$). No significant differences between conditions were detected in parent-teacher relationship and parent values, although when effects sizes were examined, families assigned to KTP + condition received somewhat higher ratings in parent-teacher relationship compared to their counterparts ($b = 0.22$, $d = 0.23$, $p = 0.164$).

KTP Effects Moderated by Race/Ethnicity, Maternal Education, and Behavior Control

After controlling for covariates, we further tested whether the effects of classroom-level KTP intervention and child-level KTP + components were moderated by race and ethnicity

Table 4 Examining the impacts of KTP: Main effects models

Parameter	Parent Involvement						Parent Teacher Relationship						Parent Values					
	Model 1			Model 2			Model 1			Model 2			Model 1			Model 2		
	Est	*p*	*d*	Est	*p*	*d*	Est	*p*	*d*	Est	*p*	*d*	Est	*p*	*d*	Est	*p*	*d*
KTP (classroom-level)	.24	.005	.38	.23	.004	.37	.00	.896	.00	−.01	.936	−.01	.04	.771	.04	.02	.897	.02
KTP+ (child level)	.03	.708	.05	.03	.695	.05	.23	.164	.24	.22	.192	.23	.19	.301	.18	.16	.352	.15
Race and ethnicity																		
Black non-Hispanic				−.14	.161					−.34	.044					−.14	.408	
Other non-Hispanic				−.13	.165					−.20	.343					−.01	.947	
Hispanic				−.14	.209					−.25	.231					−.11	.612	
Maternal education																		
High school diploma				.06	.532					.02	.901					−.01	.977	
College degree				.21	.083					.17	.440					.23	.256	
Income quartile				.01	.851					.08	.162					.22	.001	
Behavior control				.01	.327					.02	.812					.05	.445	

The reference category for maternal education is no high school diploma. The reference category for race and ethnicity is white non-Hispanic. Income quartiles: Q1 = $10,000 or less, Q2 = $10,001–$20,000, Q3 = $20,001–$40,000, Q4 = $40,001 or higher

Est. = parameter estimates; *d* = effect size

(Model 3), mothers' highest level of education completed (Model 4), and children's behavior control skill (Model 5). Results are summarized in Table 5.

While no significant interaction was detected between intervention conditions and maternal education or behavior control, race/ethnicity was found to significantly moderate the effects of KTP+. Specifically, KTP+, as implemented at the child-level, had more positive effects for Black, non-Hispanic families on parent involvement than for white non-Hispanic families ($p=0.014$). Moreover, Hispanic families benefited the most among all race/ethnicity groups from KTP+intervention ($p<0.05$ for all outcomes). Figure 1 displays the marginal means of parental engagement measures estimated from Model 3 by race and ethnicity groups. Tests of simple effects showed that Black, non-Hispanic families assigned to KTP conditions received higher ratings in parent involvement than those in BAU (KTP class: $b=0.22$, $p=0.079$; KTP+: $b=0.39$, $p=0.001$). For Hispanic families, those assigned to KTP+condition outperformed those assigned to BAU condition in all three aspects of parental engagement (parent involvement: $b=0.64$, $p=0.003$; parent-teacher relationship: $b=1.12$, $p=0.001$; parent values: $b=1.22$, $p=0.001$).

Discussion

Parent engagement in preschool provides a powerful advantage for students in both the short- and long-term (Arnold et al., 2008; Galindo & Sheldon, 2012; Izzo et al., 1999; Powell et al., 2010), and is fostered by strong connections. However, both teachers and parents face barriers to developing these connections (Hornby & Lafaele, 2011; Lamb-Parker et al., 2001). In light of these challenges, we tested a model focused on building connections between families, schools, and children. Our initial findings reveal that intervening to strengthen these connections can impact teachers' perceptions of parents' involvement and relationships at their child's preschool. This suggests that connection-focused models may be one way to enhance family engagement during preschool.

Our full sample models showed that parents assigned to KTP-Classroom were perceived as being more involved in their child's schooling than parents in the control group. This is not surprising as part of the intervention involved creating more opportunities for parent involvement at preschool, although the effect size (0.38) is relatively large. However, impacts were not found for parent-teacher relationships or parent values. These aspects of teachers' perceptions about parental engagement may be less malleable than parent involvement. The parent involvement subscale included items that were relatively objective and focused on how often the caregiver engaged in specific interactions with the school and the teacher. On the other hand, both the parent-teacher relationship and parent values subscales were somewhat more subjective than teacher perceptions of parents, which include items about how comfortable the teacher feels talking to the caregiver and how important the teacher thinks education is within the family. These aspects are likely driven at least partially by initial impressions, and may be more difficult to change even as parents' actual behavior changes across the school year. However, it is promising that the more objective parent involvement factor was impacted by intervention, and it is possible that if parents begin the following kindergarten year with higher levels of involvement, teachers' perceptions of the parent-teacher relationship and parent values would be higher as well.

Importantly, our interaction models revealed that KTP positively impacted all three parent engagement outcomes for Hispanic families. In particular, Hispanic families in the

Table 5 Examining the impacts of KTP moderated by race, maternal education, and behavior control

Parameter	Parent Involvement						Parent Teacher Relationship						Parent Values					
	Model 3		Model 4		Model 5		Model 3		Model 4		Model 5		Model 3		Model 4		Model 5	
	Est	*p*	Est	*p*	Est	*p*	Est	*p*	Est	*p*	Est	*p*	Est	*p*	Est	*p*	Est	*p*
KTP (classroom-level)	.31	.043	.55	.016	.14	.485	−.06	.807	.51	.140	−.03	.925	−.04	.864	.49	.144	−.20	.674
KTP + (child level)	−.32	.042	.01	.967	.15	.485	−.11	.721	−.26	.427	.41	.384	−.21	.515	−.19	.569	.29	.575
Race and ethnicity																		
Black non-Hispanic	−.23	.149	−.15	.060	−.14	.165	−.50	.054	−.37	.029	−.34	.057	−.30	.274	−.16	.330	−.14	.425
Other non-Hispanic	−.13	.322	−.13	.169	−.13	.160	−.38	.181	−.22	.285	−.21	.311	−.22	.472	−.02	.922	−.02	.941
Hispanic	−.36	.023	−.15	.142	−.15	.178	−.73	.020	−.27	.157	−.25	.216	−.62	.033	−.15	.503	−.13	.564
Maternal educated																		
High school diploid	.05	.610	.25	.036	.06	.499	.02	.919	.17	.496	.02	.892	−.03	.882	.13	.595	−.01	.967
College degree	.17	.145	.39	.010	.20	.088	.17	.433	.32	.315	.17	.415	.25	.245	.53	.105	.23	.254
Income quartile	.01	.645	.01	.776	.01	.772	.09	.137	.08	.150	.09	.146	.22	.002	.21	.002	.22	.001
Behavior control	.03	.321	.03	.379	.03	.556	.01	.889	.02	.802	.03	.718	.05	.443	.06	.433	.02	.817
Interactions																		
KTP*Black	−.09	.729					.03	.939					.11	.780				
KTP*Other	−.38	.233					.76	.165					.38	.398				
KTP*Hispanic	.02	.931					.15	.775					−.01	.994				
KTP + *Black	.49	.013					.39	.291					.25	.473				
KTP + *Other	.48	.118					−.45	.391					.11	.799				
KTP + *Hispanic	.62	.027					1.14	.017					1.48	.011				
KTP*High school			−.34	.106					−.60	.144					−.49	.243		
KTP*College degree			−.44	.073					−.67	.174					−.80	.113		
KTP + *High school			−.03	.880					.56	.177					.41	.333		
KTP + *College degree			.16	.533					.66	.153					.48	.316		
KTP*Behavior control					.04	.671					.01	.965					.10	.608

Table 5 (continued)

Parameter	Parent Involvement						Parent Teacher Relationship						Parent Values					
	Model 3		Model 4		Model 5		Model 3		Model 4		Model 5		Model 3		Model 4		Model 5	
	Est	*p*	Est	*p*	Est	*p*	Est	*p*	Est	*p*	Est	*p*	Est	*p*	Est	*p*	Est	*p*
KTP + *Behavior control					− .05	.569					− .08	.666					− .06	.787

The reference category for maternal education is no high school diploma. The reference category for race and ethnicity is white non-Hispanic. Income quartiles: Q1 = $10,000 or less, Q2 = $10,001–$20,000, Q3 = $20,001-–40,000, Q4 = $40,001 or higher. Est. = parameter estimates

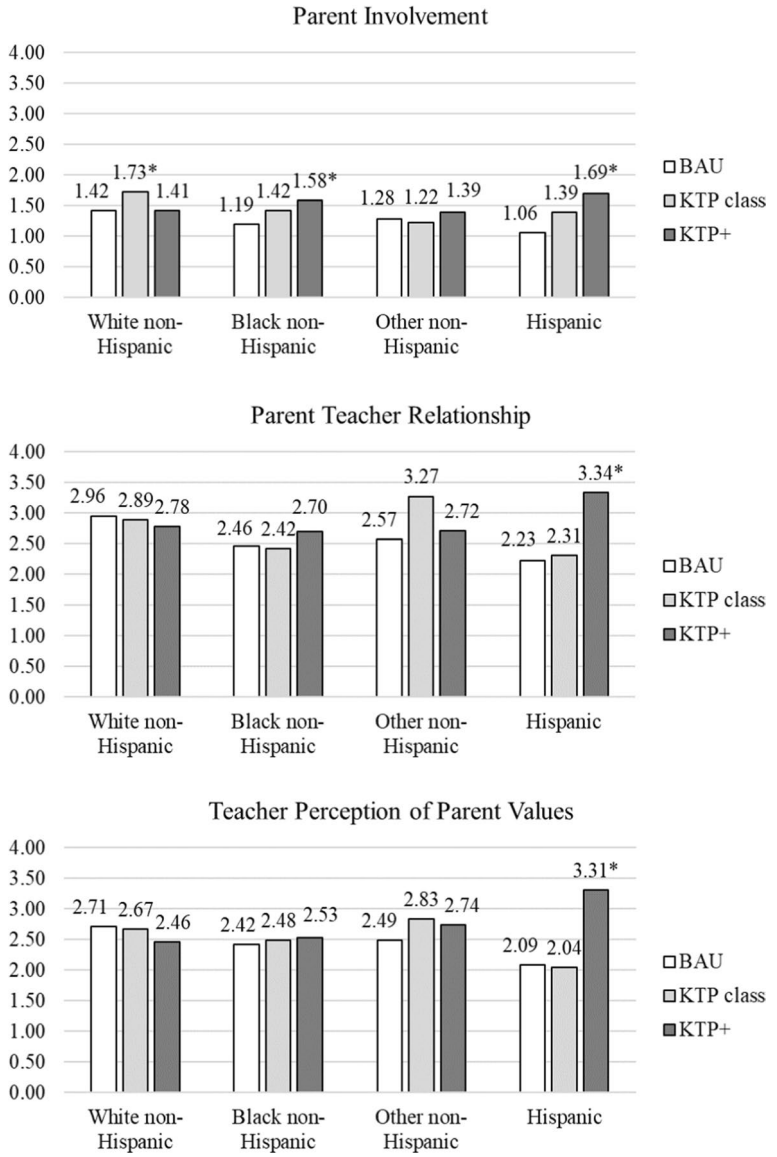

Fig. 1 Estimated parental engagement levels for BAU, KTP, and KTP + families (Model 3) Significant differences ($p < .05$) between intervention conditions and BAU as identified by simple tests of interaction were indicated by asterisks (*).

KTP + condition that included a home visiting component benefitted the most. These findings are critical in light of the number of barriers Hispanic parents face when engaging in their children's schooling, due to both structural racism present in our educational system, and the fact that school personnel are likely to be White (as was the case in this intervention). Indeed, prior research has documented that Hispanic families face significant barriers to school involvement (Crosnoe & Kalil, 2010) and that while they are often involved in their children's schooling, it is more likely to through engagement at home, which teachers may not see (LeFevre & Shaw, 2012). Although the KTP intervention was not designed to specifically address these barriers, the intervention was implemented in ways that may be of particular benefit to Hispanic families. For instance, newsletters were translated and sent home in Spanish to Spanish-speaking families. Additionally, some home visits took place in Spanish, if the family preferred it and their transition coordinator spoke the language. It is plausible that providing these additional supports did indeed help build connections between teachers and Hispanic parents, which in turn, shaped teacher perceptions of parents.

Notably, our results suggest that the KTP + intervention, which included home visiting, improved connections among Hispanic families. Although the activities included in the KTP-Classroom intervention targeted both children and parents, parent attendance at the events was inconsistent and barriers such as work schedules may have lowered participation. On the other hand, although home visits also failed to achieve high levels of fidelity, for those families that participated the one-on-one interactions that occurred within home visits may have still served to increase parent engagement at the school. The individualized nature of the KTP + home visiting approach may be a vital ingredient leading to these positive impacts. During home visits, transition coordinators sought to understand the individualized barriers to school involvement that families were experiencing and help brainstorm solutions and alternative approaches. This finding is novel as many existing home visiting programs are primarily skills focused and these data show that building connections may also be a fruitful avenue for improving families' connections to schools. The invitation to engage, both from the transition coordinator and their child's teachers, may have also been a key component, as prior research has found that Latino parents' engagement is more influenced by these invitations than parents of other racial or ethnic groups (Grace & Gerdes, 2019; Reynolds et al., 2015). Relatedly, other intervention work has documented that family engagement programs can increase teacher perceptions of Latino parents (Miller et al., 2016). Taken together, this suggests that changes induced by the KTP program may have led both Hispanic parents and their children's teachers to feel more willing to engage with one another. Nevertheless, further understanding why Hispanic families, in particular, were impacted is a critical next step. Specifically, understanding the aspects of the home visiting that led to more positive teachers' reports of Hispanic parents' engagement is a key next step, as this has the potential to decrease the inequities faced by Hispanic families and children in the U.S. educational system (ECRQ Ad Hoc Committee on Racial Equity in Publishing, 2021).

Despite these findings, it is also important to note that our interaction models found that the program impacts were only significant for teachers' perceptions of African American parental involvement, not their relationships or values. One reason for this may be that the structural inequalities faced by African American families in the U.S. currently impede the ability of interventions to make substantial changes to perceptions of their school-related relationships and values. For example, other research has shown that the high levels of economic and neighborhood stress faced by African American parents is associated with teachers' sense of connection with them (Waanders et al, 2007). Additionally, African American parents often feel excluded from their children's schools and can have their interactions with school personnel misattributed as being confrontational (Allen & White-Smith, 2018). A key future direction for this program and others is to work with schools to improve the environment and capacity for relationship-building with African American parents.

Contrary to our hypotheses, intervention effects did not vary by maternal education or children's behavioral problems. The lack of moderation by maternal education may be due to limited range as the majority of our sample had a high school degree or less as their highest completed degree. In terms of children's behavioral problems, it is important to note that the lack of significant moderation indicates that children with behavioral problems in the intervention group were experiencing greater parent involvement than those in BAU classrooms, similar to their peers with fewer behavioral challenges. This suggests that while KTP did not selectively improve family-school connection for children with behavioral problems, it did still impact them, which is critical given prior evidence that parent-school relationships can be strained when children have behavioral problems (Sheridan et al., 2012).

There are practical implications of this work for both teachers and those supporting teachers. Providing assistance in the planning and execution of activities designed to foster connections between families and schools may be necessary to help parents and teachers build positive relationships. Our results also suggest that this support combined with a home visiting outreach program may be particularly helpful for engaging Hispanic families. Although some preschool programs, namely, Head Start, do typically complete home visits, our results suggest that providing multiple home visits across the year, and focusing on building connections, may be especially important for fostering connections between teachers and Hispanic parents. It is important to note that these findings may also be related to the fact that a large majority of the teachers in our sample were White. Perhaps the intervention would be less efficacious, or necessary, if it was targeted at building connections between Hispanic parents and Hispanic teachers, as prior research has found that parent involvement in early education is higher among Latino parents when their child's teacher is also Latino/a (Calzada et al., 2015).

There are a few limitations to note. Although these initial impacts on family engagement at the end of preschool are promising, further work is needed to examine whether

these impacts do indeed last through the transition to formal schooling, and whether or not these stronger connections result in more positive transitions and development for children. Additionally, we only focused on teacher reports of family-school connections. We chose this because teachers were blind to KTP + status, but this introduced reporter bias, as our behavioral problems moderator was also teacher-reported. Additionally, the voice of parents is key to understand intervention impacts and should be examined in the future. Unfortunately, in this iteration of the intervention, missing data prevented us from doing so reliably. Although this was disappointing, the levels of missing data are consistent with other school-based studies (Schilpzand et al., 2015). Relying solely on teacher report, especially for constructs such as parental values around schooling, only provides one piece of intervention effects. However, because teacher perceptions of parental involvement are more predictive of children's social development than parent perceptions (Sheridan et al., 2012), these findings may be particularly likely to translate to intervention impacts on children. Lastly, our findings have limited generalizability, both to middle- and upper-class families, to more diverse school personnel, and to families from other geographical locations. Examining program efficacy in larger samples, with more economic and racial/ethnic diversity is a key next step. Relatedly, understanding how families of differing immigration status are impacted by the program is an important next step, especially in light of our positive findings for Hispanic families. We were unable to test this in our study as the current political climate around immigration led us to not ask families to share this information.

Despite these limitations, the findings of the current study have important implications for understanding parent engagement in the context of children's early school experiences. We show that a novel intervention focused on connection-building during preschool can have meaningful impacts on parents' engagement in their children's schooling. Furthermore, we found that impacts were particularly strong for Hispanic families, indicating that such interventions may be especially valuable for this population. Although further research is needed to examine the longer-term success of this intervention as children transition to kindergarten, these early effects demonstrate the potential for influencing parent engagement during this critical period.

Appendix A

Description of KTP class and KTP+ practices as manualized for this study. See Appendix Tables 6 and 7

Table 6 Description of KTP kindergarten-transition practices (KTP class) as manualized for this study

Intervention piece	Connection focus	Key aspects of event
Open House	Parent-School Teacher- Parent	Provide time families, teachers and transition coordinators to meet
		Share an overview of the study and the importance of kindergarten transitions
		Participate in interactive activities which involve engaging with one another
Winter Gathering	Parent-School Child-Parent	Engage in winter themed centers based on kindergarten readiness skills (e.g. letter recognition)
		Promote interaction between children, their families and other families
		Provide take-home-cards for parents to support continued development of skills at home
Winter Transition Workshop	Parent-School Parent-Community	Provide interactive activities for guardians to engage with one another
		Conduct an overview of kindergarten readiness, enrollment, and screening
		Provide guardians with kindergarten readiness checklists kindergarten enrollment information
Spring Gathering	Parent-School Teacher -Parent	Encourage discussion among guardians about feelings related to school engagement
		Provide guardians with tips for interacting with schools and teachers
		Discuss school engagement concerns
Spring Transition Workshop	Parent-School Child-Parent	Provide guardians information about kindergarten readiness skills
		Provide “make and take” stations with take home materials that promote readiness skills
		Share kindergarten enrollment information as needed
Center time Peer Groupings	Child-Peer	Group students for center time who are likely to go to the same kindergarten
		Promote peer interaction and connections
Kindergarten Rituals Lessons	Child-Teacher	Teacher weekly 30-min large group lessons for 5 weeks
		Provide targeted language and literacy instruction
		Discuss kindergarten-based topic (e.g. read *Kindergarten Rocks* and sequence story events)
Kindergarten Teacher Pre-K Visit	Child-Teacher	Have a kindergarten teacher visit the preschool classroom
		Read a story and talk to children about kindergarten
		Answer questions that children may have had about kindergarten
Kindergarten Student Pre-K Visit	Child-Teacher	Have a kindergarten (or elementary school) student to come to the preschool classroom
		Talk about what kindergarten and elementary school are like
Pre-K visit to Kindergarten	Child-Teacher	Have preschoolers visit a kindergarten classroom
		Identify open house events for families to attend

Table 7 Description of KTP + home visits as manualized for this study

Home visit date	Connection focus	Description
November	Parent-Community Parent-School	•Transition Coordinators (TC's) Build connections with families
		•Explain the study and home visiting
		•Complete a strength and needs assessment
January	Parent-School	•Check in with families on feelings related to school involvement
		•Discuss barriers to school engagement ways to overcome them
		•Share ideas for and benefits of school engagement
March/April	Parent-School Child-Parent	•Follow up on school engagement
		•Provide families with books and reading guidance sheet
		•Provide families with at home learning materials and activities such as color and letter cards
		•Discuss learning outside of school
May	Child-Teacher	•Give families with books related to the child-teacher connection such as *Rufus Goes to School*
		•Give the emotion focused activity kit to provide guidance on helping children learn to identify and share emotions
		•Discuss the development of the child-teacher connection and helping children communicate with adults
June	Parent-Community	•Share the activity kit they with activities designed to get families and their child engaging in the community
		•Provide books and reading guides that connect to communities such as *The Library Lion*
		•Discuss community resources and ideas for engaging in community activities

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